



JUNE 2021

# inbound • logistics

a **ii** THOMAS™ company

THE MAGAZINE FOR DEMAND-DRIVEN ENTERPRISES

## DO WE STILL CARE ABOUT SUSTAINABILITY?

CARBON NEUTRALITY  
CARBON FOOTPRINT  
REUSE & RECYCLE  
ENERGY OFFSETS  
CIRCULAR SUPPLY  
CLOSED LOOP

THESE  
COMPANIES  
DO:

75

GREEN  
SUPPLY CHAIN  
PARTNERS

# Only pay for the speed you need... Dynamic Routing!

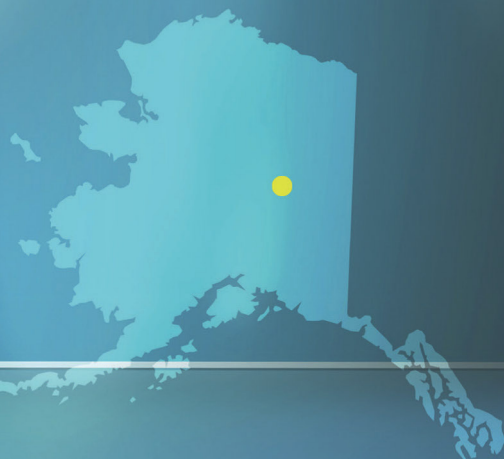
DESTINATION: FAIRBANKS

ETA: 9:30 - 11:30 A.M.

S	M	T	W	T	F	S
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11



ALASKA



## On time and on budget.

At Lynden, we understand that plans change but deadlines don't. That's why we proudly offer our exclusive Dynamic Routing system. Designed to work around your unique requirements, Dynamic Routing allows you to choose the mode of transportation – air, sea or land – to control the speed of your deliveries so they arrive just as they are needed. With Lynden you only pay for the speed you need.

**LYNDEN**  
Innovative Transportation Solutions

[www.lynden.com](http://www.lynden.com) | 1-888-596-3361

# Info **SNACKS**

BITE SIZED SUPPLY CHAIN/LOGISTICS INFORMATION

“The demand for supply chain talent is now roughly six times greater than the supply.”

— Joel Sutherland, Professor of Practice in Supply Chain Management, University of San Diego School of Business

(See *Winding a Way Through Supply Chain Education*, page 60)



## **CAFFEINE RUSH**

Coca-Cola has teamed up with Walmart and drone flight services provider DroneUp to deliver its new Coca-Cola with Coffee and its zero-sugar variant to customers in Coffee County, Georgia. As part of a launch stunt, select customers who live in single-family residences within a one-mile radius of Coffee County's Walmart Supercenter could have their coke-coffee fix delivered via drone.

## Don't Mined Me

Pandora Group will no longer use mined diamonds. Instead, the world's largest jewelry maker is launching its first collection created exclusively with diamonds manufactured in labs. The move aims to make the company's jewelry more sustainable, affordable, and accessible.



## Going Into Labor

How do logistics executives plan to address current labor shortages?

**40%**

of logistics executives are being more lenient on specific job/industry experience requirements to attract and retain labor/talent in a tight labor market.

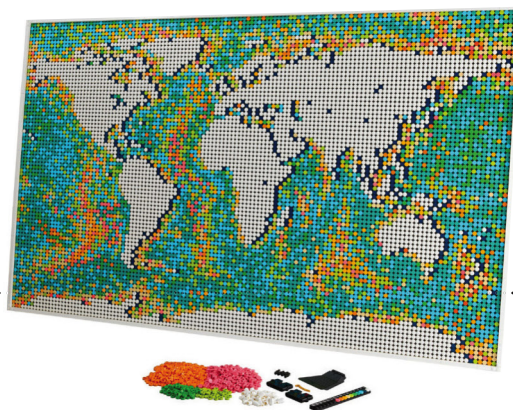
**54%**

plan to invest in workforce management technologies.

**51%**

plan to invest in enhanced workforce training procedures in the next 12 months.

—*The New Normal of Logistics* survey, Blue Yonder



## **WORLD MAP IN A SNAP, SNAP, SNAP**

Managing your global supply chain could be a lot more fun with this as a sourcing reference. Lego has revealed its largest set ever—a giant world map that comes with 11,000 pieces. Once put together, the map measures two feet high and three feet wide.

**75,000**

Number of employees Amazon plans to hire for fulfillment and logistics jobs—warehouse workers who pick and pack customer orders and drivers who transport them either to other Amazon facilities or to customers' doorsteps.



## **Water Works**

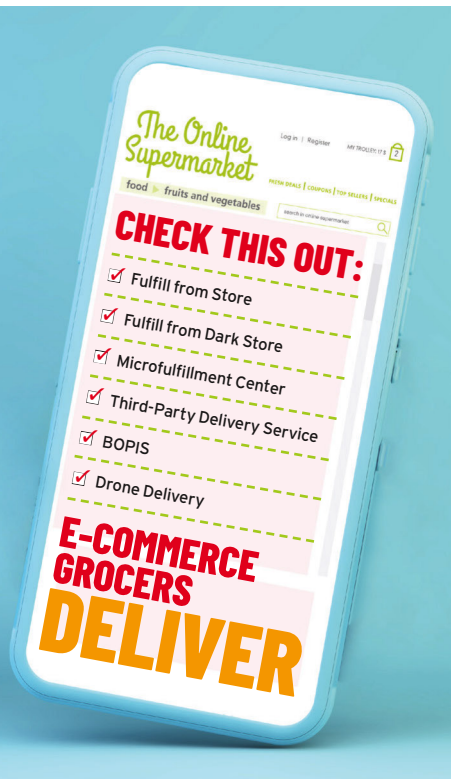
Securing ocean capacity continues to be a concern to supply chain managers.

“Anyone starting with the question, ‘How much is this going to cost?’ should reassess and start with, ‘Do I need my cargo to move?’ If the cargo does not move, maybe for months, how much will you lose? That will give you an idea of how much you want to pay to move the cargo. It is a sad message for anyone on a budget, but it is the stark reality here.”

—*Logistics Rewired: Let's Talk Ocean.* Flexport webinar

# CONTENTS

JUNE 2021 | VOL. 41 | NO. 6



## 30

### E-COMMERCE GROCERS DELIVER

With more consumers ordering groceries online than ever before, retailers are hungry for fulfillment improvements and efficiencies as their plates fill up with temperature control and inventory challenges.

## 34

### DO WE STILL CARE ABOUT SUSTAINABILITY?

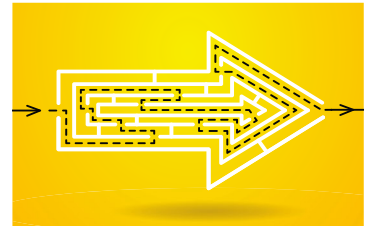
As shippers move past the distractions posed by the pandemic, they're brainstorming new ways to shrink their carbon footprints, eliminate waste, and make operations greener.



## 40

### 75 GREEN SUPPLY CHAIN PARTNERS

*Inbound Logistics* editors select 75 companies going above and beyond to prioritize green initiatives and help global supply chains become more sustainable.



## 60

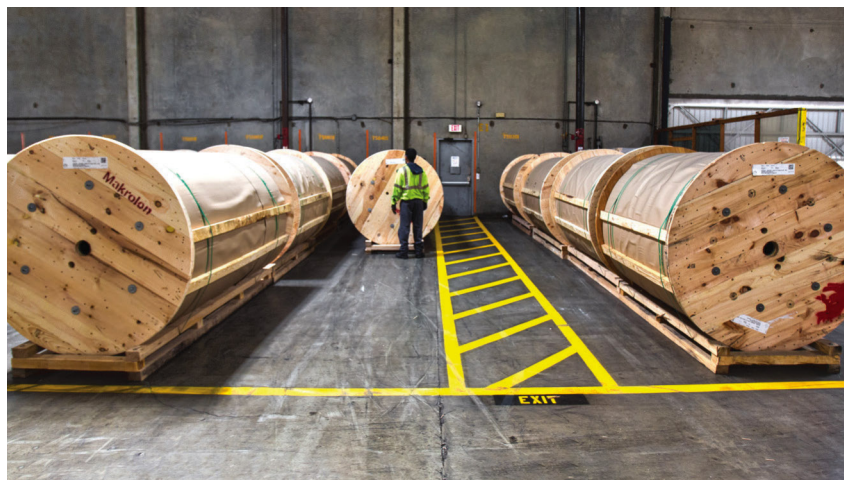
### WINDING A WAY THROUGH SUPPLY CHAIN EDUCATION

Three leading professors draw a map for recruiting and retaining top talent through advanced supply chain education as the pandemic reshapes roles and skill sets.

## 68

### SPONSORED CHEMICAL LOGISTICS ON A ROLL

Overcoming capacity constraints, severe weather, and cyberattacks, chemical logistics providers use their expertise and dedication to keep shipments rocking and rolling.



# YOUR BUSINESS RUNS ON PROMISES KEPT.

At Old Dominion Freight Line, we know keeping promises to customers is at the heart of your business. Our focus on customers is why we've been ranked the #1 national LTL carrier 11 years in a row,\* with an industry-leading on-time delivery record and low claims rate. Every promise means everything to us, because it means everything to you.

LEARN MORE AT [ODFL.COM](https://odfl.com)



**Old Dominion  
Freight Line**

Helping the world keep promises

OD DOMESTIC

OD EXPEDITED

OD PEOPLE

OD GLOBAL

OD TECHNOLOGY

# CONTENTS

JUNE 2021 | VOL. 41 | NO. 6

## GOOD QUESTION

How has the pandemic affected supply chain partnerships?

8

## INFOCUS

### 1 INFO SNACKS

### 16 VERTICAL FOCUS: ENERGY, OIL & GAS

### 18 NOTED

### 20 TAKEAWAYS

### 90 IN BRIEF

### 96 LAST MILE

Barbecue supply chain sizzles

## INSIGHT

### 6 CHECKING IN

EV power play

### 8 GOOD QUESTION

How has the pandemic affected supply chain partnerships?

### 10 DIALOG

### 12 10 TIPS

Improving cold chain operations

### 24 SPONSORED KNOWLEDGE BASE

Five ways to position your supply chain for retail compliance success

### 26 E-COMMERCE

Fixing manufacturers' broken traditional selling processes

### 28 IT MATTERS

Solving the global data dilemma

U.S. offshore wind projects won't be a breeze



16

## INPRACTICE

### 14 LEADERSHIP

As the intermodal industry faces port congestion and equipment shortages, Mike Wilson, CEO of Consolidated Chassis Management, leads with empathy and an open mind, using the company's interoperable model to enhance velocity and increase capacity.



## INFO

### 82 SUPPLY CHAIN INSIGHTS

### 84 WEB\_CITE CITY

### 94 CALENDAR

### 95 RESOURCE CENTER



90

New airfreight arm links the Netherlands



96

What are BBQ grill makers cooking up?

Inbound Logistics (ISSN 0888-8493, USPS 703990) is mailed monthly to approximately 60,000 business professionals who buy, specify, or recommend logistics technology, transportation, and related services, by Thomas Publishing Company LLC, 5 Penn Plaza, NY, NY 10001. José E. Andrade, co-chairman; Carl T. Holst-Knudsen, co-chairman. Periodicals postage paid at New York, NY, and additional mailing offices. All rights reserved. The publisher accepts no responsibility for the validity of claims of any products or services described. No part of this publication may be reproduced or transmitted in any form or by any electronic means, or stored in any information retrieval system, without permission from the publisher. POSTMASTER SEND ADDRESS CHANGES TO: Inbound Logistics, 5 Penn Plaza, New York, NY 10001



## Where your cargo can fly.

As the nation's fifth-largest airline, we fly cargo to more than 100 North American destinations, including Canada, Mexico and Costa Rica. And with nonstop routes throughout our network, your shipments get where they need to be faster and more reliably.

For more information or to book your shipment online, go to [alaskacargo.com](http://alaskacargo.com). Or call us at 1-800-225-2752.

*Alaska*<sup>®</sup>  
AIR CARGO

**ALASKA** AND *Beyond*

SERVING 100+ DESTINATIONS ACROSS NORTH AMERICA

# CHECKING IN

## EV Power Play



Keith Biondo, Publisher

The U.S. electric vehicle (EV) manufacturing sector is about to get a sales boost from the Biden Administration. The EV market has been rocking because of the continued growing interest in sustainability, especially now that the bleeding-edge vehicle phase is behind us.

President Biden confirmed that EVs would get a stimulus in the not-yet-passed multi-trillion-dollar infrastructure legislation. Accordingly, in the Clean Energy for America bill, the Senate Finance Committee cleared new incentives for domestic manufacturers.

The devil will be in the final details, which are still being worked out on Capitol Hill. If the bill passes and the President signs it, which is likely given his stated support for sustainability initiatives, tax credits to buyers per vehicle will increase substantially. At this point, the bill includes increasing the per-vehicle tax credit to \$12,500; that includes semis and other EV delivery vehicles (think Amazon).

Some of the details are interesting. Observers say the bill that cleared the Finance Committee takes a shot at stubbornly non-union Tesla by excluding the manufacturer from the maximum allowed tax credits. Others cheekily point out that Elon Musk has been on the naughty list for leaving California paradise for Texas as a Tesla tit-for-tat.

Another example: It has been reported that federal tax incentives sunset for any manufacturer that produced more than 200,000 vehicles (Tesla). Some production limits will be removed, but the question is whether non-union manufacturers (Tesla and Volkswagen in Tennessee) will be dinged on that point. Politics is driving the production limit “adjustment” as the United Auto Workers (UAW) union usually gets political perks.

The problem is that the 200,000 vehicle limit will soon hurt GM and Ford, both UAW members. Tesla grabbed 80% of the EV market in 2020, but GM is growing fast. The introduction of the amazingly engineered F-150 Lightning—which joins the F-150 pickup family and the best-selling vehicle in America and currently has 100,000 pre-orders—also creates a complication. Ford, GM, and the UAW may lobby for the removal of the 200,000 vehicle production cap entirely to qualify for federal tax credits. Some states will follow the federal lead and increase and/or extend their incentives. All that would be a good thing.

The bottom line is that U.S. manufacturers and their penumbra of value chain partners, carriers, and logistics solutions providers will experience a boom given the public's appetite for the new improved crop of EVs and the political machinations that are underway.

Get ready if you play in that space or have transportation and logistics partners that do.

*Keith Biondo*

**inbound**  
**logistics**  
a **THOMAS** company

Vol. 41, No. 6

June 2021

THE MAGAZINE FOR DEMAND-DRIVEN ENTERPRISES

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

### STAFF

**PUBLISHER** Keith G. Biondo  
[publisher@inboundlogistics.com](mailto:publisher@inboundlogistics.com)

**EDITOR** Felecia J. Stratton  
[editor@inboundlogistics.com](mailto:editor@inboundlogistics.com)

**SENIOR EDITOR** Katrina C. Arabe  
[karabe@inboundlogistics.com](mailto:karabe@inboundlogistics.com)

**CONTENT MANAGER** Jaclyn Ix  
[jix@inboundlogistics.com](mailto:jix@inboundlogistics.com)

**CONTRIBUTING EDITORS**  
Merrill Douglas • Karen Kroll  
Helen Mann

**CREATIVE DIRECTOR** Jeof Vita  
[jvita@inboundlogistics.com](mailto:jvita@inboundlogistics.com)

**DESIGNER** Ellen Swandiak  
[ellen@inboundlogistics.com](mailto:ellen@inboundlogistics.com)

**DIGITAL DESIGN MANAGER** Amy Palmisano  
[apalmisano@inboundlogistics.com](mailto:apalmisano@inboundlogistics.com)

**PUBLICATION MANAGER** Sonia Casiano  
[sonia@inboundlogistics.com](mailto:sonia@inboundlogistics.com)

**CIRCULATION DIRECTOR** Carolyn Smolin

### SALES OFFICES

**PUBLISHER:** Keith Biondo  
212-629-1560 • FAX: 212-629-1565  
[publisher@inboundlogistics.com](mailto:publisher@inboundlogistics.com)

**WEST/MIDWEST/SOUTHWEST:** Harold L. Leddy  
847-446-8764 • FAX: 847-305-5890  
[haroldledy@inboundlogistics.com](mailto:haroldledy@inboundlogistics.com)

**Marshall Leddy**  
612-234-7436 • FAX: 847-305-5890  
[marshall@inboundlogistics.com](mailto:marshall@inboundlogistics.com)

**SOUTHEAST/MIDWEST/ECONOMIC DEVELOPMENT:**

**Joseph Biondo**  
516-578-8924  
[jbiondo@inboundlogistics.com](mailto:jbiondo@inboundlogistics.com)

**NORTHEAST:** Rachael Sprinz  
212-629-1562 • FAX: 212-629-1565  
[rachael@inboundlogistics.com](mailto:rachael@inboundlogistics.com)

**LOUISIANA, SPECIAL PROJECT SALES & MARKETING:**

**MEXICO & LATAM:** Guillermo Almazo  
212-629-1560  
[mexico@inboundlogistics.com](mailto:mexico@inboundlogistics.com)

### FREE SUBSCRIPTIONS

[www.inboundlogistics.com/free](http://www.inboundlogistics.com/free)



Inbound Logistics supports sustainable best practices. Our mission is rooted in helping companies match demand to supply, eliminating waste from the supply chain. This magazine is printed on paper sourced from fast growth renewable timber.

Inbound Logistics welcomes comments and submissions. Email us at [editorial@inboundlogistics.com](mailto:editorial@inboundlogistics.com); call (212) 629-1560; or mail 5 Penn Plaza, NY, NY 10001. For advertising or subscription information, call (212) 629-1560, or e-mail [publisher@inboundlogistics.com](mailto:publisher@inboundlogistics.com). Inbound Logistics is distributed without cost to those qualified in North America. Interested readers may subscribe online at [bit.ly/get\\_il](http://bit.ly/get_il). Subscription price to others: In North America: \$95 per year. Foreign subscriptions: \$229. Single copy price: No. Amer: \$10, foreign \$19, back issues \$15.

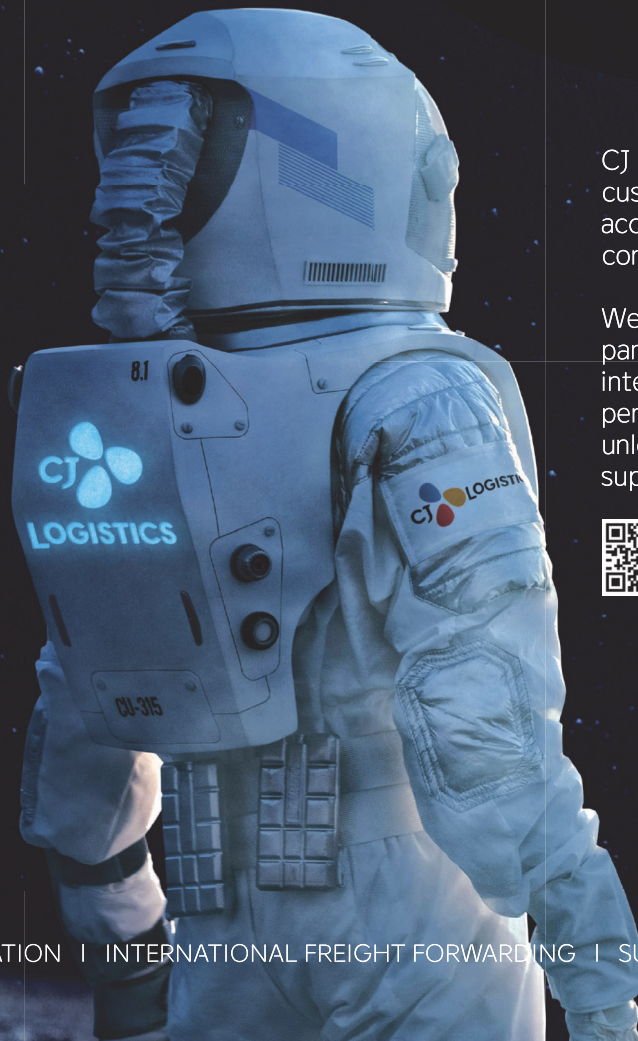


Imagine new possibilities.

CJ Logistics' innovative  
solutions expand boundaries.

We design the future.

# WE DESIGN LOGISTICS



CJ Logistics maximizes customer value through accelerated innovation and continuous improvement.

We combine collaborative partnerships, business intelligence and high-performance operations to unlock the potential of your supply chain.



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

## How has the pandemic affected supply chain partnerships?



**THE HEIGHTENED STAKES** of keeping up with high demand and scarce labor urgently meant vendors had to condense their integration timelines. Supply chain partnerships that were in testing mode were pushed into full production. We went from practicing the 200-meter relay to running it in the Olympics.

—**Lior Elazary**  
Co-founder and CEO, *inVia Robotics*

**THE DEGREE OF VULNERABILITY** within the supply chain revealed by the pandemic forced us to revisit business models and redefine supply chain partnerships to ensure alliances evolve along with the organizations. Companies are looking at operational processes, enhanced digitization, and new customer demands.

—**Andy Frommenwiler**  
VP Air Freight USA  
*Dachser USA Air & Sea Logistics*

**THE PANDEMIC** redefined and reinvigorated partnerships. Collaborative supply chain partnerships allow firms to navigate

current challenges, while more importantly building capability for the “next normal” of tomorrow’s supply chain.

—**Mike Andaloro**  
President & COO, *BDP International*

**SUPPLY CHAIN TURMOIL** triggered by the pandemic has resulted in a massive acceleration in channel shift to e-commerce. Retailers collaborate across selling channels more than ever before, warehouses are becoming truly omnichannel, and advanced automation and robotics are enabling the required process capabilities.

—**John Seidl**  
Consulting Partner, *GreyOrange*

**MARKET VOLATILITY** caused firms with unreliable partners to evaluate alternative products, services, technologies, and strategies. Shippers gravitated toward firms that could meet service requirements, reshuffling partnerships as a result.

—**Oren Zaslansky**  
Founder and CEO, *Flock Freight*

**DISRUPTION TESTED** and proved or broke existing partnerships as shippers and their logistics providers adapted to either make it work, be innovative, be opportunistic, or drop it. Hard lessons have been learned and supply chains are being redesigned, rerouted, and de-risked as a result. Overall they will become more expensive as more optionality is built in.

—**Michael Zimmerman**  
Partner, Americas Lead, *Kearney*

**CUSTOMERS WERE FORCED** to look at reshoring their supplies or taking a *pareto* approach—having some on shore and some off shore. Many have also started adopting a circular economy model to retain material and as many components as possible.

—**Colin Elkins**  
Vice President, *Manufacturing, IFS*

**PARTNERSHIP DEVELOPMENT** is a key capability supply chain leaders will have to leverage to create sustainable value. While the pandemic changed some of the partners, it did not change the concept of partnerships.

—**Melvin Bosso**  
Principal, *Myrtle Consulting Group*  
(now a part of *Accenture*)

**LACK OF COLLABORATION** between retailers and CPGs led to avoidable out of stocks. Alignment is essential to ensure supply chain disruptions don’t result in forecasts that can’t be accurately executed. Using AI-based collaboration tools, both retailers and CPGs can increase agility and improve inventory management.

—**Patty McDonald**  
Global Solution Marketing Director  
*Symphony RetailAI*

**THE URGENCY** around supplier risk and preparations to withstand the next disruption is changing the dynamic of supply chains. Organizations must innovate beyond the traditional, linear supply chain model and lean into a dynamic, collaborative supply network.

—**Tony Harris**  
Global Vice President,  
*Business Network Solutions, SAP*

**WITH THE WIDE RANGE** of disruptions, crises, and changes that unfolded quickly and unexpectedly, relying on partners has become more important than ever and critical to helping companies weather the storm.

—Brad Wright  
CEO, Chunker

**IN CONVERSATIONS** with both consumer brands and external suppliers, we've seen an increased focus on collaboration over transactional conversations based on cost efficiency, as well as an acceleration of technological adoption in order to facilitate that heightened level of collaboration.

—Jason Tham, CEO, Nulogy

**MANAGING CONSTANT CHANGE** with suppliers through brute force no longer works. The pandemic exposed that most companies have neglected the first mile of their supply chains for decades. To stay competitive, procurement and supply chain teams must embrace technology and innovation to modernize their supply chain partnerships.

—Tom Kieley  
CEO, SourceDay

**COMPANIES ARE FOCUSING** on the points where collaboration really matters and find practical solutions. Thirty-page consulting decks have been replaced with pragmatic, focused solutions for well-defined problems in visibility and pricing.

—Brian Glick  
CEO and Founder, Chain.io

**THE PANDEMIC** reinforced the importance of having partners you trust to cope with volatility and uncertainty while leveraging innovative technology and data insights to remain agile.

—Scott Sureddin  
CEO, DHL Supply Chain North America

**EVERYONE IS RE-EVALUATING** their supply chains with a stronger focus on aligning with the consumer. Distribution partnerships need to evolve with that change or they will be left behind.

—Dan Waters  
VP Sales, North America, Made4net

## COLLABORATE OR STAGNATE

The pandemic magnified the need for **collaborative partnerships** between service providers and customers. We have seen things happening in the market you almost couldn't make up in Hollywood, and those that have remained transparent and collaborative in navigating these challenges have succeeded.

—Matt Friedman  
Vice President, Sales, Warehousing  
Mainfreight

Fluctuating production and consumer demand, coupled with labor and transportation capacity issues, have required **more planning and preparation** for many companies. Dramatic shifts in any of those variables have led many supply chain leaders to ask for help. Collaborating with partners on ideas that solve supply chain problems has been crucial to mitigating risk and keeping supply chains flowing throughout the pandemic.

—Christina Ryan  
Executive Vice President, Managed Services  
Redwood Logistics

The pandemic demonstrated supply chain partners need to collaborate better and with **greater transparency**. We all were forced back to the drawing board. We found success leveraging technology to improve efficiency by eliminating cost and complexity.

—Todd Pigeon  
Chief Commercial Officer  
Sealand Americas

Supply chain collaborations have increased rapidly. System providers and operators need to find ways to appease customers and meet rising e-commerce demand, which is difficult to do alone. Hence, there will be a substantial growth in collaborations where companies **provide unique solutions to the supply chain machine** rather than one giant solution to cover all. Users can then consequently tailor their operations more efficiently and personally, leading to better results.

Industry 4.0 is about compatibility and the Internet of Things. The pandemic has just accelerated it.

—Aldus von der Burg  
Founder & CEO  
Meili Robots

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

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

What is the secret to a successful shipper/3PL partnership?

We'll publish some answers.

Tell us at [editorial@inboundlogistics.com](mailto:editorial@inboundlogistics.com) or tweet us @ILMAGAZINE  
#ILGOODQUESTION






[INSIGHT]

# DIALOG

@ILMagazine

Want to join the conversation?

**FOLLOW US:**

-  [linkedin.com/company/inbound-logistics](https://www.linkedin.com/company/inbound-logistics)
-  [facebook.com/InboundLogistics](https://www.facebook.com/InboundLogistics)
-  [twitter.com/ILMagazine](https://twitter.com/ILMagazine)
-  [youtube.com/user/InboundLogistics](https://www.youtube.com/user/InboundLogistics)
-  [inboundlogistics.com/cms/podcast](https://inboundlogistics.com/cms/podcast)

**DROP US A LINE:**

[editorial@inboundlogistics.com](mailto:editorial@inboundlogistics.com)

## MUNCH On This



Lunch bowl with *IL*'s April feature, "Supply Chain Technology: The Age of Acceleration."

—Frank Mullens @FrankMullens



## Re. Robots and People: Co-Evolving

[bit.ly/IL\\_checkingin\\_0521](https://bit.ly/IL_checkingin_0521)

Your May 2021 *Checking In* makes a point that people need to hear: Automation is not a 100% win.

The irrational craze for self-driving trucks is better pursued as technology to help a human driver make decisions. And even in that, some of the "help" issues harsh and startling alerts to drivers, which is not consistent with safe driving.

—Danny R. Schnautz  
Clark Freight Lines

## Re. Good Question: What fictional character or historical figure would you put in charge of global vaccine logistics and distribution?

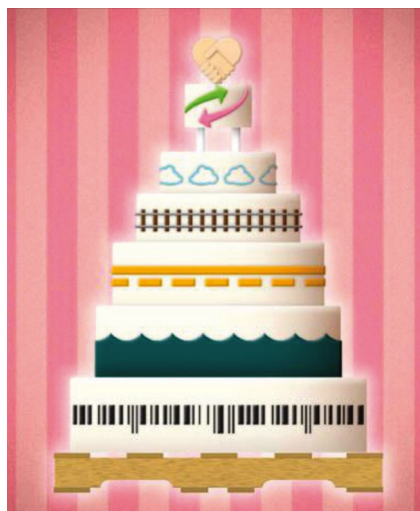
[bit.ly/ILGoodQuestion\\_vaccine\\_lead](https://bit.ly/ILGoodQuestion_vaccine_lead)

Dagny Taggart from *Atlas Shrugged*

—Reader Email

Lord Voldemort from the *Harry Potter* series

—Kerry L. Lohrman  
President, Sales Engineering System



## ICING ON THE CONTENT CAKE

Can online articles be assigned "classic" status? Whatever the answer, we consider this [one bit.ly/3PL\\_Knot](https://bit.ly/3PL_Knot) from *IL* way back in 2010 to be essential reading, covering exactly why we make the distinction between fulfillment partners and simple service providers.

—Capacity LLC



## Fast TAKES

Strong e-commerce sales combined with recovering business-to-business (B2B) demand is driving more need for delivery services. The situation will likely constrain last-mile capacity further as B2B fully recovers throughout the year. It would not be a surprise to see UPS follow FedEx in raising its peak surcharges soon.

To ensure last-mile capacity and on-time delivery, shippers need to diversify their providers. Besides FedEx, UPS, and the USPS, shippers need to consider regional small-parcel carriers, crowd-sourced platforms, and alternative solutions such as lockers and third-party pickup locations.

—John Haber  
Founder & CEO, Spend Management Experts, on FedEx increasing peak surcharges

Version 1.0 of the MassRobotics autonomous mobile robot (AMR) interoperability standards will have a tremendous impact on the industry. The standards enable AMRs from multiple vendors to work together to support safe and efficient operations in factories, warehouses, distribution and fulfillment centers. This improved communication from AMRs to any existing technology will allow greater flexibility in these environments, speeding up the supply chain as a whole to maximize throughput.

—Daniel Theobald  
CEO of Vecna Robotics and co-founder of MassRobotics, on the supply chain implications of new AMR interoperability standards

# Concerned About Capacity?

Save time on your cold chain provider search.

Stress less about capacity with Trinity Logistics. With a network of over 70,000 qualified carriers and integrated cold chain solutions offered as a Burris Logistics Company, we can help you from production to delivery.

Request a Quote today. [trinitylogistics.com/request-a-quote/](https://trinitylogistics.com/request-a-quote/)

## TRINITY

A BURRIS LOGISTICS COMPANY

People-Centric Freight Solutions®



# 10 TIPS

## Improving Cold Chain Operations

A wide range of factors can impact the transport of temperature-controlled goods. Here are 10 tips to help ensure smooth cold chain operations.

### 1 KNOW YOUR REQUIREMENTS.

*Temperature-controlled goods—whether food, vaccines, infectious substances, or other items—all have requirements that impact how they are packaged, stored, and shipped. Consider all your requirements for temperature ranges, packaging, transit time, tracking, and size and weight restrictions.*

### 2 UNDERSTAND EXACTLY WHAT YOU'RE SHIPPING.

Consider the factors that can affect the type of solution needed to keep the entire shipment within the desired temperature range from origin to destination. What are the package dimensions? How much is being packed per package? Is there a single package size or multiple sizes? Knowing this information upfront will help you select optimal cold chain processes and solutions, and avoid problems later on.

### 3 CLEARLY DEFINE YOUR GOALS.

Do you want to save money on packaging? Reduce shipping costs? Speed fulfillment? Knowing what you're trying to accomplish—and how you'll measure success—will help guide the selection of cooling systems, packaging, carriers, and more.

### 4 IDENTIFY YOUR PAIN POINTS.

Do you have trouble keeping seasonal items cold during the summer? Is sourcing or disposing of packaging difficult? What could hold up a shipment in customs? Understanding your current pain points—as well as those that may arise—will help you select solutions that align with your service, financial, and performance goals.

### 5 SELECT THE RIGHT COOLING SYSTEMS.

Determine if an active cooling system (e.g., a refrigerated truck) or a passive system (e.g., gel packs or dry ice) is best for your

operation. Passive systems may be less expensive, but could be higher risk if there's a chance of delays while being transported through warm climates, or more labor intensive if they require pre- and post-conditioning.

### 6 CONSIDER THE TOTAL COST OF OWNERSHIP.

Identify how both hard costs (packaging, freight bills) and soft costs (SKU management, training) contribute to your total cost, and the potential trade-offs in selecting one solution versus another. For example, buying cheaper packaging with less insulation capabilities may require the use of more frozen gel packs, making packages bulkier and heavier and more expensive to ship.

### 7 PICK EASY-TO-USE MONITORING SOLUTIONS.

Companies increasingly use devices to track shipments and monitor time and temperature. Chemical strip indicators are simple to use,

inexpensive, and do not employ hazardous materials, such as lithium batteries, which may require additional packaging and labeling.

### 8 PLAY BY THE RULES.

A wide range of regulations impacts how you pack, store, and ship temperature-controlled goods. Know which rules apply to what you're shipping and take steps to ensure all stakeholders are properly trained and adhere to these rules.

### 9 PLAN FOR THE UNEXPECTED.

A lot can go wrong when shipping temperature-controlled goods, so consider all potential supply chain disruptions and associated costs. For example, if there's a higher risk of a shipment getting held up in customs, you may want to use more expensive packaging that holds temperature longer or select a carrier that will re-ice a shipment if it is delayed.

### 10 ALIGN WITH ORGANIZATIONAL GREEN INITIATIVES.

*Sustainability continues to be an important component in an organization's decision-making, so make sure your cold chain operations align with your company's sustainability goals. This may require finding alternatives to Styrofoam coolers or planning how to optimally return re-useable packaging.*

SOURCE: JAY JOHNSON, SENIOR MANAGER OF LABELMASTER SERVICES, LABELMASTER

# WE DELIVER THE ONE THING EVERY COMPANY NEEDS BUT CAN'T BUY.

**We deliver confidence.** We deliver it by the truckload, because we know companies can't thrive without it. Penske is built around helping your day-to-day operations run as smoothly and efficiently as possible. Our truck rental, leasing, contract maintenance and logistics solutions will help you carry the load so you can focus on your core business. Learn more at [gopenske.com](https://gopenske.com).



Rental  
Leasing  
Logistics



# LEADERSHIP

*Conversations with the Captains of Industry*

## Navigating an Industry at the Crossroads



**Mike Wilson**  
CEO, Consolidated  
Chassis Management

In an industry currently challenged by port congestion and equipment shortages, Mike Wilson focuses Consolidated Chassis Management on technology and innovation, and leads with empathy and an open mind.

*by Merrill Douglas*

When Mike Wilson joined Consolidated Chassis Management (CCM) as its CEO in 2019, the chassis provision industry was in the midst of profound change.

The Ocean Carrier Equipment Management Association had formed CCM in 2005 to operate a chassis pool, using equipment owned by the shipping lines. But in recent years, the lines have been selling off their equipment to third parties. By the time Wilson took the helm, CCM was competing against several other companies that own chassis fleets and operate pools. Currently, CCM manages about 100,000 of the 550,000 marine chassis in the United States.

To stay competitive, CCM has been reshaping its management structure and developing new markets for its services. Here's how Wilson is leading CCM through this evolution.

### **IL: What brought you to a career in ocean and intermodal transportation?**

While pursuing my graduate degree in social work, I was working at a Division for Youth Service facility, and after a year I realized this career was not for me. My father, who had some experience in shipping, suggested that there were good opportunities in international shipping.

Soon, I was accepted to a training program at United States Lines. During my first day at the Howland Hook Marine Terminal in Staten Island, I stood looking up at a ship and a huge crane, with trucks and workers all around. For a young guy, all that action and big machinery seemed very inviting. I was hooked immediately.

### **IL: What's one experience that shaped you as a leader?**

In 1983, U.S. Lines built the first Eonship, the largest vessel ever to call the United States at that time. I was assigned to set up the operation in the Port of Savannah, which was going to be the first U.S. port of call. Working with the team to set up the yard cranes and tractors was a challenge, but it was a great chance to see what I could really do.

### **IL: When you were appointed CEO of CCM, what were your main goals for the company?**

Because of the way the industry was changing, I wanted to assess the company's core strengths and determine the key

elements we could use going into the market. Our organization was obviously designed to manage chassis, and our two core pillars were our people and our technology.

So first, I wanted to make sure we were performing to the best of our ability, with our people properly focused on those ideas and new service opportunities. We changed the reporting structure to make the business more decentralized and reorganized our technology approach to insource key aspects while maintaining our primary vendor relationships.

#### **IL: Once you'd attended to those basics, what came next?**

We started to identify opportunities to market our technology to other entities that could benefit from it. As a result, we created a new division, Consolidated Intermodal Technologies (CIT), and engaged with several customers.

Companies that can take advantage of our technology include other leasing companies that track and maintain their equipment and bill their customers. Railroads that run their own chassis fleets are interested in our technology, as are some trucking companies with small to mid-sized fleets that are looking for ways to manage their chassis effectively while improving the enterprise overall.

#### **IL: What's it like managing a chassis fleet in an era of acute port congestion and equipment shortages?**

With a 20% surge in container volume, no asset base—whether chassis or trucks or warehouses—can handle the need. The fixed asset base of our North American supply chain has been overwhelmed, strictly due to the influx of cargo. In times of stress, you have to find ways to do things better.

That's where innovation comes in. We're using our interoperable model—where you can put any chassis under any box for any line or motor carrier at any facility in the network—to enhance fluidity and velocity. The faster you go, the more capacity you have. Our interoperable model has driven greater efficiency and it's built on collaboration.

#### **IL: What qualities make you an effective CEO?**

I'm generally open-minded, and I believe that I should never engage unless I am truly informed. To lead, you need to create an environment where people have confidence in what you're saying.

## Cultivating Talent

As a younger professional, when Mike Wilson needed to get a job done, he would create rigid job descriptions for the people who would do the work. But experience has taught him to rethink that strategy. “Tight structure squashes creativity and individuals’ ability to be their best,” he says.

Today, Wilson prefers to find out what employees are good at and let them contribute accordingly. “If we look for ways to identify people’s true skill sets, see how those skills fit into the outcomes of the enterprise, and let people grow, that creates a broader and deeper success experience,” he says.

It can also lead to some fortuitous surprises. Say, for example, an employee who works in equipment control expresses a desire to try marketing. Wilson probably wouldn’t have opened that door in the past, but he has seen that sort of gamble pay off extremely well. “You give somebody a shot at working in marketing, and all of a sudden that’s one of the best marketing people you’ve ever seen,” he says.

I also think it’s important to have empathy for others. Every job has dignity, and everyone has something to offer. We need to make opportunities for people to work, and to contribute to the success of the overall enterprise.

#### **IL: Who is a business leader you find particularly inspiring?**

While I was vice president of logistics and operations at shipping line Hamburg Süd, I was lucky to work for Dr. Heino Schmidt. He had the perfect blend of personality, empathy, and skill. He was deeply intelligent, with a PhD in economics. But he was a down-to-earth guy. He showed me how to be an executive leader, and he gave me a lot of opportunity. He is now CFO of the Oetker Group.

#### **IL: How do you like to spend time outside of work?**

I love to be around my family, including my children and grandchildren. In April, my wife and I were lucky enough to spend four days with our son and two grandchildren at Disney World. My wife and I also have a little boat on Lake Hopatcong, New Jersey, where we enjoy the sun and do a little fishing.

I’m on several ministries at my church, and I’m on the board of Samaritan Inn, an organization in Sussex County, New Jersey, that has had great success helping homeless families ■

# Energy, Oil & Gas

## OFFSHORE WIND PROJECT ISN'T A BREEZE

President Biden recently approved the Vineyard Wind project—the first major U.S. offshore wind farm—off the coast of Massachusetts. The project, which would generate up to 800 megawatts of electricity from 62 giant wind turbines, is expected to produce enough electricity to power 400,000 businesses and homes in New England by 2023, while reducing carbon emissions by more than 1.6 million tons per year.

Boston-based General Electric will manufacture the massive Vineyard Wind turbines, which will send electricity along underwater cables to the regional power grid near Hyannis. Even though GE will manufacture the major components in Europe, as many as 2,000 workers will be employed locally during the project's construction and dozens more will work in maintenance and operations after the wind farm is complete.

Representatives of the fishing industry continue to criticize the Vineyard Wind project, claiming that the giant wind turbines will disrupt their fishing grounds and create navigational hazards to their boats, even though the plan calls for spacing them one mile apart.

The decision to approve the Vineyard Wind project is an important milestone in the Biden administration's effort to battle climate change by moving the nation's energy policy away from fossil fuels and toward cleaner, renewable sources.

The administration plans to install 30 gigawatts of offshore wind power capacity—the equivalent of more than 36 additional wind farms of Vineyard Wind's size—in U.S. waters by 2030. More than 2,000 turbines will be needed to meet that target.



## "TO REMAIN A LEADER IN THE ENERGY AND AUTOMOTIVE AREAS, THE UNITED STATES MUST SECURE ADEQUATE SUPPLIES OF THE METALS NECESSARY TO POWER THE 21st CENTURY'S INDUSTRIAL REVOLUTION."

— Brian Menell, Chairman and CEO, TechMet

### MINERAL SUPPLY CHAIN IN CRITICAL CONDITION

Prompted by the global chip shortage, President Biden signed an executive order for a 100-day review of supply chains for critical materials, including for semiconductors, large-capacity batteries, and rare-earth elements. The United States—which is 100% reliant on imported rare-earth elements—and its Western allies are behind, while China built its rare-earth supply chain decades ago, says a U.S. News report.

China controls about 80% of the world's rare-earth production capacity, 43% of exports, and nearly 90% of refining, which means the world sells China low-value ore concentrate and China sells high-value end products. The United States must make the supply of critical minerals a key part of its domestic and foreign policy to get in the game, the report says.

Although there is strong opposition to these environmentally challenging mining practices, it is possible that U.S. companies can mine and process critical materials with much lower environmental impacts than China can, the report says.



### OIL SPOUTS TO A TWO-YEAR HIGH

Oil prices surged to \$72 per barrel for the first time in two years in June 2021, exacerbating high transportation and shipping costs for businesses navigating raw materials shortages, crowded ports, and increased consumer demand. The trends in oil prices show:

- **Brent**, the global crude oil benchmark, sank below \$20 per barrel in April as lockdowns dried up demand for airlines and manufacturers, but shot up to \$71.48 per barrel in June, its highest since January 2020.

- **The deep freeze** in Texas and the Colonial Pipeline cyberattack tightened the market for fuel, while increased demand and the fast pace of vaccinations in the United States boosted oil prices.

- **Up to 25%** of tank trucks are parked around the country because there aren't enough qualified drivers, a 15% increase

from the beginning of summer 2020, compounding fuel shortages and rising costs.

- **When demand** for truck drivers sank during the pandemic, drivers sought other jobs, drying up the pipeline for new drivers once economies opened back up.

- **High oil prices** partly stem from the Organization of the Petroleum Exporting Countries and its allies' decision to continue to gradually restore supply.

- **As supplies increase** and the global economy normalizes, demand and prices could ease.

## SHELLING OUT RENEWABLE DIESEL

Royal Dutch Shell plans to cut down its refinery footprint and transform the facilities into energy and chemical parks that generate low-carbon fuels.

To that end, the oil company sold its Mobile, Alabama, facility to refiner Vertex Energy for \$75 million. Vertex will convert part of the facility to renewable diesel production, which will be able to produce 10,000 barrels of renewable diesel daily.

Shell also sold its Puget Sound refinery (*pictured*) to refiner HollyFrontier for \$350 million. The site is equipped to produce clean gasoline and diesel fuels, as well as fuel oil, propane, butane, and jet fuel.

Both deals are pending regulatory clearance, with completion expected in Q4 of 2021.



## JAPAN FUELS AN AMMONIA SUPPLY CHAIN

Ammonia is used for fertilizer and industrial materials, but could it also be an effective future energy source? JERA, Japan's largest power generator, thinks so. The company is working with manufacturers, shipping companies, and domestic electric utilities to build out a global supply chain for ammonia as a fuel.

Ammonia does not emit carbon dioxide when burned, but production creates emissions if it is made with fossil fuel.

JERA, a joint venture between Tokyo Electric Power and Chubu Electric Power, aims to achieve net zero emissions of carbon dioxide by 2050 as well as 20% use of ammonia at its coal-fired power plants by 2035. It signed a memorandum of understanding with Norwegian ammonia maker Yara for the

delivery of emissions-free ammonia as fuel for electricity generation in Japan, following an agreement with Malaysia-based Petronas to collaborate on ammonia and other energy projects.

JERA is also planning a demonstration project to develop technology to co-fire ammonia and coal at a 1-gigawatt commercial coal-fired power plant. In an effort to expand its renewable power assets to 5 gigawatts by 2025, JERA and its partners Equinor and Electric Power Development submitted a bid for three offshore wind power projects in Northern Japan.

JERA also began an environment assessment process for two offshore projects, one off Ishikari Bay in Hokkaido and another in Northern Japan.



## Are you prepared for post-COVID supply chain changes?

Visit our [COVID-19](#) page for useful articles and resources to help you navigate the future.



Cost and waste reduction



Visibility



Risk mitigation



Analytics



Learn more: [controlant.com/covid-19](https://controlant.com/covid-19)  
Contact us: [contact@controlant.com](mailto:contact@controlant.com)

Follow us @Controlant on  
Twitter and LinkedIn

[IN FOCUS]

# NOTED

## The Supply Chain in Brief

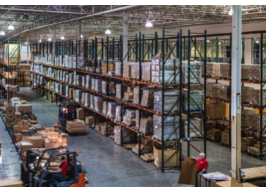
### > GOOD WORKS



Oversize air freight transportation provider **Volga-Dnepr Airlines** operated three charter flights to India from China, Ireland, and Germany to aid the nation during its COVID-19 crisis. Volga-Dnepr delivered more than 200 tons of medical equipment, including oxygen-storing and cryogenic containers, to various regions that experienced oxygen equipment shortages.

**IAG Cargo** and its sister company **British Airways** operated a relief flight to India, transporting 27 tons of medical aid. The carriers loaded a B777-200 with more than 1,000 items from the High Commission of India and charities, including oxygen cylinders, oxygen concentrators, respirators, and blood oxygen saturation monitors. British Airways is also donating care packages for families in need.

### > SHOVEL READY



**Averitt Express** opened a new distribution and fulfillment center near Dallas, Texas, and its service center in Grand Prairie. The 400,000-square-foot facility handles domestic and international freight, and is equipped to accommodate growing international shipping needs in the region.

Third-party logistics provider **Kenco Logistics** is building, staffing, and managing a finished goods warehouse and distribution point in Salt Lake City for Oatly, a Swedish sustainable food company. Kenco will help Oatly achieve its sustainability goals, streamline operations, and meet consumer demand in North America.

**Blackline Cold Storage** broke ground on a 298,000-square-foot cold storage facility at the Port of Houston. Its design incorporates flexibility for multiple segregated temperature zones, including blast freezing capability, and up to 50 truck doors and rail connectivity to serve multiple customer requirements. The facility is set to open in 2022.



**GameStop** is expanding its North American fulfillment network by leasing a 700,000-square-foot fulfillment center in York, Pennsylvania. Expected to be operational by the fourth quarter of 2021, the facility will support the company's e-commerce and fulfillment needs and expedite shipping across the East Coast.

## m&a

■ **Canadian National (CN)** and **Kansas City Southern** entered into a definitive merger agreement. The combined rail company connects North America's industrial corridor to create new options for shippers.

■ **PayPal** acquired **Happy Returns**, a California-based startup that allows online shoppers to make returns in person.

■ Multinational electronics company **Panasonic** acquired **Blue Yonder**, a digital fulfillment platform provider.

■ **E2open**, a provider of a cloud-based, end-to-end supply chain management platform, acquired **Blujay Solutions**, a cloud-based logistics execution platform.

■ Canada-based logistics technology company **Descartes Systems Group** acquired **Portrix Logistics Software**, a German provider of multimodal rate management solutions.

### > UP THE CHAIN

Final-mile platform **OneRail** appointed **Bill Hancock** to its board of advisors. Hancock brings nearly two decades of leadership experience, having served in executive leadership roles at Target Corporation, American Tire Distributors, and US Foods.

**Bridge Industrial** hired **David Aschenbrand** as its new vice president of cold storage. Aschenbrand previously served as director at Lineage Logistics, where he oversaw the transportation and logistics division.

## > SEALED DEALS

• Ready-made cocktail maker **Edmunds Cocktails** selected logistics provider **Johnston Logistics UK** to store and supply its sustainable glass bottles. Johnston, which specializes in alcohol-focused logistics, helps store pallets of empty bottles before they are filled to streamline warehousing operations.



• **Cardinal Health** selected **FourKites** to enhance tracking of medical equipment, pharmaceutical products, first-aid supplies, and personal protective equipment in transit to healthcare facilities. FourKites' advanced tracking and analytics enable a fast, reliable experience for the pharmacies and hospitals that contract with Cardinal Health for critical supplies.

• **Titan Brands** selected global software provider **enVista** and supply chain technology company **Körber** to meet increasing demand for direct-to-consumer fulfillment. To achieve an order-to-ship cycle within hours rather than days, Titan will leverage Körber's warehouse management system, while enVista's order management system will provide inventory visibility as well as shipment experience management.

## > GREEN SEEDS

**DB Schenker** and **Lufthansa Cargo** completed the first carbon-neutral cargo flight connection in history from Frankfurt to Shanghai Pudong. Sustainable aviation fuel, which is produced mainly from biomass waste such as used cooking oil, covered the fuel requirements. This conversion saves approximately 174 metric tons of conventional kerosene weekly.



Dutch brewer **Heineken** plans to decarbonize its production by 30% by 2030 and its full value chain by 2040. Heineken beer is set to be transported from its brewery in Zoeterwoude to Moerdijk on an emission-free barge.



**IKEA Canada** plans to achieve 100% zero-emission deliveries by 2025. The home furnishings retailer partnered with logistics and last-mile delivery provider Second Closet, which will integrate zero-emission trucks into its fleet for IKEA home deliveries in Quebec, Ontario, and British Columbia.

## > RECOGNITION



• The University of Minnesota's Center for Transportation Studies presented **Deb DeLuca** (pictured), executive director at Duluth Seaway Port Authority, with the **2021 Distinguished Service Award**. The award honors a private-sector professional in the freight transportation and supply chain industry for leadership and mentorship.

• **Peak Technologies** received the **Supply Chain Solutions Partner of the Year** award from Ivanti-Wavelink for exceptional performance in 2020. The award is based on total revenue for the year, product sales growth, and similar metrics.

• **J.B. Hunt Transport Services** was named Walmart's **2020 Intermodal Carrier of the Year**. Walmart bases the honor on a demonstrated commitment to customer service, effective communication, and service improvements.

• **Southwest Airlines Cargo** was honored as the **Airforwarders Association's Domestic Airline of the Year** for delivering outstanding service for its customers. The airline was ranked at the top of the list for its operational performance, service offerings, and overall value for air cargo customers.

• Gartner named **RateLinX**, a logistics payment platform, in its **Magic Quadrant for Real-Time Transportation Visibility Platforms** for its TracLinX solution. Gartner bases its evaluation on completeness of vision and ability to execute. TracLinX is a multimodal, transportation platform that delivers real-time visibility into shipments, carriers, locations, and users.

[IN FOCUS]

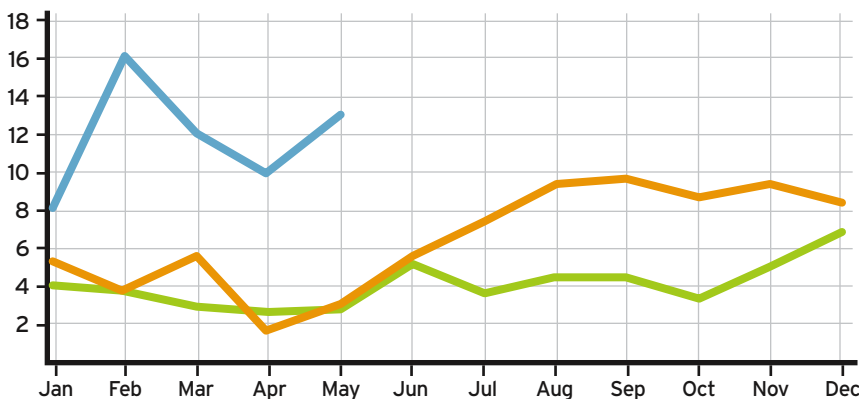
# TAKEAWAYS

*Shaping the Future of the Global Supply Chain*

## U.S. Reefer Load-to-Truck Ratio

2021 2020 2019

FTR



SOURCE: DAT FREIGHT & ANALYTICS

Load-to-truck ratios (LTRs) represent the number of loads posted versus trucks posted on load boards. To determine LTR, the number of load posts is divided by the number of truck posts. The resulting number indicates the balance between spot market demand and capacity. When there are more loads posted, LTR rises. When there are more trucks posted, LTR dips. Changes in the ratio often signal impending changes in rates.

## Refrigerated Shipping Heats Up

Demand for temperature-controlled shipping is expected to continue to grow as vaccination rates increase and people gather for summer picnics and barbeques, says a C.H. Robinson report. Foodservice refrigerated volumes are also bouncing back as restaurants reopen, the traveling public dines out, and festivals and large functions commence.

**High prices continue:** The load-to-truck ratio (LTR), which indicates loads posted versus trucks posted, for key temperature-controlled markets such as Florida, California, and Texas have already hit record highs before the produce season's peak weeks, suggesting high pricing will continue as demand outstrips supply. The national LTR in 2021 demonstrates the highest levels of imbalance in six years (see chart).

**Attracting drivers:** The temperature-controlled truckload sector faces even greater challenges finding drivers for trucks than dry van, because it requires drivers to manage a refrigeration unit and the temperature of the trailer. Because capacity in the temperature-controlled market will not likely increase significantly, enhanced compensation strategies for drivers will be more successful for dry vans, the report says.

**Stay flexible:** The tight truck market will likely impact capacity and pricing. Planning and flexibility are critical for supply chains this year. C.H. Robinson advises shippers to expect seasonal movement in truckload pricing, with the year-end bringing a higher cost per mile than today.

## CISCO SNAGS TOP SUPPLY CHAIN SPOT

Cisco Systems earned the number-one spot in Gartner's ranking of the 2021 top 25 supply chains. The technology company's agility and strength in environmental, social, and governance initiatives helped prioritize critical infrastructure for hospitals and vaccine research, Gartner says. Four new companies on this year's list include Dell Technologies, Pfizer, General Mills, and Bristol Myers Squibb.

Gartner determined this year's companies based on three key qualities: purpose-driven operations focused on keeping society running during the pandemic and meaningful green initiatives; accelerated transformation; and achieving digital-first supply chains to enable a seamless customer experience.

- 1 Cisco Systems
- 2 Colgate-Palmolive
- 3 Johnson & Johnson
- 4 Schneider Electric
- 5 Nestlé
- 6 Intel
- 7 PepsiCo
- 8 Walmart
- 9 L'Oréal
- 10 Alibaba
- 11 AbbVie
- 12 Nike
- 13 Inditex
- 14 Dell Technologies
- 15 HP Inc.
- 16 Lenovo
- 17 Diageo
- 18 Coca-Cola Company
- 19 British American Tobacco
- 20 BMW
- 21 Pfizer
- 22 Starbucks
- 23 General Mills
- 24 Bristol Myers Squibb
- 25 3M



### Smart Clothes Hit the Rack

Will warehouse workers suit up in electronic clothing? Possibly. MIT researchers released a line of smart clothes that can track physical movement, and Fudan University researchers in China unveiled state-of-the-art electronic textiles that can produce visual displays.

This is all happening as wearable devices continue to streamline supply chain operations and provide critical feedback in real time. In fact, 70% of warehouse facilities will

adopt some form of wearable electronics by 2023, according to MHI research.

MIT's smart clothes are made of knitted conductive yarn. To make a garment, researchers develop its design in a computer program, knit it with an industrial machine, and then plug it into electronic pressure sensors that can detect the wearer's movements.

Typically, display materials are not compatible with textiles because they can't withstand the warping that occurs when fabrics are worn and washed. Fudan's design solves that problem by weaving conductive and luminescent fibers together with cotton into a fabric display.

That produces a textile that can provide, for example, a touch-sensitive fabric keyboard that can withstand 100-plus laundry cycles. The researchers also say the textiles have a power supply and can harvest solar energy.

Applications for Fudan's textiles include using one's sleeve to send text messages and follow GPS instructions. Researchers say they can produce the display textiles on a large scale at low cost and are already providing them to companies. They will start to hit the market in 2021 and no later than 2022, Fudan predicts.



- RAIL INTERMODAL
- OVER-THE-ROAD
- CRITICAL CAPACITY
- TEMPERATURE CONTROL
- INTERNATIONAL
- WAREHOUSING

# SUSTAINABILITY PROMISE

At Alliance Shippers Inc., we continuously work towards providing cleaner and more energy-efficient transportation services and solutions. Our 2021 Green Supply Chain Partner award underscores our steadfast commitment to a greener environment.

**ALLIANCE**shippers inc.®

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

 **SmartWay**  
Transport Partner  
Getting There With Cleaner Air

2017+2019 EXCELLENCE AWARD WINNER

CERTIFIED MEMBER SINCE 2006

## TAKEAWAYS

---

### DESIGNERS CULTIVATE PLANT-BASED LEATHER

Fashion designers branch out to plant-based textiles in response to growing demand for sustainable and cruelty-free products, and as supply chains seek to lower their carbon footprint. These leather alternatives are heating up:

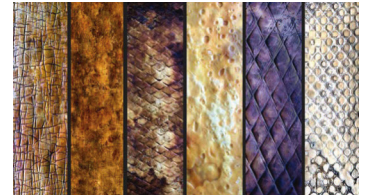
**Cactus:** Fast fashion company H&M is partnering with Mexico-based Desserto to create a new collection, including shoes made from cactus leather. Desserto makes the cactus fabric by turning organic nopal cactus leaves into a partially biodegradable, vegan material that resembles leather. The fabric can be used to make bags, accessories, clothes, boxing gloves, furniture, and car interiors.

**Castor Oil:** H&M's new collection will also incorporate EVO by Fulgar, a bio-based material made from castor oil. Fulgar says EVO is a completely renewable resource, does not require much water to grow, and does not take any farmland from food agriculture.

**Apples:** Once the juice is extracted from apples, the remaining pulp is normally discarded. Italian company Frumat SRL developed a fabric made from the pulp, which is dried and ground to a powder, mixed with pigments and a binding agent, and left until it resembles leather. Designer Tommy Hilfiger used it to make sneakers in its zero-waste collection.

**Mushrooms:** Luxury brand Hermès is partnering with MycoWorks, a California-based startup with a patent that turns the threads of a mushroom root into materials that look and feel like leather. The first byproduct of the collaboration will be a travel bag, expected at the end of 2021.

---



## A partnership of trust and transparency.

**At Syfan, our commitment to shippers remains steadfast and true.** The demands of COVID have created a shortage of carriers and tight capacity that have strained partnerships with some shippers – but not Syfan Logistics. Throughout the challenges of the past year, Syfan has not wavered from standing by its customers and continuing to provide drama-free service.

**Because when we make a promise, we deliver.**



## Boeing 737s Are Back in Business

As e-commerce continues to take off, Boeing is adding capacity by converting its old 737 passenger planes into cargo haulers.

The company added two production lines to convert its 737-800s into freighters. An aircraft and heavy equipment services company located in a free-trade zone in Costa Rica will operate the conversion, allowing for duty-free importing of parts. Boeing already converts 737-800s into freighters in Shanghai, Guangzhou, and Jinan, China.

The popularity of converted 737s has soared, winning orders from Amazon as it builds out Amazon Air. Cargo was a bright spot for airlines during the pandemic as passenger demand dropped, while lower capacity drove up freight costs.

## TAKEAWAYS

### Fires Fuel Supply Chain Disruption

Factory fires, mergers and acquisitions, business sales, factory disruptions, and human health ranked as the top five supply chain disruptions in 2020, according to data from Resilinc.

For the third year in a row, the two top disrupting events were factory fires and changes in ownership at supplier firms. Supply chain disruptions were up 67% year-over-year, with 83% of disruptive events caused by humans. North America experienced the most disruptions (2,935), followed by Asia (1,323) and Europe (1,210).

The pandemic was more disruptive than any other event type. COVID-19 created deeper global impacts, leading Resilinc to designate the event as “severe”—the first time the company ranked an event at that level of impact.



An American Tradition in Transportation

IN GOD WE TRUST

# 5 Ways to Position Your Supply Chain for Retail Compliance Success

**These five actions will help you meet retailers' expectations and standards, from packaging and appointment scheduling to advanced ship notifications.**



**T**o manage retail availability of their suppliers, many retailers hold shippers to a high standard when delivering their freight. These standards come with compliance regulations surrounding packaging, barcode and labeling, appointment scheduling, and advanced ship notifications (ASN).

If not approached correctly, these regulations can severely impact your bottom line. Fortunately, there are a few ways to position yourself ahead of the pack.

## **1. Find value in economies of scale.**

Sending full truckloads into retail is generally the most efficient and cost-effective method of shipping. However, for smaller suppliers, shipping full truckload with unused space can be extremely expensive. That's where a retail consolidation program comes in. This can be an appropriate solution when multiple POs going to the same destination are combined to ship together—helping suppliers cut costs and optimize efficiency by shipping into retail with full truckload capabilities.

## **2. Build a fluid supply chain.**

Today's retail market has placed a huge emphasis on supply chain resiliency. But what does that mean? In short, a fluid supply chain equips companies to adjust to market volatility without compromising cost and customer satisfaction.

In today's climate, having access to the right resources (carriers, warehouses, network analysts, etc.) and tools are imperative to effectively manage an end-to-end supply chain, especially as the industry becomes more complex. Fortunately, seasoned 3PLs can offer a retail consolidation program to help any size supplier inherit a fluid supply chain.

## **3. Understand retail compliance.**

Compliance requirements vary depending on which retailer you're doing business with. The nuances that go into labeling, pack slips, advanced shipping notices, and delivery windows are all defined by the retailer—making it imperative for suppliers to fully understand all the dynamics that go into adhering to these requirements. Not

only will mastering these compliance standards save your company from costly chargebacks, but retailers also favor suppliers they know they can count on.

## **4. Demand end-to-end visibility.**

In order to operate as efficiently as possible, you need full visibility into your entire supply chain. This can be done with a comprehensive warehouse management system (WMS) and transportation management system (TMS). These technologies will keep a pulse of your inventory and help forecast demand to make sure you have the right amount to fulfill retail orders quickly. These tools also give your team access to all necessary paperwork to ensure your freight is retail compliant.

## **5. Focus on the right KPIs.**

It's important to understand how your brand fits in relation to the specific retailer. Focus on metrics that benefit the account such as capacity utilization, velocity, movement, and on-time performance. In other words, demonstrate that you understand a category by adding value to the retailer, so you also help their business thrive.

.....  
**—By Spencer Smith**



**VP of Client Development  
Hub Group**  
[www.hubgroup.com](http://www.hubgroup.com)  
800-377-5833

.....  
**Learn more about Hub Group's inbound retail solutions at [solutions.hubgroup.com/casestack](http://solutions.hubgroup.com/casestack) or contact your Hub Group representative today.**

Equipment procurement  
will never be the same.

---

# One request. Multiple quotes.



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

Rent, lease or buy any equipment from a global network  
of 1000s of trusted equipment suppliers.





[INSIGHT]

## E-COMMERCE

by *Dusty Dean*

President, BITCADET

dusty@bitcadet.com | 503-902-5633

# Fixing Manufacturers' Broken Traditional Selling Processes

Why is it so hard for manufacturers to go digital? The end answer is always the same: fear. Fear of change, fear of losing revenue, and fear of potentially jeopardizing relationships with dealers and distributors is paralyzing manufacturers.

Or worse, manufacturers blindly follow their counterparts on the Amazon trail known for its razor-thin margins, complete control over competitive positioning, and exposure to counterfeit goods. They place stiff controls and penalties on sellers just for using the Amazon marketplace.

Even worse, Amazon employees use data about independent sellers on its platform to develop competing products, reports *The Wall Street Journal*.

### EMBRACING ONLINE SALES

Manufacturers need to embrace what Amazon has known for years—that buyers prefer to source, vet, and buy online. This process is changing even more because buyers for vendors, dealers, and distributors are now millennials with less brand allegiance. Outside the United States, manufacturers in Asia have also been quickly capitalizing on this change to game the market and drive out American competitors.

Consider the stats. In 2019, U.S.

manufacturers' business-to-business (B2B) e-commerce sales grew by nearly 21% to \$430 billion, according to Digital Commerce 360. That growth rate is nearly 20 times faster than the growth in total U.S. manufacturing sales.

E-commerce is not just for smaller-ticket items. According to a recent study by McKinsey & Company, 70% of B2B decision-makers say they are open to making new, fully self-serve, or remote purchases in excess of \$50,000, and 27% would spend more than \$500,000.

### EXODUS FROM AMAZON

Companies such as Nike and Clorox are leading the way—bypassing Amazon and setting up their own sales channels.

This exodus is not news in the retail world. In 2017, Birkenstock pulled all of its products from Amazon. Vans, Ralph Lauren, Rolex, Louis Vitton, Patagonia, and North Face have also opted out of selling directly on Amazon, according to *Forbes*.

Websites such as Shopify are cropping up to make it easy for companies to set up their own simple e-commerce sites using their platform.

However, companies are finding that selling direct requires a real commitment to the back-end operation to make sure all areas—sales, finance, engineering, production, logistics, marketing, human resources—are collaborating and the infrastructure is thoroughly in place.

### DIGITIZED COMPANIES TAKE THE LEAD

COVID-19 revealed gaping holes in supply chains and caused havoc among manufacturers who have not been able to keep up with demand. The good news is that we're seeing companies with digitized operations take the lead and experience record growth during these hard times.

Yet, still today, 8 out of 10 manufacturers depend primarily on their internal sales force to drive revenue; and fewer than 1 out of 5 offer a digital buying experience. This is shocking considering the lessons Amazon has taught us about buyer demand.

One thing we know: Manufacturing's traditional selling processes are broken. Our next chapter requires a savvy digital approach backed by a deep understanding of buyer expectations. ■



**PERFORMANCE TEAM**

A Maersk Company

**WE'RE THE  
ONLY THING THAT  
SHOULD COME  
BETWEEN YOUR  
PRODUCTS AND  
YOUR CUSTOMERS.™**



## TRANSPORTATION SERVICES

Drayage • Transload • Store Delivery  
Pickup and Consolidation  
Dedicated Fleets • Regional FTL & LTL  
Pool Point Distribution

## DISTRIBUTION SERVICES

E-Commerce, Retail & Wholesale Fulfillment  
Reverse Logistics • Value Added Services  
Supply Chain Management • DC Bypass  
EDI & API Integration

**Contact us today to learn more about our services.**

866.775.5120 x 6975 • [www.performanceteam.net](http://www.performanceteam.net) • [marketing@performanceteam.net](mailto:marketing@performanceteam.net)



[INSIGHT]

## IT MATTERS

by *Nikolaus Sievers*

VP of Global Customer Success, Slync.io  
slync@affect.com | 518-708-3412

# Solving the Global Data Dilemma

For as much time and effort spent trying to perfect the systems and technologies we rely on for global logistics, it seems the industry has lost sight of how people actually get work done.

Logistics can be a messy endeavor. It relies heavily on human interaction both within and outside the enterprise, multiple business partners with different technologies and business rules, and clear communications across a diverse set of customers with distinct needs.

Logistics relies on processes as much as it does technology. And within those processes, a massive amount of data moves between parties by way of emails, spreadsheets, PDFs, and photos. As such, vital data can be easily lost or misused.

### THE VALUE OF DATA

The value of data is the highest it has ever been. But the logistics sector has a particularly hefty challenge in that a large number of parties throughout the global supply chain produce, process, and consume that data. Few players have native integrations with one another and vastly different levels of data maturity and digitization. All of this creates real barriers to unlocking and using data to its full potential within the supply chain.

On average, every shipment in the supply chain requires around 200 documents shared between as many as 28 organizations. The lack of a single

system to corral the chaos between stakeholders throughout the supply chain makes the task of leveraging data seem impossible.

### DATA CHALLENGE AND TRUE COST

If data is king in logistics, then it needs to be treated like royalty. The lack of data standards, along with the way information and communications are compartmentalized and siloed between organizations, indicates that the industry is far off sharing data efficiently and turning it into meaningful, actionable insights.

People waste around 50% of their time copying and pasting data, looking up and re-keying information, or recovering from situations that are caused by manual data errors or from overlooking vital information. With cost and capacity constraints at an all-time high, companies can no longer afford to make avoidable mistakes that disrupt service and increase spend.

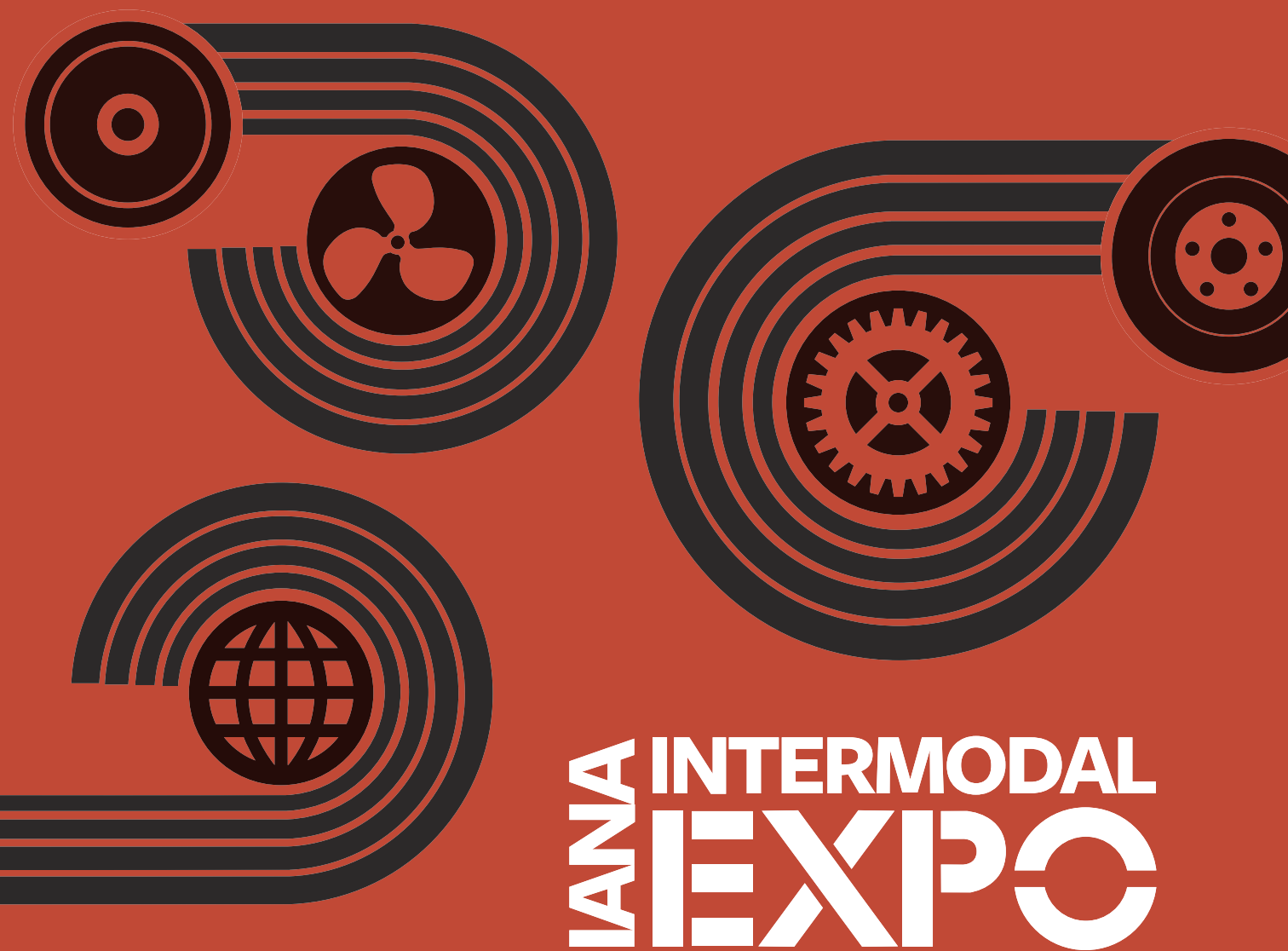
Logistics organizations work around the clock across multiple time zones and depend on many different business partners, technologies, and communications. By its very nature,

logistics data tends to be a mess. Enterprises can't tackle the logistics data challenge with traditional systems alone. There is no one-size-fits-all approach—logistics leaders need to find a solution that applies data within the right context to accelerate and automate tried-and-true processes and workflows.

Harmonizing information across core systems, partner software, email, spreadsheets, and other data sources allows companies to tap into any data source to inform business decisions for optimal cargo flow. And by focusing on workflows, it's possible to augment existing systems and maximize their value with solutions that integrate and connect information to specific outcomes. It shifts the focus to productivity and measurable results, rather than system replacement and transformation that may be years down the road.

The global supply chain industry is estimated to reach \$37.4 billion (US) by 2027. In an era when COVID-19 has brought more scrutiny to the way things are made and moved around the world, stakeholders can't afford to wait for transformation to take hold.

Now's the time to find ways to increase interoperability between business partners, control and make sense of data, and uplevel traditional, manual processes for faster and more intentional outcomes. ■



# ANA INTERMODAL EXPO

*THE **BUSINESS** OF INTERMODAL IS HERE*

Intermodal EXPO is back in 2021. The entire intermodal industry in one place. EXPO is the intermodal industry's platform for products, services, and solutions; a classroom for new skills and know-how; and a network for ideas and business.

Grow  
opportunities

Grow  
relationships

Grow  
your business

Long Beach Convention Center • September 12 - 14, 2021

**Register Now and Save \$200**  
Early Rate ends July 2 at [IntermodalEXPO.com](https://IntermodalEXPO.com)

The Online  
Supermarket

Log in | Register

MY TROLLEY: 17 \$ 

food ▶ fruits and vegetables

FRESH DEALS | COUPONS | TOP SELLERS | SPECIALS

search in online supermarket

## CHECK THIS OUT:

- ☒ Fulfill from Store
- ☒ Fulfill from Dark Store
- ☒ Microfulfillment Center
- ☒ Third-Party Delivery Service
- ☒ BOPIS
- ☒ Drone Delivery

E-COMMERCE  
GROCERS  
DELIVER

## The shift to grocery e-commerce has retailers hungry for fulfillment improvements and supply chain efficiency gains. **BY HELEN MANN**

**IF** you're like most consumers, you probably spent a lot more time at home in 2020, and spent a lot more money online. E-commerce purchases rose in categories ranging from furniture and home improvement to bicycles and gym equipment.

One of the most acute shifts was in grocery e-commerce. Prior to the onset of the pandemic, 7% of grocery shopping was done online, according to a MasterCard Economics Institute report. The pandemic pushed online grocery shopping to 10% by the end of 2020. Going forward, Mastercard expects 70% to 80% of that shift to be permanent. This is great news for grocery merchants who are on top of their game, but it comes with a side order of supply chain challenges.

Accommodating a new deluge of orders left grocery retailers with a mountain of concerns to iron out, nearly overnight. "Prior to the pandemic, 52 cents of every dollar was going to food service outside the home," says Doug Baker, vice president of industry relations at the Food Industry Association. "COVID moved much of that business toward grocery. Online retail growth exceeded 300% in the first few months of 2020."

As a result, many of the usual grocery delivery challenges, such as temperature control and inventory management, were amplified as order volume ramped up.

Take omnichannel. Integrating products into one sales channel is something that grocers have been working at for years, but the pandemic forced them to accelerate its adoption. Grocers had to quickly grow the assortment of products that they sold online.

"Food retailers had to move an assortment that they previously sold only in stores into the omnichannel space, so they could offer everything to consumers," explains Annibal Sodero, assistant professor of marketing and logistics at Ohio State University. "This challenge existed before COVID, but the pandemic magnified it."

Ramping up e-commerce fulfillment also meant accommodating cohorts of consumers who did not engage in online shopping in the past. In its *Beyond the Cart: A Year of Essential Insights* report, Instacart notes a 9% rise in senior citizens who utilized its services between the first and fourth quarters of 2020.

“More people who weren’t previously buying online are entering this space,” says Sodero. “The challenge is serving more people with different tastes and preferences, and with different delivery requirements.”

It can be a blow to the bottom line if grocery retailers aren’t careful. “Depending on their strategy, estimates are that grocers can lose anywhere from \$5 to \$15 per order, based on order size,” says Mario D’Cruz, senior director of strategic planning for Honeywell Intelligrated, a material handling automation and software engineering company based in Mason, Ohio.

The uptick in online ordering has forced grocers to grow their payrolls, but maintaining an adequate labor supply since the onset of COVID has not been easy. Grocery retailers added 500,000 new employees from 2019 to 2020, according to a Food Industry Association report titled *Receipts from the Pandemic*. If food retailers were able to hire for all of their open positions, they would add another 100,000 workers to the fold.

“What grocery managers are wrestling with most is scaling up labor,” says Michael Keck, senior director of supply

chain at DHL. “During the pandemic, they needed to add more resources at the store level to pick orders and bring them to the customers. They had to acquire the labor for those activities during the pandemic.”

But managing e-commerce grocery deliveries isn’t only about having the optimal number of employees. Managers are finding ways to maximize efficiency, regardless of headcount. One is utilizing the right order fulfillment strategy.

“The most rudimentary option is leveraging stores for fulfillment,” says Jeremy Neren, CEO of GrocerKey, a provider of e-commerce grocery technology and in-store fulfillment solutions. “Grocery retailers can design a pick-and-pack strategy, in which an employee traverses the aisles in the most efficient manner possible. They can also break the store down into zones, and reduce footsteps that way.

“They can even move fulfillment out of the store entirely, and into a “dark store” or a room with dedicated inventory,” he adds. “That strategy is not disruptive to the consumer and it’s wage optimized for fulfillment.”

This strategy can help to reduce costs, but grocers are still limited by a worker’s efficiency. Typically, a worker can pick only 60 orders per hour, according to data from fulfillment solutions provider 6 River Systems.

#### **MICROFULFILLMENT CENTERS OFFER MAXIMUM EFFICIENCY**

To maximize productivity even more, some grocery retailers are establishing microfulfillment centers. These mini warehouses tend to be located close to consumers and house popular items that turn over quickly. At 10,000 or 15,000 square feet, they may be smaller than your average fulfillment center, but the velocity gains are enormous.

“If you have 10 people collecting groceries on the floor today, microfulfillment can bring their rate up to 75 orders per hour, which reduces the cost of the basket,” explains Matt Inbody, chief disruptor of micro enterprises at Dematic, a materials handling systems,



**Grocery retailer Kroger has partnered with Drone Express to deliver groceries to customers by drones flown by certified drone pilots under FAA approval.**

software and services supplier. “With microfulfillment, about 6,000 to 7,000 items move through at such a rate that in three days a grocery retailer can turn inventory over 100%.”

To achieve these speeds, microfulfillment centers utilize automation. In many centers, shuttles run up and down aisles to retrieve goods. From there, a conveyor brings items to warehouse workers, who then sort them into individual orders. Some shuttles have the capability to scale shelves.

The goal of automation is to reduce a worker’s movement through a facility. “Automation brings the items to the pickers, instead of having pickers get products from the shelves,” says Inbody.

#### **OVERCOMING THE LAST MILE**

Another source of stress on e-commerce grocery delivery is the last mile. Notoriously expensive and unwieldy, the journey from a warehouse to a customer’s doorstep has caused headaches for retailers for years. And during the pandemic, when many consumers couldn’t venture into a grocery store, final-mile strategies had to keep pace with e-commerce orders.

Problems like complex routes and high costs have only accelerated. “On top of the usual challenges, the newest last-mile challenge is keeping up with pace and volume,” Baker says.

To meet these challenges, some retailers turn to third-party delivery services. Companies such as InstaCart, Shipt, or UberEats can take some of the pressure off grocers to operate their own fleets in-house.

“Third-party delivery services are able to scale much quicker because they use their driver communities’ assets,”



**Third-party delivery services such as Shipt take some pressure off grocery fulfillment challenges by handling shopping and delivery to customers.**

explains Keck. “This shifts the financial burden away from the grocer.”

Another option has been not to deliver groceries to the customers but to bring the customers to the groceries. Buy online pick up in store, or BOPIS, lets customers pick up the groceries they order through the web, thus eliminating concerns about temperature control or delivery windows. In March 2021, BOPIS grocery sales reached \$7.1 billion, according to a Brick Meets Click/Mercatus grocery shopping survey.

BOPIS offers a slew of advantages to grocery retailers. “Drive-up is the most effective and important fulfillment method for many grocery retailers,” says David Bishop of retail consultancy Brick Meets Click. “It removes the last-mile issues created with delivery or ship-to-home methods. It also creates an opportunity for an unplanned trip into the store.”

Ensuring an adequate number of pickup windows is essential to BOPIS success. There are a few ways to do it.

“The main way to resolve the capacity constraint is to increase the ability to fulfill more orders during the same time period,” says Bishop. “Retailers can accomplish this by either adding more staff to assemble orders or by improving

labor productivity with enhanced assembly practices.”

The next grocery frontier lies in new technologies. For example, in December 2020, Walmart announced it would operate fully autonomous vehicles to deliver orders in certain middle-mile routes in 2021. Leading up to that announcement, the retailer had piloted test runs of autonomous trucks in partnership with Gatik, a driverless vehicle startup. Currently, Walmart plans to operate driverless vehicles

Orders could reach the consumer in as few as 15 minutes.

“Once the order is placed, Kroger sends it to our order management platform, and we see a GPS coordinate identifying where the customer’s house is,” explains Beth Flippo, chief technology officer of Drone Express. “The customer receives real-time tracking and they can change the location if they want.

“Let’s say they want an order delivered to the driveway, and not on the grass,”

## Automated microfulfillment centers enable items to move through at such a rate that in three days a grocery retailer can turn over inventory 100%.

between a dark store and a Walmart location in Arkansas.

More recently, Kroger announced that it will test drone delivery at a location in Centerville, Ohio. Working with drone company Drone Express, the grocer will deliver small packages (weighing less than 5 pounds) to local residents, using customers’ GPS coordinates. Customers have the option of ordering individual items, or pre-packaged bundles in categories such as S’Mores or Baby Care.

she adds. “They can change it and it’s saved forever.”

This new development will enable customers to order groceries any time and at any location. “The best part about drones is that they are one package at a time, so you aren’t anchored to your house anymore,” Flippo says. “You can place an order and it will know where you are based on where your phone is.”


Grocers have a lot on their plate navigating the world of online retail. ■



Integrated automated technology supplier Dematic helps companies place automation within an existing retail location or nearby urban fulfillment center to meet the needs of on-demand ordering.



# YOU BET, WE STILL CARE ABOUT SUSTAINABILITY

- ✓ CARBON NEUTRAL
  - ✓ CARBON FOOTPRINT
  - ✓ REUSE & RECYCLE
  - ✓ ENERGY OFFSETS
  - ✓ CIRCULAR SUPPLY CHAIN
  - ✓ CLOSED LOOP
- 

*As they erase the  
distractions posed by  
the pandemic, companies  
brainstorm new ideas to  
make their supply chains  
more sustainable.*

*BY MERRILL DOUGLAS*



**T**he pandemic put new strains on supply chains, but that didn't stop companies from launching initiatives to shrink their carbon footprints and eliminate waste.

A few notable examples:

- Starbucks set a goal in March 2021 to improve the way its suppliers produce and process green coffee, achieving carbon neutrality and cutting water usage in half by 2030.

- Google announced a new routing model for Google Maps that will help users optimize trips to reduce fuel consumption.

- Apparel retailer J. Crew said that by 2025 it would sustainably source all the key fibers in its clothing and all the plastic and paper in its packaging, and its operations would be carbon neutral by 2030.

- DHL Express opened a 100% solar-powered pop-up retail store, the company's first, in Chino Hills, California.

At the start of the pandemic, sustainability advocates held their collective breaths, wondering how the crisis would affect the world's progress.

"It was a relief to see that the

## "It's hard now for companies to compete in the global market if they don't have a sustainability strategy, because stakeholders expect it."

—*Bettina Grabmayr, Head of Institutional Relations, EcoVadis*

pandemic actually put sustainability at the core of everyone's efforts," says Bettina Grabmayr, head of institutional relations at EcoVadis, a Paris-based company that helps firms assess how they're performing on environmental, social, and ethical issues.

The environment stayed a priority during COVID-19 in part because people realized that some of the same factors that fuel climate change, such as loss of biodiversity, also helped to spur the pandemic, Grabmayr says.

While it's hard to directly connect the pandemic to recent supply chain sustainability initiatives, COVID has led many companies to examine how they operate, and spurred them to become more flexible. "There is some correlation between the pandemic and sustainability

based on the fact that we're changing in so many ways as it relates to the supply chain," says Tim Gagnon, vice president of analytics and data science at third-party logistics company C.H. Robinson in Eden Prairie, Minnesota.

Although commitment varies by geography and industry, sustainability has become a core endeavor rather than an afterthought for more companies. They're responding to pressure from regulators, consumers, and, more recently, investors.

"It's hard now for companies to compete in the global market if they don't have a sustainability strategy, because stakeholders have some expectation about this," says Grabmayr.

### MEASURING THE RESULTS

To help companies rate themselves and their supply chain partners on sustainability, EcoVadis aggregates and analyzes data from a company's own management systems, reports, and other internal sources; from stakeholders' databases; and from public sources. Using insights gleaned from that data, EcoVadis works with companies to develop plans to improve sustainability and then measure the results.

Companies that already collaborated with suppliers on sustainability were generally better equipped to deal with supply shortages and other challenges posed by the pandemic, which also required collaboration.

"This is why some companies did better than others when it came to making sure the supply chain was resilient," Grabmayr says.

One of the more popular



DHL's new pop-up unit in Chino Hills, California, is the international express carrier's first 100% off-the-grid retail store, boosted by a solar powered system with backup batteries charged at the local service center, helping to reduce energy consumption.

improvement strategies is for companies to reduce their carbon footprint. Companies are starting to take a more systematic approach toward their emissions goals.

“These strategies are not just based on their operations or on what they think they can do and what will be comfortable for them,” Grabmayr says. “They’re based on the science and where we need to be.”

## TESTING GREEN IQ

C.H. Robinson’s latest contribution to the science is Emissions IQ, a free, self-service tool that calculates users’ carbon emissions across all forms of transportation.

For companies that partner with C.H. Robinson, Emissions IQ analyzes data on past shipments, drawn from the 3PL’s management systems, to calculate emissions. “Each mode of transportation has an emissions intensity score — basically a carbon score,” Gagnon says.

The tool currently covers North American truckload, less-than-truckload, and rail shipments. C.H. Robinson will add air and ocean shipments later in 2021.

Shippers that manage logistics internally can use data from their own transportation management systems, engaging C.H. Robinson as a consultant to help refine their strategies based on what they learn from the tool.

Emissions IQ provides a high-level summary of a company’s carbon emissions, allowing comparisons over time or among various modes. Users can also drill down on specific factors, such as the geographical makeup of the carbon footprint, or where opportunities for improvement lie.

For example, a user could run what-if scenarios to see the potential impact of switching some freight to a different mode, or consolidating some shipments.

The 125 companies that used Emissions IQ during a pilot implementation discovered strategies that helped them collectively reduce



## GROW YOUR OWN

While some companies strive to burn *less* fuel, others in the logistics sector are trying to slow global warming by burning *different* fuels. One of those alternatives is Sustainable Aviation Fuel (SAF), made by recycling used vegetable oils and other biomass waste.

In April 2021, logistics company DB Schenker and airline Lufthansa Cargo started what they say is the world’s first regular carbon-neutral flight, using SAF to power an aircraft once a week between Frankfurt am Main and Shanghai Pudong. The partners say that the CO<sub>2</sub> released in flight equals the amount removed from the atmosphere during the growth of the plants that produce the fuel, resulting in net zero carbon emissions.

Greenhouse gases emitted when manufacturing and transporting the fuel are offset by investments in sustainability projects.

United Airlines is also using SAF to help green its operations, forming the Eco-Skies Alliance to encourage investments in its biofuels programs. United customers that join the alliance contribute part of the cost of purchasing SAF, helping to reduce emissions and demonstrate a demand for low-emissions fuel. CEVA Logistics announced in April 2021 that it had joined the Eco-Skies Alliance.

French shipping line CMA CGM Group recently supported the production of 12,000 tons of biomethane made from organic and plant waste sourced in Europe. That is enough to fuel the equivalent of two 1,400-TEU ships powered by liquid natural gas between Saint Petersburg and Rotterdam for one year, the company says.

CMA CGM plans to invest in biomethane production facilities and study the viability of liquefaction processes, with the goal of employing biomethane as a shipping fuel.

their carbon emissions by 350,000 metric tons, says Angie Freeman, chief human resources officer and environmental, social and corporate governance officer at C.H. Robinson.

Onfleet, a San Francisco-based global provider of last-mile delivery management software, also recently started measuring carbon emissions for its customers. While Onfleet’s software

can help shippers shrink their carbon footprints by generating more efficient routes, the new Onfleet Offset program uses a different strategy for greening the supply chain, offering a chance to invest in projects that mitigate the effects of CO<sub>2</sub> emissions.

“More than 1,000 businesses are on our platform, and if it was easier for them to track and offset their emissions,



## Companies that already collaborated with suppliers on sustainability were generally better equipped to deal with supply shortages and other challenges posed by the pandemic.

we know they would do it,” says Khaled Naim, co-founder and CEO at Onfleet.

After a company opts in to Onfleet Offset, at the end of each month Onfleet calculates the number of miles that company’s delivery drivers have covered, distinguishing among vehicle types.

“If they are using scooters, bicycles, or motorcycles, the emissions will be lower than for trucks,” Naim says.

Using the greenhouse gas coefficient established by the Environmental Protection Agency for each transportation mode, the system calculates the fleet’s carbon impact and tabulates a dollar value, at \$4 per metric ton of carbon. That total appears as a line on the customer’s invoice for the month.

“We then match that with our own \$4 per ton and send the funds to our partner, Pachama, which uses the money to buy carbon credits,” Naim says.

Based in San Francisco, Pachama invests in projects to preserve forests around the world—for example, by paying landowners to keep trees intact rather than clear land for agriculture.

“Out of the gate, we built a portfolio of three forestry projects in Peru, Alaska, and Mexico,” Naim says. Pachama uses satellite imagery and other technologies to verify that the forests are actually preserved, he adds.

### PLUG-IN TRUCKS

For Canadian transportation company Purolator, one key to working toward zero emissions by 2050, in line with Canada’s national goal, is electrification. Purolator has used hybrid-electric trucks, plus some low-speed electric vehicles and electric bikes, for pickup and delivery in Montreal and Toronto for some time. In the spring of 2021, it

added five all-electric, 18-foot delivery trucks to its fleet in Vancouver, along with four new e-bikes.

When Purolator put its first 30 hybrids on the road in 2005, all-electric vehicles were expensive and complex. “Today, we’re finally getting to the point where electric batteries are becoming more affordable,” says Serge Viola, director of the national fleet at Purolator, in Mississauga, Ontario.

With a single drive train, an all-electric vehicle is a bit lighter and more efficient than a hybrid. “And you can reach zero greenhouse gas emissions when driving on the road,” Viola adds.

Purolator procured the trucks from Motiv Power Systems of Foster City, California, which electrifies standard Ford truck chassis—usually the F-53, F-59, or E-450—to produce electric vehicles. Purolator’s trucks are based on the F-59, with bodies built on top of the chassis to match the rest of its fleet.

“We typically use three lithium-ion battery packs, which give a range on a single charge of up to 169 kilometers, or 105 miles,” says Prasad Ramakrishnan, COO of Motiv. “That requires eight hours to recharge.”

Purolator is assigning the electric trucks to routes that keep them within



Canadian courier company Purolator recently launched a fleet of 18-foot electric delivery trucks and e-bikes. In addition to reducing truck traffic and noise pollution, the new all-electric vehicles will reduce greenhouse gas emissions by 24 metric tons per year (per vehicle).

that range, so there will be no need to recharge during the day.

The rollout of all-electric vehicles in Vancouver is a test, meant to help Purolator build a business case for bringing the technology to other locations, and also to determine how well the vehicle's power requirements match the electrical infrastructure at different locations.

Beyond its pickup and delivery operations, Purolator is also exploring all-electric vehicle technology for possible use on the "shunters" that move trailers in its hub facilities, and electric or hydrogen fuel cell technology for long-haul transportation.

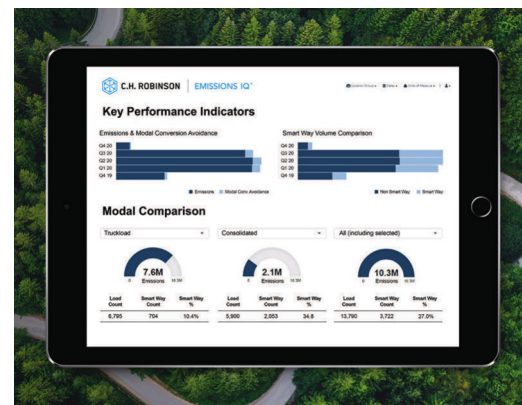
The five trucks in Vancouver are the first that Motiv has supplied in Canada. In the United States, the company has supplied step vans to AmeriPride Services, Aramark Corporation, bakery

company Bimbo, and the U.S. Postal Service. It has also provided electric buses to customers ranging from the Sacramento Area Schools to Google's campus in Mountain View, California.

## SOURCING FOR SUSTAINABILITY

Another tool companies can use to improve sustainability is the request for proposal (RFP). Whether they're sourcing components and materials, finished products, or transportation services, buyers can set criteria that favor more environmentally friendly solutions, says Alan Holland, founder and CEO of Keelvar Systems, a software provider based in Cork, Ireland.

Keelvar provides solutions that optimize and automate sourcing events, letting buyers and sellers reach agreements that accommodate a complex array of needs and constraints.



**Emissions IQ from C.H. Robinson is a free, self-serve tool that instantly shows a company's carbon emissions across all forms of transportation globally.**

When a company sources transportation, for example, and adds sustainability to its criteria, that creates a new set of data points to consider along with traditional factors, such as on-time performance and cost.

A supply chain manager trying to evaluate many tradeoffs for numerous shipments might skip the environmental factors just to keep things simple, Holland says. But an automated solution can quickly analyze data to compare, for example, the carbon cost of using each of three ships leaving the Port of Manila for the Port of Long Beach in a certain period.

"If the pricing is similar—and it often is—then a company can bias in favor of the most environmentally friendly option," Holland says.

If the greener solution does cost more, Keelvar's customers can configure the sourcing optimizer to balance value and expense. "What is the rate of equivalence? Is it \$10 per kilogram of CO<sub>2</sub>, or \$50, or \$100?" Holland asks. "It's our customers' choice. We facilitate that biasing at scale."

About five years ago, many of Keelvar's customers cared more about cutting costs than cutting emissions, Holland says. But today, between regulatory imperatives and pressure from consumers, many customers now consider sustainability a crucial value.

So do many other shippers and supply chain professionals, all of them seeking innovative ways to produce and deliver as much as ever while doing minimal harm to the environment.

## AEROSHARK TESTS THE WATERS

Innovative surface technology from Lufthansa Technik and BASF improves fuel efficiency, thus helping airlines reach their sustainability targets.

The lower the frictional resistance of an aircraft in the air, the lower the fuel consumption. Using nature as a role model, the aviation industry has been intensively researching ways to reduce aerodynamic drag for many years. Now Lufthansa Technik and BASF have made a breakthrough as part of a joint project.

Lufthansa will roll out AeroSHARK, a surface film that mimics the fine structure of a shark's skin, on its entire freighter fleet starting in 2022, making the aircraft more economical and reducing emissions.

The surface structure—consisting of riblets measuring around 50 micrometers (.002 inches)—imitates the properties of sharkskin, optimizing the aerodynamics on flow-related parts of the aircraft. This means that less fuel is needed overall.

For Lufthansa Cargo's Boeing 777F freighters, Lufthansa Technik estimates a drag reduction of more than 1%. For the entire fleet of 10 aircraft, this translates to annual savings of around 3,700 tons of kerosene and just under 11,700 tons of CO<sub>2</sub> emissions, which is the equivalent of 48 individual freight flights from Frankfurt to Shanghai.





# **GREEN**

## **SUPPLY CHAIN PARTNERS**

*Inbound Logistics'* annual G75 is an editors' choice list of 75 companies that go above and beyond to ensure their global supply chains are sustainable, and that their operations are socially and environmentally friendly. These companies are dedicated to developing and implementing best practices that leave a positive footprint on the world.

## A. Duie Pyle

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

A. Duie Pyle invests in equipment that promotes conservation and decreases the consumption of resources in its warehouses, facilities, and fleet. Forty-five percent of Pyle's trucks were built within the past 3.5 years, which is below the industry average of 5.2 years. This minimizes exhaust emissions and improves fuel economy. Pyle's service centers use electric forklifts, which reduce carbon emissions by 24,000 pounds per unit.

In 2010, Pyle invested in more than 4,000 solar panels for its Parkesburg, Pennsylvania, warehouse, enabling the 570,000-square-foot facility to run on 100% solar energy. Its Bronx, New York, service center uses 100% LED lighting with tube lights in shops and break rooms harnessing sunlight. In 2020, Pyle opened a new service center in Hagerstown, Maryland, with integral LED lighting systems and solar light piping.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

A. Duie Pyle installed self-inflating tires and implemented paperless operations.



## AAA Cooper Transportation

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

AAA Cooper Transportation installed enhanced/full aerodynamic fairing packages, converted oil to lighter-weight synthetic for better fuel economy, installed tire pressure systems designed for drive tire position to improve MPG, and installed next-generation skirting on van trailers for airflow direction.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainably source materials
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

AAA Cooper Transportation designed data centers to reduce HVAC demands and overall utility consumption.

## Alliance Shippers

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

Alliance Shippers continues to reduce its carbon footprint by adding EverGreen refrigeration units that are CARB compliant for the life of the unit. The company equips its refrigerated trailers and containers with two-way cellular tracking devices, drawing power from a solar-powered battery source within its refrigeration units. This technology allows units to be plugged into an electric source while sitting in a yard or at a dock. Building its fleet of refrigerated equipment with the most current

technology enables Alliance Shippers to move refrigerated goods via rail—reducing CO2 output by approximately 67% or 1 billion pounds compared to moving the same goods via trucks.

As an active participant in the SmartWay program, Alliance Shippers works closely with original equipment manufacturers to utilize CARB-compliant components and practices as part of its specifications for any new trailer/container build. Its investment in solar panels allows the company to use the sun's energy to continuously charge the batteries on its fleet, lowering fuel consumption and reducing emissions.

Alliance Shippers also manages the run time on units at customer pool locations to reduce carbon emissions and optimize asset utilization to increase capacity.



### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

A SmartWay participant provider since 2006, Alliance Shippers was honored with a SmartWay Excellence Award in 2017 and 2019—one of 62 companies to receive this distinction.

## Americold

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

In 2020, Americold invested more than \$8.4 million in sustainability projects ranging from energy-saving LED lighting to rooftop rainwater harvesting systems. The company works closely with customers to optimize their supply chains with a focus on reducing transportation mileage to decrease CO2 emissions.

Americold continually evaluates technology to drive improvements in energy efficiency, water usage, greenhouse gas emission reductions, and overall stewardship of resources. Its sustainability efforts are led by energy teams in direct partnerships with every operations leader in the company, engaging the entire organization to practice sustainability stewardship.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Americold was recognized as the #1 cold storage leader for energy excellence by the Global Cold Chain Alliance.

## Averitt Express

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



Averitt Express is a founding member of SmartWay. As one of 52 charter members, Averitt Express agreed to meet specific environmental and energy-saving goals while sharing its progress annually with the EPA. Through this program, the company established

a systematic approach to both reduce emissions and conserve fuel. As a result, Averitt Express has earned a SmartWay score of 1.25, which represents "outstanding environmental performance," according to the EPA.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Since joining the SmartWay program, Averitt Express has achieved a 38% reduction in carbon dioxide emissions, 88% reduction in nitrogen oxide emissions, and saved 6.2 million gallons of diesel fuel.

## Bolloré Logistics

[www.bolloré-logistics.com](http://www.bolloré-logistics.com)



Bolloré Logistics maintains a strong CSR program structured around 41 environmental, social, societal, and ethics benchmarks. Key objectives are the reduction of scope 1 and 2 greenhouse gas emissions and the reduction of its indirect CO2 emissions.

To achieve these targets, the company launched a global energy efficiency program composed of solutions focused on behaviors and technologies. It also implemented a low carbon transport plan to support customers, carbon pacts with maritime companies, strong CO2 reporting, circular economy projects, and sustainable innovations within its innovation center.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources

- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

In April 2021, EcoVadis gave Bolloré Logistics a Platinum rating, its highest level of recognition.

## C.H. Robinson

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

C.H. Robinson is more than halfway toward its goal of reducing emissions intensity 40% by 2025 over its 2018 baseline numbers. It achieves this progress by finding energy efficiencies within its facilities and leveraging renewable energy options.

C.H. Robinson has implemented several sustainability projects, including Gold LEED certification in its largest operating facility in Chicago; single-sort recycling in its offices; paperless invoicing for customers, with a goal of going 100% paperless; and LED lighting in some facilities.

The company received the 2021 EcoVadis Bronze Medal in recognition of sustainability achievement. An EPA SmartWay Transport partner since 2005, C.H. Robinson collaborated with MIT and SmartWay to create a new standard of measuring LTL emissions. Moreover, the company launched Emissions IQ, a self-serve technology that measures carbon emissions from shipments managed by C.H. Robinson across mode, location, and retailer.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

C.H. Robinson offers a greenhouse gas emission calculator for customers and carriers, renewable energy credits, and carbon offsets.

## Cargo Transporters

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

Cargo Transporters continues to invest in more fuel-efficient trucks, trailers, and major components. In 2020, the company renewed its SmartWay certification, invested in shorepower connections for trucks, installed solar-powered trash/recycling bins, installed new HVAC thermostats with scheduling capabilities, and moved its data center to a more energy-efficient facility.

### GREEN INITIATIVES

- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Cargo Transporters deployed 14 solar-powered compacting trash/recycling bins across its terminal parking.

## CEVA Logistics

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



CEVA Logistics incorporates environmental considerations in its operations, from warehousing to transportation to procurement.

CEVA's 2021 environmental initiatives in North America include tree planting programs in the United States, Mexico, and Canada; park trash clean-up programs; switching materials handling equipment to electric; numerous recycling programs; switching to LED lights to lower electricity usage; actively procuring CNG tractors; piloting electric mid-duty trucks in California; and instituting a zero-plastic water bottle program in its Canada facilities.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions

- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

As an inaugural participant in the United Eco-Skies Alliance, CEVA Logistics is taking a lead in the air cargo industry to reduce logistics-related environmental impacts by increasing demand for sustainable aviation fuel.

## CJ Logistics America

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

CJ Logistics America continues to identify sustainability projects to implement in partnership with its customers. The company tracks performance on six key metrics—electricity, natural gas, propane, water, recycled tonnage, and waste tonnage. It also monitors the performance of each location, identifies the most promising network-wide projects, and sets goals to reduce its carbon footprint.

CJ Logistics' transportation-focused sustainability efforts include consolidated shipping for which it tracks carbon savings month over month, SmartWay certification, and a strict no-idle policy. The company regularly engages in large-scale network modeling projects for many customers. While the goal of its network redesign is generally efficiency and cost reduction, better placed warehouses and optimized transportation routes also result in a more sustainable network with a reduced carbon footprint.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

By consolidating multiple customers with a single destination onto shared trucks, CJ Logistics America reduces trucks on the road and miles traveled while also reducing costs for program participants.

## Crowley

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

Crowley enhances sustainability by using more biofuel to power vessels. It also uses cleaner-emission tugboat and closed-loop ballast water systems. Crowley Engineering Services designed the first fully electric U.S. tugboat with autonomous technology, providing a sustainable solution for ship assist and harbor services at ports.

Crowley's terminals have implemented new operating systems that reduce idling emission time by 50%, leading the EPA to honor Crowley Trucking as a 2020 SmartWay High Performer. LNG-powered container ships have reduced greenhouse gases by more than 32% per container.

The company put in service 850 new refrigerated units with more energy-efficient systems and a new inspection dock with more energy-efficient power supplies and continuous real-time monitoring.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Crowley practices recycling in all facilities and reduces waste material usage.





## CSX

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

CSX practices transparency and adopts new technologies to achieve its goal of reducing scope 1 and 2 greenhouse gas emissions intensity by 37% between 2014 and 2030. This goal, the most ambitious in the transportation sector at the time it was approved by the Science Based Targets initiative, has led freight rail and other transportation companies to adopt strategic and significant goals of their own. CSX is investing in near-term efficiency efforts and long-term transformational technologies to drive the company toward achievement.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

In 2021, CSX set new environmental goals after accomplishing all its 2020 environmental goals.

## CT Logistics

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

CT Logistics invested in software developments in 2020, targeting the ability to provide shippers the tools to make greener choices in their supply chain every day. CT's FreightRater Lion software helps shippers drive energy efficiency with supply chain routing analysis

technologies. The software consolidates small shipments into a truckload with stop-offs to reduce costs and fuel, enabling shippers to choose environmentally conscious routings, mode selections, and carriers with the shortest transit times to reduce fuel consumption and lower CO2 emissions.

### GREEN INITIATIVES

- Reuse/recycling program
- Reduce energy usage
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

At least 40% of CT Logistics' 6-acre corporate campus will remain undeveloped and wooded. Employees recycle all cardboard and paper, copier and printer toner and ink cartridges.

## DHL Supply Chain

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

In March 2021, Deutsche Post DHL Group unveiled a sustainability roadmap to further support its ongoing efforts to eliminate 50% of emissions by 2025 as part of its goal to reduce all logistics-related emissions to zero by 2050. The Group committed to investing more than \$8 billion in clean operations—including electric vehicles and green warehousing technologies.

To meet its target of reducing greenhouse gas emissions to net zero by 2050, the company offers numerous innovative solutions to make supply chains more sustainable and help customers achieve their environmental goals.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting
- Circular and reverse logistics

### NOTABLE ACHIEVEMENT

DHL Supply Chain is on track for all DHL owned or leased facilities to operate at net zero carbon by 2025.



## DHX-Dependable Hawaiian Express

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

In 2021, DHX reached a sustainability milestone with its 10th annual GreenWay Miles Carbon Audit. Its decade-long commitment to tracking emissions has allowed the company to document a 78% reduction in same-facility emissions from its original audit in 2011.

In 2019, DHX began carbon-neutral operations in its warehouses, investing in VCS Standard carbon offsets. DHX also offers carbon-neutral shipping. All of its larger facilities are solar-powered, and DHX continues to invest in truck technology to reduce emissions.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

DHX installed electric vehicle charging stations for employees.

## DSV

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

Through the Science Based Targets initiative, DSV has committed to rigorous goals for global greenhouse gas emissions reductions. Its initiatives include implementing a global multisite certificate for ISO 9001 (Quality), ISO 45001 (Health & Safety), and ISO 14001 (Environment).

m2, its largest hub in Northern Europe, has recycling programs for paper, cardboard, and plastic; in 2021, DSV is launching a recycling project to increase its global efforts.

DSV Solutions, its warehousing and contract logistics division, initiated a sustainability program. Led by local ambassadors, the program has two tracks: 1) interacting with customers and suppliers to implement green solutions, and 2) optimizing technical solutions in its own offices and warehouses, including automatic control of heating, cooling, and ventilation. The program also introduces more sustainable equipment such as energy-efficient forklifts and alternative packaging solutions in warehouses.

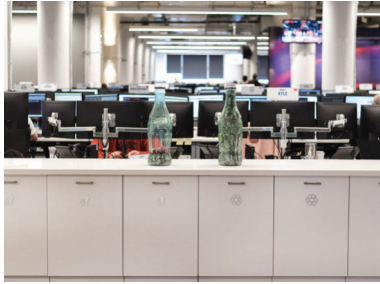


### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

DSV received the Chemours Supplier Award in Sustainability in 2020.



## Echo Global Logistics

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

Echo Global Logistics works with its shipper and carrier partners to adopt procedures that reduce waste through recycling practices, minimize impact by reducing pollutants, increase the use of environmentally acceptable materials, and actively promote environmental awareness. Echo is certified in the ISO standard 14001: 2015. This means Echo's environmental management system meets the requirements of ISO.

Internally, Echo promotes company-wide recycling efforts, encourages employees to commute using public transportation, and provides staff with wellness options that benefit them and the environment.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Since 2010, Echo has partnered with the EPA's SmartWay program to measure, benchmark, and improve its environmental footprint. Echo shares its freight activity with the EPA, which tracks carbon dioxide, nitrogen oxide, and particulate matter emissions. Echo's emissions scores rank above average and continue to improve.

## Erb Group of Companies

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

A SmartWay partner, the Erb Group of Companies' aerodynamic tractors improve fuel economy and have fuel-efficient tires that extend mileage and the lifetime of the tire. Trailer tires have a low-rolling

resistance design to maximize fuel efficiency. Tire inflation systems extend tire life and increase fuel efficiency. Computerized truck transmissions also enhance fuel economy.

Its fleet features battery-operated auxiliary power units, eco mud flaps that reduce fuel costs and improve performance, fuel economy packages, and pup trailers with solar panels to charge batteries and conserve fuel. The company's long-combination vehicles reduce miles, save fuel, and reduce greenhouse gases. Its trailer tails improve fuel efficiency by 5.5% by streamlining airflow and reducing rear drag.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Erb's fleet includes high-torque engine packages that offer cleaner exhaust emissions.

## Estes

[www.estes-express.com](http://www.estes-express.com)

Estes was one of the first trucking companies to join the EPA SmartWay Transport Partnership. The company invests in solar energy, installing solar-powered systems in four of its terminals. Estes also uses technology to plan routes to minimize fuel consumption, reduce carbon dioxide emissions, and ensure it is carrying freight as efficiently as possible. Estes replaces older, less-efficient tractors with EPA-certified models to reduce its carbon footprint.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Estes provides customers with paperless e-commerce solutions.

## Evergreen Line

[www.evergreen-shipping.us](http://www.evergreen-shipping.us)

Focused on building a green container fleet, Evergreen Line deploys load stability calculation and weather navigation information systems to optimize sailing speed and monitor fuel consumption. Evergreen monitors sailing schedules and adjusts them flexibly.

The ocean line continues to install and use scrubbers in the fleet to reduce sulfide. The shipping line improves the operational efficiency of terminals, adopts shore power, and strictly manages ballast water discharges.

Evergreen complies with the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships and EU Ship Recycling Regulation. The line disposes of ship waste according to the waste management plan.



### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

With an established corporate CSR policy, Evergreen has aligned its core operating strategy with the UN Sustainable Development Goals.

## FedEx

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

To achieve its goal of carbon-neutral global operations by 2040, FedEx invested more than \$2 billion in three key areas—vehicle electrification, sustainable energy, and carbon sequestration.

FedEx is converting its entire parcel pickup and delivery fleet to zero-emission electric vehicles by 2040. This will be accomplished through phased programs to replace existing vehicles. For example, by 2025, 50% of FedEx Express



global parcel pickup and delivery vehicle purchases will be electric, rising to 100% of all purchases by 2030. The company is also building on its Fuel Sense initiatives to continue working to reduce aircraft fuel consumption.

FedEx continues to invest in alternative fuels, efficient facilities, renewable energy, and other energy management programs.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Since 2012, the FedEx Fuel Sense and Aircraft Modernization programs have saved a combined 1.43 billion gallons of jet fuel and avoided more than 13.5 million metric tons of CO2 emissions.

## FreightCenter

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

FreightCenter helps shippers green their supply chains by making sure SmartWay-certified trucking companies provide transportation and carriers use optimized lanes and routes, finding the best drivers by location.

FreightCenter's green initiatives include reporting total mileage and freight tonnage, partnering with SmartWay-certified trucking companies, and optimizing lanes and routes to be eco-friendly. One of the company's main goals is to reduce carbon emissions.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials

### NOTABLE ACHIEVEMENT

The company has been selected as a SmartWay Transport Partner for the past four years, and has won various sustainability awards.

## GEODIS

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

One-third of GEODIS sites have triple QSE certification, and its sites are also ISO 14001 certified. GEODIS is a SmartWay partner. Its other global partnerships include EcoTransit, Clean Cargo, and GLEC. Facility teammates lead an Americas Green Team Program. The company also offers Green Site Certification, an education tool to teach facilities how to be sustainable.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

According to the EcoVadis Global Benchmark report, GEODIS ranks in the top 1% of suppliers assessed in its category and has maintained this distinction since 2015. It's in the top 1% of all suppliers assessed in all categories and scored a 70/100, which corresponds to Advanced on the scoring scale and Gold in recognition level. In 2019, GEODIS obtained a B Level score from CDP after an evaluation of its climate change strategy and actions.

## Georgia Ports Authority

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

Georgia Ports Authority (GPA) created nine acres of man-made wetlands to treat 100 million gallons of stormwater annually. It has a single-stream recycling program, and all its asphalt resurfacing projects generate millings that are reused throughout Garden City Terminal.



GPA converted its container handling equipment and trucks to ultra-low sulfur diesel, cutting emissions by 10%. Its electric ship-to-shore cranes have integrated generators to capture power while lowering boxes, producing enough energy to power themselves for 18 minutes per operating hour.

GPA uses electric refrigerated container racks, with each avoiding the use of 54,000 gallons of diesel annually. Its new lighting controls and fixtures cut energy consumption by up to 60%.

The port reduces truck idling time through automated gates, extended hours, and the Port of Savannah's Cross Terminal Road. GPA retrofitted 11 locomotives at the Port of Savannah with automatic engine stop-start devices that cut almost 16 tons of emissions each year.

#### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Energy-efficient lighting
- Stormwater management

#### NOTABLE ACHIEVEMENT

GPA uses all-electric, rubber-tired gantry (eRTG) cranes at the Appalachian Regional Port. The eRTGs reduce fuel consumption by more than 95% per crane and virtually eliminate emissions of carbon dioxide, nitrogen oxide, and particulate matter compared to diesel-powered RTGs.

### GlobalTranz

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

GlobalTranz works to reduce its carbon footprint while helping its clients and carrier partners achieve their sustainability goals. It prioritizes green practices in its

own operations and through the solutions it offers to clients.

The third-party logistics provider's CORE Green Team is a program dedicated to reducing the environmental impact of its day-to-day business as well as working outside the community to protect the environment. Initiatives include recycling programs, sustainable materials procurement, paperless processes, electronic invoicing, energy-efficient offices with motion sensors to conserve resources, and community cleanup events.

#### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainably source materials
- Energy-efficient lighting

#### NOTABLE ACHIEVEMENT

GlobalTranz is a long-time participant in the SmartWay Transport Partnership.

### Hub Group

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



Hub Group provides sustainability-focused services, including intermodal, LTL consolidation, and network optimization, to eliminate network emissions. This includes analyzing customers' supply chains to identify opportunities to implement a program while playing an active, long-term role in their sustainability goals. In 2020, its intermodal service helped customers avoid more than 1.5 million metric tons of CO<sub>2</sub>.

From an MPG-friendly, day cab-focused company tractor fleet to refrigerated containers with solar-powered IoT devices, Hub Group's equipment also works to reduce

emissions. The transportation and logistics company continues to merge its fleet with technology, initiating an Electric Tractor pilot in April 2021.

#### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

#### NOTABLE ACHIEVEMENT

Hub Group has made carbon dioxide reporting a core focus in 2021.

### Hyster Company

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

Hyster mitigates environmental impact in intensive industries and meets strict emission standards by offering alternative power options for heavy-duty lift truck applications that have historically depended on internal combustion engines.

During the past two years, Hyster introduced multiple counterbalanced lift trucks engineered around factory integrated lithium-ion power. The J60XNL pneumatic tire truck is engineered around a fully integrated lithium-ion battery that produces zero emissions and zero off-gassing during charging. A new cushion tire version, the E60XNL, expands integrated lithium-ion power to even more applications.

#### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Energy-efficient lighting

#### NOTABLE ACHIEVEMENTS

Hyster is lithium-ion practical for load capacities ranging from 5,000 to 36,000 pounds, with several high-capacity forklifts offering lithium-ion power that delivers performance comparable to diesel power without the emissions.

## igPS Logistics

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

The iGPS pallet is 100% recyclable and 35% lighter than wood alternatives. For every 100,000 pallets shipped, 20,000 pounds of greenhouse gases are reduced. An independent life cycle analysis shows that compared to multi-use and single-use wood pallets, the iGPS pallet has at least 91% less of an impact on ozone layer depletion; 75% less of an impact on eutrophication (i.e., excessive algae growth in waterways due to runoff); 25% less of an impact on abiotic depletion (i.e., fossil fuel consumption); 65% less of an impact on global warming; 60% less of an impact on photochemical oxidation; and 60% less of an impact on acidification.

### GREEN INITIATIVES

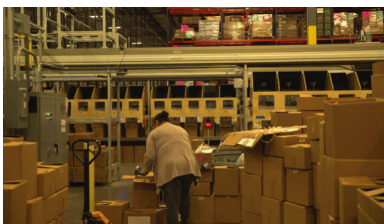
- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials

### NOTABLE ACHIEVEMENT

iGPS repurposed more than 80 tons of post-consumer plastic into pallets, keeping it out of landfills and waterways.

## Inmar Intelligence

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



Inmar Intelligence, a provider of reverse logistics and supply chain solutions, reduces costs and eliminates waste of returned items from consumer goods manufacturers and retailers. Inmar's solutions enable a landfill diversion rate of 98% by placing goods back into commerce, providing donations, and through waste-into-energy initiatives. It keeps 200 million pounds of material from landfills each year

through returns management and liquidation programs.

Inmar's Energy From Waste program produced 10.6 million kilowatt hours of energy in 2018 and 2019. Using energy from waste saved 19,250 barrels of oil in 2018 and 2019. Its return facilities recycle 28 million pounds of clients' cardboard boxes each year.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

Inmar's liquidation services reduce sending returned products to landfills and the company's headquarters building is LEED Platinum Certified.

## J.B. Hunt Transport Services

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

Through its conversion efforts, J.B. Hunt reduced CO<sub>2</sub>e emissions in 2020 (versus an all-truck alternative) by approximately 50% or about 3.4 million metric tons. Using J.B. Hunt 360, it filled more than four million empty miles last year by successfully matching empty segments with unutilized trucks. This initiative helped reduce its greenhouse gas emissions by approximately 6,112 metric tons of CO<sub>2</sub>e in 2020.

In 2020, J.B. Hunt completed its first delivery using an all-electric Class 8 truck. Additional sustainability initiatives include reducing engine idle time, governing top-speed limits, engineering fleet routes that maximize efficiency, and using biodiesel fuels.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting



### NOTABLE ACHIEVEMENTS

J.B. Hunt has received the EPA SmartWay Excellence Award for 11 consecutive years. The company was also named a 2020 SmartWay High Performer.

## Kamps

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

Kamps, one of the nation's largest pallet recyclers, overhauled its Green Scorecard program with added educational materials for customers across various industries nationwide to encourage pallet recycling beyond its own organization.

The company equipped its entire fleet with state-of-the-art GPS fleet management software that increases productivity and lowers fuel consumption, leading to lower greenhouse gas emissions. Kamps' 2021 initiatives include setting a new milestone in pallets recycled, lowering the amount of paper consumed in daily business operations, and transitioning to digital platforms.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials

### NOTABLE ACHIEVEMENTS

In 2020, Kamps recycled (repaired or dismantled components for reuse) more than 70 million pallets, which saved 3.59 million trees, 1.92 million metric tons of CO<sub>2</sub> emissions, and 1.4 million tons of landfill waste.

## Kane Logistics

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

Kane Logistics works to reduce carbon emissions, pollution, and congestion with smarter trucks and delivery methods. The third-party logistics provider has been a SmartWay member since 2006 and utilizes modern, diesel-powered trucks and compressed natural gas equipment.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

Since 2012, Kane has recycled 65.7 tons of paper, 85,239 tons of plastic/stretch wrap, 738,060 tons of cardboard, 101.2 tons of cans/bottles, 14.3 tons of steel, 191.8 tons of wood, and 87.7 tons of additional commingled materials.

## Kenco Logistics

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

Kenco's offerings cover a range of advanced technologies that supplement its sustainability endeavors. For example, Kenco's proprietary carbon footprint calculator, developed through the company's DaVinci AI software, allows it to quantifiably predict emission outputs and facilitate reductions in advance. Similarly, the company is able to reduce waste and streamline processes in day-to-day operations by training drivers on progressive shifting techniques.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Kenco created a 3-year roadmap for transitioning to low-emissions solutions such as highly automated, partially "dark" or "lights off" warehouses. Virtually independent of human labor, these facilities reduce requirements for energy consumption from utilities such as lighting, air conditioning, water usage, and vehicle exhaust.

## Lufthansa Cargo

[www.lufthansa-cargo.com/green](http://www.lufthansa-cargo.com/green)



In the past 25 years, Lufthansa Cargo increased fuel efficiency by 52% with fleet rollovers from the DC8 to the B777. With LH Group, the corporate goal is to halve the CO2 footprint by 2030 (basis 2019). Lufthansa demonstrates sustainability by innovation in aircraft technology (all B777 will have sharkskin by 2022), fuel efficiency (more realistic contingency fuel planning), in-flight operation (efficient flight profile concept), and handling (since 2020 only standard lightweight containers are in use).

Lufthansa Cargo has its own environmental strategy and a worldwide ISO 14001-certified environmental management system, taking into account upstream and downstream processes, including sustainable procurement.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

Lufthansa Cargo customers can now determine the CO2 emissions of their shipment's transport during

the booking process and will soon be able to neutralize them via an add-on service.

## Lynden

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

Despite operating in Alaska's extreme conditions, Lynden's fleets consistently score among the most efficient in the nation in terms of CO2 per ton mile as measured by the SmartWay Transport Partnership.

Lynden designs its procedures and equipment to prevent accidental spills and manage stormwater pollution. The company's trucks and planes are also designed with aerodynamic features to reduce drag, and more than 80% of its fleet is less than five years old.

Lynden's bulk tanker company consistently scores in the top 1% of tanker carriers in the nation for low carbon monoxide, nitrous oxide, and particulate matter emissions per ton mile. Lynden locations have been redesigned for energy efficiency, including replacing propane forklifts with electric models.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Energy-efficient lighting,

### NOTABLE ACHIEVEMENTS

Lynden is the first Alaska-based transportation company to be recognized by SmartWay (2008) and the first trucking company to earn the Green Star Award for Alaskan businesses.



## Maersk

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

Maersk is committed to safe, responsible, and transparent business practices in alignment with the principles of the UN Global Compact and Sustainable Development Goals. Maersk prioritizes decarbonization, and has intensified efforts to achieve net zero emissions by 2050 and support customers in decarbonizing their supply chains.

In 2020 its vessel energy efficiency continued to improve, with a 46% reduction in CO2 emissions per container moved since 2008. Maersk's first carbon-neutral vessel will be in operation in 2023, and all future vessels will be capable of operating on carbon-neutral fuel.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Maersk reduces customers' transportation carbon footprints through vessel emissions reductions and carbon-neutral ocean shipping services.



## Mainfreight

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

Mainfreight's 100-year vision is a guiding principle in its commitment to sustainability. Examples of sustainability initiatives include use of rainwater to wash its trucks, GPS route planning to bring efficiencies to pickups and deliveries, and use of electric forklifts and solar installations in Mainfreight-owned branches. In



line with ISO 14064-1, Mainfreight now reports its emissions with the ultimate intent of improving carbon emissions performance.

### GREEN INITIATIVES

- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Mainfreight's sales team in Australasia uses electric and hybrid vehicles.

## Marten Transport

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

Marten Transport consistently invests in technology and people to reduce its footprint. The time- and temperature-sensitive transport services provider added green initiatives that not only reduce waste and improve efficiency, but also lower MPG. Marten accomplished this by managing the following areas: loading warm, reefer run time, APU idle time, and network restructuring. Marten has invested in solar panels for trucks and all 14 terminals, and purchased lithium power bank batteries for its California terminal.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

SmartWay presented Marten with its Excellence Award and added

the company to its Multimodal High Performance list for many years in recognition of its emissions reduction.

## Matson Logistics

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

Matson Logistics' environmental strategy focuses on reducing greenhouse gas emissions to mitigate climate change, improving air quality, recycling retired ships responsibly, and protecting ocean health and biodiversity. The freight transportation provider has been a member of the EPA SmartWay Partnership since 2008.

Additionally, Matson Logistics has invested in green building features in its warehouses. Its warehouse in Pooler, Georgia, is LEED certified. Other facilities use "passive night air" cooling systems and will upgrade from fluorescent lighting to more efficient LED lighting.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainably source materials
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

Matson twice received the U.S. Coast Guard's William M. Benkert Award for Environmental Excellence. It is also a recipient of the North American Marine Environment Protection Association's 2020 Environmental Innovation Leadership Award.

## NFI

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

Partnering with companies such as DTNA, Volvo, and Hyliion to operate electric trucks, NFI continues to invest in new green technologies. The third-party logistics provider is testing battery-electric yard units near zero compressed natural gas trucks using renewable compressed natural gas, and electric range extenders, and is exploring Class 8 hydrogen fuel cell vehicles. NFI

also implemented natural gas fleets and has integrated new technology to improve aerodynamics and fuel efficiency, and installed electric charging infrastructure at its Southern California campus.

Green equipment, including lithium battery-powered forklifts, battery-powered automated units, and robotic stretch wrapping, is in place across NFI's distribution centers. NFI owns more than six megawatts of solar and is a member of the ACT Expo High Volume Fleet Planning Committee.



## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Solar panels
- Energy-efficient lighting

## NOTABLE ACHIEVEMENTS

NFI is a four-time EPA SmartWay Excellence Award winner and a SmartWay High Performer.

## Nolan Transportation Group

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

Nolan Transportation Group's (NTG) sustainability task force meets monthly to discuss current and future state initiatives to drive a more sustainable supply chain. This task force focuses on developing operational initiatives, technology initiatives, community affairs, and office initiatives. NTG optimizes routes and identifies the most efficient lanes to limit driving time and fuel usage, reducing carbon emissions while preserving shipment quality.



NTG implemented the following sustainable initiatives, among others: route optimization technology to limit fuel emissions, RhinoLink drop trailer program, utilization of SmartWay carriers, maximizing load efficiency, and installing automation to minimize manual work.

## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Energy-efficient lighting

## NOTABLE ACHIEVEMENTS

NTG developed a sustainability task force in 2020 and is a certified SmartWay Partner.

## Northwest Seaport Alliance

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

The Northwest Seaport Alliance (NWSA) creates innovative solutions to improve air and water quality, uniting supply chain partners, stakeholders, and communities across the Puget Sound to reduce environmental impacts. With its Clean Truck Program, all drayage trucks serving NWSA terminals are 2007 or newer, meaning 90% cleaner than

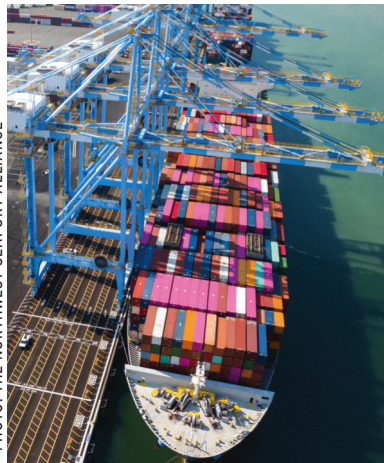


PHOTO: THE NORTHWEST SEAPORT ALLIANCE

older trucks. It adopted the 2020 Northwest Ports Clean Air Strategy, setting a goal of zero emissions from seaport activities by 2050. NWSA is installing shore power at its terminals and building a seaport electrification roadmap to advance this vision.

## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Energy-efficient lighting
- Habitat restoration
- Stormwater management
- Remediation

## NOTABLE ACHIEVEMENTS

NWSA reduced diesel particulate matter emissions by more than 90% since 2005 and its all-new cargo handling equipment is the cleanest diesel available.

## Nussbaum

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

Nussbaum works directly with OEM and third-party equipment manufacturers to develop and employ the latest fuel efficiency technologies.

Nussbaum also focuses on fuel performance; its drivers show a fleet average of 9.2 MPG and the company has its sights set on 10 MPG. Many Nussbaum drivers reach 12 to 13 MPG in any given week.

Additionally, the company uses solar panels to minimize idle time in the truck. And, as electric and alternative fuel options become viable for over-the-road transportation, Nussbaum will test the products and work with manufacturers to develop the best solutions.

## GREEN INITIATIVES

- Reuse/recycling program
- Solar panels
- Energy-efficient lighting

## NOTABLE ACHIEVEMENT

Nussbaum provides direct training and support to maximize the use of necessary fossil fuels.

## Odyssey Logistics & Technology

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

Odyssey Logistics & Technology (OL&T) has been offering its customers sustainable solutions for more than a decade. As a lead logistics provider with intermodal capabilities, OL&T offers customers environment-friendly alternatives.

In an effort to increase payload, OL&T measures the number of low-weight truckload shipments (less than 45,000 pounds). That activity decreases the number of trucks required to deliver products, thereby reducing fuel use and emissions. OL&T regularly aggregates shipments on behalf of clients to reduce costs, increase payload, and decrease fuel use and emissions.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reduce energy usage
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

Odyssey has invested heavily in emerging sustainability technologies and actively participates in global sustainability initiatives. The company plans to increase these investments as it makes these technologies, processes, and information available to customers and carrier partners.

## Old Dominion Freight Line

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

OD is exploring electric vehicles and has purchased a Volvo electric truck for testing. In 2021, the carrier plans



to invest \$605 million in capital expenditures to improve efficiency, including \$290 million for a tractor/trailer replacement program. The company's current truck fleet is 100% low rolling resistance, which increases fuel efficiency and reduces emissions. OD adopted a "no-idle" policy, which helps reduce unnecessary fuel use and emissions.

All of OD's new service centers are equipped with LED lighting and motion detectors to minimize electricity usage. The company follows a comprehensive maintenance schedule with National Institute for Automotive Service Excellence-certified technicians, who keep tractors operating at peak efficiency. In addition, OD leverages comprehensive route/load planning tools to minimize miles traveled.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

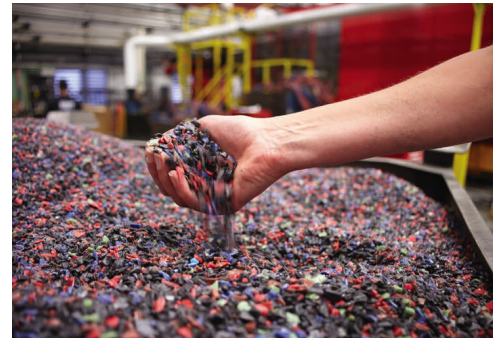
Old Dominion Freight Line has earned the EPA SmartWay Excellence Award for six consecutive years.

## ORBIS Corporation

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

ORBIS manufactures reusable pallets, totes, containers, and dunnage designed to replace single-use packaging in the supply chain and designs 100% of its products with sustainability in mind. Using life-cycle assessments to compare reusable and single-use packaging, ORBIS helps customers reduce their overall environmental impact.

ORBIS also offers reusable packaging management services to assist customers. This includes ensuring packaging is cleaned, handled, transported, tracked, and returned properly, extending packaging life and preventing loss. In its own operation, ORBIS tracks and monitors its water and energy usage, as well as solid waste and



greenhouse gas emissions. Regional continuous improvement managers across the country execute projects to reduce waste, cut cycle time, and improve quality. And 99% of the water ORBIS uses in its manufacturing process is reused.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

At the end of a long service life in the supply chain, ORBIS packaging can be recovered, recycled, and reprocessed into new packaging. Additionally, ORBIS offers a new recycled material in its product. Its Ocean in Mind program repurposes plastic waste at risk of entering the oceans into reusable packaging products.

## Penske

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



Penske helps customers enhance their sustainability by incorporating the latest alternative fuel technologies vehicles into its fleet. The company is deploying battery

electric vehicles (BEVs) in southern California with customers that have the appropriate use case for the vehicles. The BEVs are supported by a network of heavy-duty electric vehicle charging stations at six Penske Truck Leasing facilities in Southern California, the first DC fast-charging stations in the United States designed specifically for heavy-duty commercial vehicles. These locations form a charging network running in the roughly 110-120 mile corridor from San Diego in the south up through Temecula and into the Inland Empire Area east of Los Angeles.

## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

## NOTABLE ACHIEVEMENTS

Penske Logistics' dedicated fleet currently ranks in the top 20% of the company's carrier group for CO2 grams/ton-mile emissions, and the top 40% for nitrogen oxide and particulate matter emissions. More than 75% of the freight Penske manages is transported using a SmartWay partner, ensuring customers that they are partnering with companies committed to efficiency and continuous improvement.

## Performance Team, A Maersk Company

[www.performanceteam.net](http://www.performanceteam.net)

A SmartWay partner and member of the Coalition for Responsible Transportation, Performance Team continues to push for greater fleet fuel efficiency and lower emission trucks, and support the adoption of alternate fuel sources.

To reduce its carbon footprint, the company makes maximum use of recycled materials and utilizes energy-efficient technology. Performance Team requires waste reduction from its business partners and promotes the use of environmentally friendly products.

## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Energy-efficient lighting

## NOTABLE ACHIEVEMENTS

Performance Team built and maintains a "Clean Truck" fleet. It operates clean trucks in the Port of Long Beach and Los Angeles, and uses more than 65 clean diesel tractors and clean equipment in its dedicated retail fleet operations.

## Pilot Freight Services

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



SmartWay certified, Pilot commits to increasing partnerships with program carriers by 10% annually and in 2021 moved 70% of its tonnage through SmartWay. In 2020, Pilot enrolled with Sustainable Travel International to offset the emissions it produces, reduce greenhouse gas emissions, and mitigate climate change impacts.

The company reduces, reuses, and recycles material using cardboard balers and enforces a strict no-idle policy for company vehicles, vendors, and partners. Pilot has replaced most of its fossil fuel warehouse equipment with electric forklifts. Its headquarters and stations feature occupancy and LED lighting, computer-controlled HVAC, and water bottle refill stations.

## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program

- Reduce energy usage
- Sustainable packaging
- Energy-efficient lighting

## NOTABLE ACHIEVEMENTS

Pilot's Compass Dispatcher creates time- and fuel-efficient routes while the tracking system alerts customers of delivery status, so fuel isn't wasted rerouting the truck.

## PITT OHIO

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

Renewable energy is a key part of PITT OHIO's sustainability strategy. Solar and wind energy powers three of the company's facilities; renewable energy makes up 7% of PITT OHIO's electricity.

In 2021, it is testing two medium-duty electric vehicles with charges. Even with this electricity usage at its new Cleveland facility, the facility will be net zero as the result of installing more than 1,500 solar panels and eight 60-foot Windstax wind turbines. In 2021, PITT OHIO is continuing to upgrade lighting to reduce electricity usage across a number of facilities.

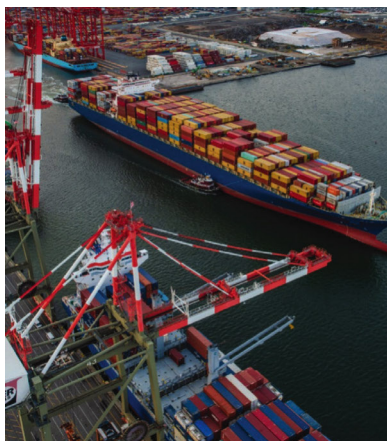
## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting



## NOTABLE ACHIEVEMENT

In 2020, PITT OHIO improved average truck miles per gallon by 1.5%, on top of an improvement of 1.1% in 2019.



## Port Authority of New York and New Jersey

[www.panynj.gov](http://www.panynj.gov)

The Port of New York & New Jersey has a longstanding commitment to environmental sustainability and reducing the emission of greenhouse gases in the New York and New Jersey region.

As a landlord port, the Port of New York & New Jersey is advancing the agency's commitments by working closely with port partners, terminal operators, and the trucking community through a host of environmental initiatives aiming to reduce emissions. Through these various environmental initiatives, the port has been able to reduce emissions in the past decade despite handling a 32% increase in cargo volume over that timeframe.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage

### NOTABLE ACHIEVEMENT

The Port Authority of New York & New Jersey's Clean Vessel Incentive program provides financial incentives to encourage operators, charters, and agents of ocean-going vessels calling at Port Authority marine terminals to make voluntary engine, fuel, and technology enhancements. The enhancements reduce emissions beyond the regulatory environmental standards set by the International Maritime Organization.

## Port of Long Beach

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

The Clean Air Action Plan, a collaboration between the ports of Long Beach and Los Angeles, establishes a comprehensive strategy for reducing port-related air pollution, while allowing port development, job creation, and economic activity to continue. The plan ushered in anti-air pollution strategies including the ports' Clean Trucks Programs, vessel pollution reduction programs, and advanced new technology such as the world's first hybrid tugboat.

Ships at the Port of Long Beach can plug into landside electricity while at berth, drastically reducing emissions. The port also offers dockage incentives to shipping lines that participate in environmental initiatives.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage

### NOTABLE ACHIEVEMENT

Since 2005, the Port of Long Beach has achieved an 88% reduction in diesel particulate emissions; a 58% reduction in nitrogen oxides, and a 97% reduction in sulfur oxides.

## Port of Los Angeles

[www.portoflosangeles.org](http://www.portoflosangeles.org)

The Port of Los Angeles promotes responsible growth and supports innovative development and site restoration, which includes reducing or eliminating environmental risks and impacts and performing environmental oversight and audits.

Incorporating solar power is one way the port helps reduce greenhouse gas emissions. To date, the port has installed nearly 3 megawatts of photovoltaic solar power systems at various locations on port property. The port has put in place several clean air action plans and emission-reducing programs over the past decade, including a comprehensive strategy to cut air pollution and reduce health risks.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting



### NOTABLE ACHIEVEMENT

The Port of Los Angeles initiated a pilot Environmental Management System in 2003 and obtained ISO 14001 certification in 2007. The port was the first major West Coast port to obtain third-party, independent certification under ISO. The program was since recertified under the updated standard, indicating the port's ongoing commitment to continuous environmental improvement.

## Quadient

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

Quadient provides two automated packaging solutions models, the CVP Impact and CVP Everest. Using 100% recyclable materials and zero plastic, these systems create fit-to-size boxes for each single- or multi-item order and reduce unnecessary void fill. The custom-fit parcels create an average of 50% reduction in shipping box volume and 29% less corrugate usage. They also help limit a shipper's environmental footprint by using fewer delivery trucks, reducing greenhouse gas emissions.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Sustainable packaging

### NOTABLE ACHIEVEMENTS

Quadient customer Internet Fusion Group saves 92 truckloads annually due to fit-to-size packaging.

## Raymond Corporation

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

Energy Essentials Distributed by Raymond is the next generation of lithium-ion batteries to deliver fast-charging power solutions housed in a denser footprint, providing companies with high-performance energy sources to optimize operations. Implementing Energy Essentials batteries provides users with significant productivity enhancements, including increased uptime and reduced electricity consumption by allowing for more time between charges.

In addition, Raymond's associates participate in shutting down equipment during breaks and weekends to eliminate power draw.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting



### NOTABLE ACHIEVEMENTS

Raymond has upgraded software for automated logic and lighting control programs to zone and control factory and office lighting, heating, and air conditioning based on utilization.

## Redwood Logistics

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

A member of SmartWay since 2011, Redwood Logistics has set a goal to reduce more than 4.5 million pounds of CO<sub>2</sub> by the end of 2021 through the use of new and more

fuel-efficient trailers. For one of its large managed transportation customers, Redwood achieved effective sustainability results by optimizing, consolidating, and accurately determining the best mode and shipping location, moving 11 million more pounds of freight and reducing carbon footprint by 2.3 million pounds quarter over quarter.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage
- Sustainably source materials
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

In 2020, Redwood converted 2,855 truckload shipments to intermodal, moving 115 million pounds of goods across the United States and reduced carbon emissions by an estimated 16 million pounds.

## Rinchem Company

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

A CARB-compliant SmartWay partner, Rinchem conducts paperless transactions through a custom online system, ChemStar. It operates on a just-in-time model, bringing in only as much material as needed to avoid excessive inventory and transportation.

The company's forklift fleet is 85% electric to reduce carbon footprint and miles per gallon. Rinchem recycles all cardboard and pallets and its reverse logistics program supports returnable totes/drums, which reduces waste and disposal of plastics.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

The company's Marlborough, Massachusetts, location is equipped with solar panels, and it uses LED and motion sensor lights in 19 facilities across the United States.

## Roehl Transport

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



Roehl's sustainability initiatives include using equipment such as trailers with trailer skirts and tails as well as low-rolling resistant tires. Automatic tire inflation systems and door switches installed on refrigerated trailers reduce idle. The company's trucks also are outfitted with low-rolling resistant tires, wheel covers, an aerodynamic package, battery management systems, and direct fire heaters.

Roehl's facilities use LED lighting in the maintenance shops and yards. Drivers are provided effective training on decreasing their fuel consumption and are incentivized to improve their miles-per-gallon performance.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainably source materials
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Roehl Transport was a founding EPA SmartWay Partner in 2004. In 2020, the company earned its 9th SmartWay Excellence Award; only 58 truck and multimodal carriers received the distinction last year.

## Romark Logistics

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

To meet its zero carbon footprint goal, Romark invested in rooftop solar arrays on its refrigerated locations, upgraded to LED lighting, installed water conservation equipment and cooling towers, made refrigeration changes, and implemented the use of high-efficient battery chargers.

Romark enforces recycling requirements for paper/cardboard, plastics, glass, and metal. The company implemented idling and speed management policies to reduce fuel consumption and energy costs.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

Romark replaced its fleet of tractors with newer/compliant engines, equipped its trucks with automatic shutdown devices to keep them from idling too long, and installed software on its tractors to monitor drivers and track fuel efficiency.

## Ruan

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

Ruan trucks have traveled more than 100 million miles on natural gas power. Between 2016 and 2020, Ruan purchased 126 million gallons of varying biodiesel blends. It purchased 2.3 million gallons of renewable diesel blends in the past 2.5 years. Ruan collaborates with electric vehicle manufacturers to develop longer-lasting, lower-emitting engines with improved performance and lower fuel consumption.

Sleeper vehicles in the Ruan fleet have auxiliary power units. All tractors have automatic engine shutdown after 5 minutes.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

Ruan received the National Biodiesel Board's Initiative Award and an EPA Smartway Excellence Award. The company is an ACT Fleet Forum founding member.

## Ryder System

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

Ryder utilizes cleaner-burning fuels and invests in alternative fuel technology. The company collaborates with electric vehicle manufacturers and has partnered with InCharge to provide charging infrastructure. For automotive waste, Ryder contracts vendors who reuse and recycle. Each year, Ryder recycles nearly 3 million gallons of used oil, 880,000+ gallons of oily water, 12,000+ drums of used oil filters, and nearly 48,000 gallons of solvent.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting



### NOTABLE ACHIEVEMENTS

Ryder has received significant recognition for its sustainability efforts such as the U.S. EPA's SmartWay High Achiever Award (2020) and the SmartWay Excellence Award (2013-2014, 2017).

## Saia LTL Freight

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



For years, Saia LTL Freight has made substantial investments and process improvements to increase the fuel economy of its fleet and the energy efficiency of its facilities to reduce its carbon footprint. The company recently took delivery of two Volvo VNR electric trucks. The zero-emission, battery-electric tractors, a first for the company, will be based out of its Los Angeles, California, terminal.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

Saia has been a SmartWay partner since 2006 and a SmartWay Excellence Award recipient in 2018. LinkEx, a Saia Inc. subsidiary, was named a 2020 SmartWay High Performer.

## Scan Global Logistics

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

Scan Global has been a signatory to the UN Global Compact since 2015 and supports the Compact's principles and sustainable development goals. It has adopted the Global Reporting Initiative and the Sustainable Accounting Standards Board guidelines for sustainability reporting. By improving its efforts through a certified ISO 14001 environmental management system, Scan Global ensures that it hits its sustainability targets.

## GREEN INITIATIVES

- Reduce greenhouse gas emissions

## NOTABLE ACHIEVEMENTS

Scan Global Logistics joined the Science Based Targets initiative and committed to a goal aligned with limiting global warming to 1.5°C and reaching net-zero emissions by 2050.

## Schneider

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

Schneider recently announced a new set of corporate goals addressing actionable next steps around sustainability initiatives. These goals include a commitment to reduce carbon emissions by 7.5% per mile by 2025, and a reduction of 60% per mile by 2035; a commitment to doubling Schneider's intermodal size by 2030, thus reducing carbon emissions by an additional 700 million pounds per year; and a commitment to achieve net zero status for all company-owned facilities by 2035.

## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reuse/recycling program
- Reduce energy usage



## NOTABLE ACHIEVEMENTS

Schneider has committed to the future of fleet electrification, making necessary short- and long-term investments such as testing electrified powertrains, developing strategic zero-emission vehicle adoption plans, and building relationships with key stakeholders and industry partners.

The company has been piloting the use of a Freightliner electric eCascadia truck in California for local and regional delivery and pickup.

## Shippers Group

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

The Shippers Group has developed a proactive approach to reduce its environmental, energy, and social impacts. The company recycles approximately 7.6 million pounds of cardboard and plastic per year and, where possible, uses low-emission technology such as more efficient vehicles and machinery. The Shippers Group utilizes renewable energy where feasible, keeps vehicle maintenance current and prevents unnecessary idling. The company employs water and energy conservation, such as using energy-efficient light bulbs.

## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainable packaging
- Energy-efficient lighting

## NOTABLE ACHIEVEMENTS

The Shippers Group invests an estimated \$227,000 annually in sustainability initiatives.

## Southeastern Freight Lines

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

Southeastern Freight Lines (SEFL) generates renewable energy at two service center locations, Asheville and South Houston, and has produced and/or consumed 14,356 MWh of solar energy since 2013.

The company harvests rainwater for irrigation at its South Houston location, and by fall 2021, its Fort Lauderdale location will have the ability to harvest rainwater for full-site irrigation. SEFL reduces paper consumption by utilizing e-commerce solutions and paperless billing, and recycles cardboard, paper, wood, scrap metal, solvents, oil/oily water, filters, tires, and electronics at its service centers, maintenance shops, and corporate office. The carrier secures freight with repurposed cardboard and wood pallets.

## GREEN INITIATIVES

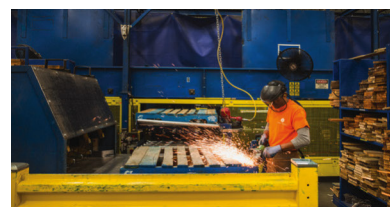
- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

## NOTABLE ACHIEVEMENT

SEFL's Support Center and 66 company-owned service centers are fully equipped with LED lighting. The remaining company-owned service centers will be completely equipped in 2021, making the company 100% LED by 2022.

## Symbia Logistics

[www.symbia.com/sustainability](http://www.symbia.com/sustainability)



In 2021, Symbia implemented a company-wide initiative to make its warehouses eco-friendlier. Within the past year, Symbia has recycled 13,942 tons of wood, 705 tons of metal, 426 tons of cardboard, 19.2 tons of office waste and 1,340 pounds of plastic. It allocated 1.2 million square feet of motion-activated lighting and replaced 75 traditional propane forklifts with new electric machines.

## GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Energy-efficient lighting

## NOTABLE ACHIEVEMENT

Symbia launched a reforestation campaign to plant one tree per client every month, totaling more than 1,500 trees annually. Symbia's projects restore forests in the wake of major wildfires and repair damage caused by industry and resource extraction.

## TCI Transportation

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

TCI Transportation has placed more than 50 CNG Freightliner Cascadias into service in 2020 to move trash for LA County. The carrier also placed an order and gave a \$400,000 deposit to Tesla for 20 electric tractors. Looking upward, TCI installed nearly 1 Mw of solar panels on the roofs of its facilities, which have all been outfitted with LED lighting.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

TCI Transportation is installing charging stations in its largest facilities. It also has electric yard tractors for sale or lease at its Ottawa dealership.

## Union Pacific

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

Union Pacific has spent the past 30 years overseeing environmental compliance across its operations. In 2021, the rail company set a target to reduce absolute 1 and 2 greenhouse gas emissions from operations by 26% vs. 2018 baseline by 2030.

Also this year, the company helped fight wildfires across Northern California with its innovative Water Train; helped customers eliminate 21.9 million metric tons of greenhouse gas emissions by choosing rail over truck transportation; introduced a fleet of true hybrid refrigerated box cars; and implemented utility conservation projects that reduced energy consumption by 2 million kilowatts.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources

- Reuse/recycling program
- Use wastewater
- Reduce energy usage
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

In 2021, Union Pacific recycled 480,000 tons of scrap metal and more than 1.96 million gallons of oil and fuel. The company also managed the largest industrial wastewater collection system in rail history.

## UPS

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



UPS invests in alternative fuel and advanced technology vehicles, and uses renewable energy to reduce the environmental impact of its operations. Its “rolling laboratory”, which collects data about which alternative fuels and advanced technologies work best in various routes and areas, is always growing, adding more vehicles and traveling more miles using alternative fuel and advanced technologies.

The company has provided millions of dollars for global environmental initiatives focused on climate change, renewable energy, and resource conservation. As part of its Global Forestry Initiative, UPS has planted more than 1.3 million trees around the world.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reduce energy usage
- Sustainable packaging
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENTS

UPS was named to the Forbes and Just Capital annual Just 100 list for corporate citizenship for 2021, was recognized on the Dow Jones Sustainability North America Index, and made The Civic 50, a listing by the Points of Light Foundation that recognizes the 50 most community-minded companies in the nation.

## USA Truck

[www.usa-truck.com](http://www.usa-truck.com)

Among the company's equipment and facilities strategies, USA Truck has tightened tractor-to-trailer gaps to reduce aero drag; installed wheel and chassis aerodynamic devices; worked with engine and transmission manufacturers to achieve best fuel economy; automated transmissions for fuel economy gains; and implemented an ambient air temperature-controlled idle control system to reduce idle time for battery charging.

USA Truck is testing solar powered battery charging for reduced idle, fuel burn, jump starts, and increased capacity; it is also testing solar-powered trailer telematics. The company installs trailer skirts on all trailer purchases, tests air disc brakes to reduce stopping distance and increase brake lining life. USA Truck is testing three self-deploying trailer tails for aerodynamic and MPG gains.

### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Reduce energy usage
- Solar panels
- Energy-efficient lighting

### NOTABLE ACHIEVEMENT

During the past three years, USA Truck has averaged a CO2 gram-per-mile reduction of 20, which is equal to a total reduction of CO2 by 11,785 metric tons.

## Werner Enterprises

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

Werner announced its formalized Environmental, Social and Governance (ESG) initiative in 2020. This launch, along with other

ongoing efforts, enhances its efforts to communicate ESG progress to associates, customers, shareholders, suppliers, and the general public, as well as identifying new areas for further improvement.

Werner has eliminated 310 million gallons in fuel consumption, improved fuel efficiency by more than 29% and reduced more than 3.4 million tons of CO2 since 2007. Werner has a goal of 55% reduction of carbon emissions by 2035. At its terminals and facilities, Werner recycles or repurposes 100% of batteries, liquids, and tires. The company converted to 100% LED lighting in all its facilities and continually introduces technology to reduce paper use.

#### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainably source materials
- Energy-efficient lighting

#### NOTABLE ACHIEVEMENTS

Werner is a founding member of the SmartWay program and a 2020 EPA SmartWay Excellence and SmartWay High Performer award winner.

## WSI (Warehouse Specialists, LLC)

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

WSI drives numerous green initiatives in its facilities and transportation services. WSI is a Responsible Care Partner and Responsible Distribution Certified and participates in SmartWay and Operation Clean Sweep.

The company uses electric-powered equipment whenever possible; maintains active recycling programs at all facilities amounting to thousands of tons of materials recycled each year; and operates an ongoing program to relight facilities with energy-efficient lighting equipment.

#### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Sustainable packaging
- Energy-efficient lighting

#### NOTABLE ACHIEVEMENT

WSI recently joined Together for Sustainability and completed the EcoVadis audit to identify how it can continue improving policies and practices.

## XPO Logistics

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



In 2021, XPO partnered with Daimler Trucks North America to test their battery-electric commercial trucks under real-life operating conditions in California. The company is also piloting electric vehicles in some European markets.

XPO continues to expand its fleet of alternative fuel vehicles and in 2021 added 85 new liquified natural gas vehicles in Europe, bringing the fleet to 225. The logistics company is switching to 100% premium diesel, which translates to up to 2.5% fuel savings. XPO has developed software to optimize truck routes, which reduces congestion, empty miles, and emissions. In addition, XPO is installing solar panels, starting with two sites in New Jersey, which have the potential to reduce CO2 emissions by 3,755 metric tons annually.

#### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Use wastewater

- Reduce energy usage
- Sustainable packaging
- Sustainably source materials
- Solar panels
- Energy-efficient lighting

#### NOTABLE ACHIEVEMENT

In 2021, XPO was honored by Dow for environmental stewardship in transportation.

## Yale Materials Handling Corporation

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

The Yale Power Suite offers a wide range of power sources, including hydrogen fuel cells, lithium-ion, internal combustion engines and lead-acid batteries, across its line of lift trucks. Users can select a power solution built around their specific operation's cost, labor, maintenance, emissions, space and other requirements. The result is a power option that helps eliminate harmful emissions, off-gassing, and other hazardous chemicals. A lithium-ion battery pack, for example, can last more than four times longer than a lead-acid battery, helping reduce recycling waste.

#### GREEN INITIATIVES

- Reduce greenhouse gas emissions
- Use alternative fuels or energy sources
- Reuse/recycling program
- Reduce energy usage
- Energy-efficient lighting

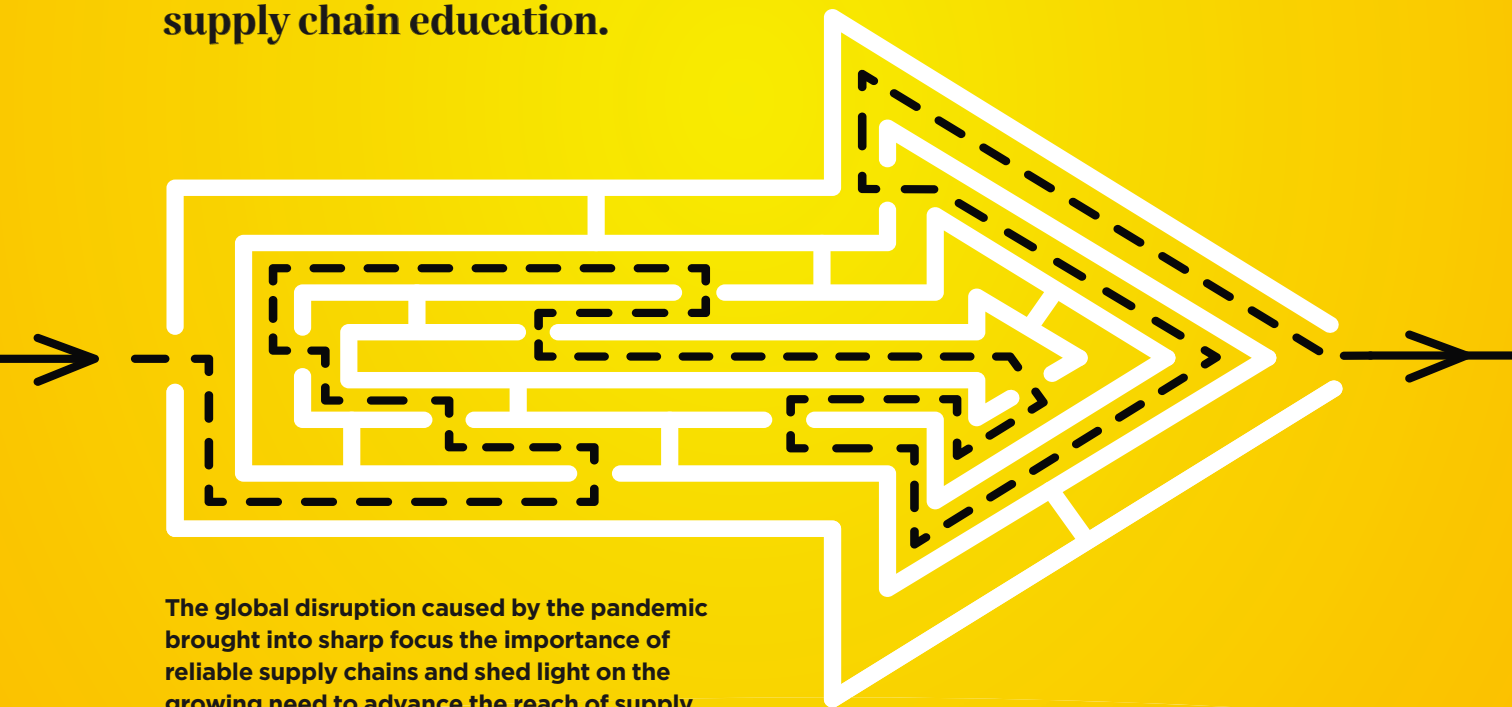
#### NOTABLE ACHIEVEMENT

Powering a Yale lift truck with hydrogen fuel cells lets users refuel in as quick as three minutes and get consistent power delivery with zero harmful emissions.



# WINDING A WAY THROUGH SUPPLY CHAIN EDUCATION

Leading professors provide a map for navigating the labyrinth of post-pandemic supply chain education.



The global disruption caused by the pandemic brought into sharp focus the importance of reliable supply chains and shed light on the growing need to advance the reach of supply chain education in colleges and university programs. How has the pandemic shaped, and in some cases reshaped, these programs?

To find out, *Inbound Logistics* invited leading educators Dr. Haitao Li of the University of Missouri-St. Louis; Professor Scott Grawe of Iowa State University; and Professor Joel Sutherland of the University of San Diego School of Business to participate in a special podcast. Here are some highlights of that conversation.



“Technology historically has been a struggle in this profession, but for the first time I see light at the end of the tunnel. We have new technology that transforms how we visualize the market, manage data, and share information to break down industry silos.”

—Joel Sutherland, Professor of Practice in Supply Chain Management, University of San Diego School of Business

**IL: In what ways has interest in supply chain and logistics careers increased since the pandemic?**

**Dr. Haitao Li, Professor and Chair of the Supply Chain & Analytics Department, University of Missouri-St. Louis:**

2020 was an unprecedented year, but the good news for the supply chain sector was that people got to see a vivid picture and living story of the importance of supply chain and logistics.

Enrollment for masters programs at the University of Missouri-St. Louis has increased significantly, while the breadth of industry interest has spanned beyond the traditional manufacturing sector to the likes of healthcare and agriculture.

**Professor Scott Grawe, Chair of the Department of Supply Chain Management, Iowa State University:**

One silver lining of this pandemic is that we don't have to explain what the supply chain is to prospective students. We used to call supply chain management a discovery major, where students don't know anything about it until they get into college. But now people develop an understanding much earlier on and proactively look for supply chain courses. That has been encouraging.

**Professor Joel Sutherland, Managing Director and Professor of Practice, Supply Chain Management Institute, University of San Diego School of Business:**

As someone who earned an undergraduate degree in logistics management, it was difficult to explain what that meant. People used to say,

“oh, *linguistics*—right, that's the study of language.”

In the 1980s, logistics evolved into supply chain management, which was even more complex and difficult to understand. But we've seen a dramatic increase in the usage of the term, and there has been a shift from push to pull: Instead of shouting to private industry about our students, they now come to us. It has even been said that the demand for supply chain talent is now roughly six times greater than the supply.

**IL: How are companies supporting logistics and supply chain education initiatives today, and what are their return-on-investment expectations?**

**Grawe:** At Iowa State, we have a supply chain forum where companies formally become part of our program. One of the main reasons they engage with us in that capacity is to gain access to talent. Through the forum, we can offer live cases to students. For example, we take a retail store in the United States and work backward through distribution centers, visiting ports, going overseas, and letting students see it all firsthand.

Companies benefit because they gain an opportunity to see how the students engage with their supply chain operations, and informally evaluate them. It also does wonders for their brand awareness. Where these companies may have struggled in the past to hire high-quality supply chain talent, they now have students lining up at their doors after hearing about the great opportunities on offer.

**Sutherland:** Many more universities want to bring industry players on campus, as it's important to connect academia—students and faculties—with the industry.

The question of return on investment is an interesting one. There's not a clear ROI, but if you consider just the challenges companies have in finding the best talent, these partnerships with universities provide them with early access to students. That is the real differentiator and ROI for a company.

**Dr. Li:** The University of Missouri-St. Louis (UMSL) has an active and close working relationship with our department advisory board, which consists of 17 executives from major local companies and not-for-profit organizations. They support a number of student engagement activities such as our student mentorship and speaker program. We've also been successful with company-sponsored research projects.

The value that companies get through such collaboration is often intangible and hard to measure. But their investments—in time, money, or effort—deliver a lot in return.

**IL: How can a solid commitment to supply chain education help companies retain and recruit talent?**

**Sutherland:** Beyond our dedicated supply chain management careers fair, we conduct an industry survey every three years that asks a simple question: What are the skills that are required in supply chain talent? The interesting thing is that there is almost always a



**“It’s important for companies to proactively continue education efforts to retain top talent. Some companies subsidize employees through degree programs, but flexible certifications can be tailored to the specific needs of a particular organization.”**

*—Dr. Haitao Li, Professor and Chair of the Supply Chain & Analytics Department, College of Business Administration, University of Missouri-St. Louis*

meaningful change in the attributes companies are looking for.

Soft skills remain consistent, but where there has been a continual technological revolution, we work with our industry partners to understand the changing needs and skill gaps and adjust the curriculum accordingly.

**Grawe:** First, a commitment to education allows companies to have influence on the curriculum, as most universities are open to hearing what skills are needed.

Second, companies can continue to offer their employees education opportunities. When they make such a commitment, employees recognize that the company has a desire to continue expanding their knowledge and expertise, and that will help retain talent.

**Dr. Li:** I want to emphasize the importance of the career path from the company perspective. It’s crucial for companies to proactively continue education efforts to retain their top talent. Some companies subsidize their employees through degree programs, but equally there are flexible certifications that can be tailored to the specific needs of a particular organization or industry.

**IL: What encouragement would you offer companies considering renewing their commitment to education?**

**Grawe:** Start small. Listen to your employees, figure out the ways in which they want to develop, and make sure you’re supporting them

in getting plugged in with the right industry groups. Not all companies can hire a slew of supply chain majors and graduates right out of the gate. Some might have employees from diverse backgrounds, and a company might want to offer a half-day Supply Chain 101 course so everyone has the same foundational understanding.

There doesn’t have to be a grand plan to support education—companies can take small steps in that direction.

**Dr. Li:** It has been a tough year for many industries and companies, but my advice for company leadership is to realize that this is the time to make better, even more prudent, business decisions for supply chain operations. I’ve seen a pharmaceutical company, for example, that has been proactive during the past year in coping with potential generic drug shortages and able to avoid disruption.

It’s worth thinking about the long term as well as the short term. The pandemic and its associated challenges will not exist forever, and any small investment in the education of employees will have significant value in the long run.

**Sutherland:** The companies recruiting from our university find there is an increased value in supply chain talent. They are applying more resources because they feel this pool of talent can solve their ongoing problems.

**IL: What role does supply chain management education today play in future supply chain innovation and enterprise transformation?**

**Sutherland:** Supply chain innovation is different from product innovation in that it’s about processes. It’s almost always incremental, with small steps resulting in big changes over time.

Two key areas are important to an organization’s supply chain innovation goals. First, the talent must understand what an end-to-end supply chain is, from procurement to operations to logistics. They must recognize that the actions they take in procurement, for example, have downstream effects in other areas.

Second, they want the talent to know how a company makes a profit. Logistics has always been about reducing costs, but now it’s also about creating customer value that will generate more revenue, while at the same time reducing or maintaining cost structures so that margins are increased.

**Dr. Li:** Our profession has a bright future thanks to the fast and continuing growth of technology. Many companies nowadays are talking about digital transformation, and a lot of this has to do with the fact that we have so much data available, perhaps too much. How can we use it? How can we transform it to provide insightful and effective decision support?

Gartner Research coined the term “citizen data scientist” to describe the type of graduate who has training in both supply chain and analytics, which can bridge the gap between a pure data scientist and a supply chain professional.

**Grawe:** Supply chain majors are trained to think about other stakeholders, which provides the opportunity to come up

**CLARKSON UNIVERSITY****Online MS in Supply Chain Management****Apply Today**[clarkson.edu/scm](http://clarkson.edu/scm)[busgrad@clarkson.edu](mailto:busgrad@clarkson.edu) / 315-268-6613

Clarkson's online Master of Science in Supply Chain Management is designed to meet the need for well-trained professionals who plan and manage complex supply chain enterprises.

- New York's first online MS in supply chain management.
- Designed for working professionals.
- Integrated learning opportunities, including synchronous learning components, in every class.
- Interaction with renowned faculty and industry experts.
- 100% online and no residency requirements.

**Clarkson™**

DAVID D. REH SCHOOL OF BUSINESS

**LEARN  
WHEREVER  
YOU ARE**

**SUPPLY CHAIN MANAGEMENT**  
associate degree

- Online and in-person options
- Eight-week classes
- Faculty with industry experience and a passion for student success

Learn more at  
[nwtc.edu/SupplyChain](http://nwtc.edu/SupplyChain)

**NORTHEAST**  
WI Technical College

THE UNIVERSITY OF TEXAS AT DALLAS

**Why Choose Supply Chain Management at UT Dallas?**

- Bachelor and Master programs (STEM)
- MBA with SCM Concentration
- Various SCM certificates
- Flexible on-campus and online courses
- Excellent internship and job placements

**[scm.utdallas.edu](http://scm.utdallas.edu)**Naveen Jindal  
School of Management



“Supply chain majors are trained to think about other stakeholders, which provides the opportunity to come up with innovative ways to solve problems. Small, incremental steps can be some of the greatest innovations because they fly under the radar.”

—Professor Scott Grawe, Chair of the Department of Supply Chain Management, Iowa State University

with new and innovative ways to solve problems. The small, incremental steps can be some of the greatest innovations because they fly under the radar. New product innovations usually come with a lot of fanfare and marketing, but subtle improvements can create significant competitive advantages that are completely blind to the market.

From a firm's standpoint, many supply chain programs provide collaborative hubs that offer insights into other companies. Organizations can learn from one another about how they approach things differently.

**IL:** Has this new approach to education addressed cultural shifts such as the Amazon effect, Internet of Things, and the changes brought about by the pandemic, such as the widespread use of video calls?

**Dr. Li:** We've had to make sure our curriculum and course offerings are up to date. We've recently begun to offer a new software class that gives students hands-on experience in working on real-world projects, using real-world data, to better facilitate the teaching and understanding of supply chain concepts.

Another trend is the growing need for flexible course offerings. COVID-19 accelerated this process. We now have online and hybrid classes in addition to traditional in-class formats.

**Sutherland:** People are getting burned out by the Zoom effect, but I agree that there will be more of a hybrid environment in the future. In our most recent virtual forum, we drew people

## MEET THE PROFESSORS

**Scott Grawe** is the Chair of the Department of Supply Chain Management in the Ivy College of Business at Iowa State University and the Robert & Jane Sturgeon Faculty Fellow in Business. He has published his research in leading supply chain journals, including the *Journal of Business Logistics* and the *Journal of Operations Management*. His research and advisory specialties include shipper-3PL relationships, logistics innovation, on-site representation, and performance measurement. He teaches courses in strategic logistics management and international trade. Grawe holds an MBA from the University of Minnesota and a PhD from the University of Oklahoma.

**Dr. Haitao Li** is Professor and Chair of the Supply Chain & Analytics Department, College of Business Administration, at the University of Missouri-St. Louis. Dr. Li has years of research experience in optimization modeling and algorithm design, and has been actively working with industry in the application domains of supply chain optimization, project scheduling and resource allocation. His research projects were sponsored by the U.S. Army Research Office, HP Labs, Association of Supply Chain Management, Express Scripts Inc., and Ameren Corporation, among others. Dr. Li serves as Associate Editor of the *Journal of the Operational Research Society* and *Transportation Journal*, and the Editorial Board of the *International Journal of Project Management*.

**Joel Sutherland** is the Managing Director for the Supply Chain Management Institute and is a Professor of Practice in supply chain management at the University of San Diego. He also serves as a director for the Reshoring Institute, a not-for-profit organization focused on bringing essential manufacturing jobs back to the United States. He has more than 40 years of experience as a supply chain professional holding executive-level positions for many well-known companies. Sutherland was the first American vice president for Denso—a Toyota Group company and the second largest automotive parts supplier in the world. Sutherland also held executive-level positions at International Paper; ConAgra Foods; Formica; AmerisourceBergen; and CSX Rail and Sealand Services.

from more than 30 different countries around the world, and I believe this will transcend to how we deliver course content in the future.

Technology has historically been a struggle in this profession, but for the first time I can see a light at the end of the tunnel. We have all this new technology that will transform how we can visualize the market, manage and collect data, and start sharing information to break down industry silos.

**Grawe:** About six months into the pandemic, one of our advisory companies began to look at students' ability to participate in digital spheres—such as Microsoft Teams meetings—as a measurable skill.

These technologies open doors to regular communication with supply chain partners across the globe, and I believe that there will be a resurgence in soft communication skills as a result.

# Bridging Data Science and Supply Chain

## Announcing the University of Missouri–St. Louis Master of Science in Supply Chain Analytics

Designed for professionals working in purchasing, operations, logistics and transportation who want to apply analytical technology to improve data-driven and actionable decisions, this STEM-designated 30-credit hour program includes eight core analytics, supply chain management and synthesis courses, plus two electives in finance, information systems, marketing or supply chain. The degree also prepares data scientists, analysts and technicians to be citizen data scientists by enhancing their domain knowledge in supply chain management.

**UMSL** | Supply Chain & Analytics  
University of Missouri–St. Louis



### CORE CURRICULUM

#### Analytics Courses

Intro to Business Analytics\*  
Predictive Analytics and Data Mining  
Prescriptive Analytics and Optimization\*

#### Synthesis Courses

Business Logistics Systems\*  
Supply Chain Modeling\*

#### Supply Chain Management Courses

Supply Chain Strategy\*  
Supply Chain and Operations Management\*  
Strategic Sourcing

\*denotes 100% online or hybrid courses

► Learn more at [umsl.edu/supplychain](https://umsl.edu/supplychain)

**Why Is Our Podcast #1 in Logistics Education? We've Got the Top Thought Leaders!**



Professor Scott Grawe  
Iowa State University



Dr. Haitao Li  
University of Missouri St. Louis



Joel Sutherland  
University of San Diego School of Business

### Winding a Way Through Supply Chain Education:

Leading professors provide a map for navigating the labyrinth of post-pandemic supply chain education.

VISIT [bit.ly/PodcastIL](https://bit.ly/PodcastIL) TO HEAR MORE ON THE INBOUND LOGISTICS PODCAST

**inbound logistics**  
a THOMAS company



**MOVE**

**TOWARD REAL INVESTMENT IN YOUR PEOPLE, AND CREATE THE NEXT LEADERS OF**

**>> YOUR BUSINESS**



UNIVERSITY of DENVER

TRANSPORTATION INSTITUTE

[transportation.du.edu](https://transportation.du.edu)

Transportation Institute graduates will move your business forward

Executive Master's in Transportation Management and Certificates in Supply Chain Management

**IL:** What advice would you give to students looking to enter the workforce, and to current professionals seeking to expand their professional horizons?

**Grawe:** Network. From a student perspective, have conversations with your professors—you'd be amazed at the connections they have. We talk to companies and learn a lot through the research that we're conducting, so students can better understand industries and what they want to do through establishing those relationships.

One of the things that drives me nuts is when people say, "When this pandemic is over, I'm going to do xyz." The pandemic is not an excuse for waiting or delaying, and now is as good a time as any. Supply chains run because of relationships.

**Sutherland:** It starts with networking. I remember when my professor at the University of Southern California said I should join the National Council of Physical Distribution Management, which has since become the Council for Supply Chain Management Professionals.

Because I've since been a part of this association, I've always had a network. Many people in our field may go through six or eight job changes during their career, and a lot of times that's a step up. Get involved in networking and associations, not only as a student but also throughout your professional career, and continue to learn.

Equally, challenge your boss to give you responsibilities in different areas. It's up to the company to provide employees with a clear career path if they want to retain you over time, but it's up to you to be in control of that path as well.

**Dr. Li:** Know your interests and strengths. Supply chain management is such a broad umbrella, with functional areas ranging from procurement to operations, logistics and transportation. Understanding your expertise will allow you to better maximize your potential.

Take time to think—is your strength in qualitative thinking and reasoning, or quantitative, meticulous analytics? That's my advice. ■

**Tune in to IL's podcast: *What is the State of Supply Chain Education Today?*** for more information on the supply chain education programs offered by the University of Missouri-St. Louis, Iowa State University, and the University of San Diego School of Business Supply Chain Management Institute.



In-person hazmat shipping and RCRA hazardous waste workshops return to select cities in **August 2021**. Collaborate with your peers and leave with unmatched resources and ongoing support to simplify compliance.

Charlotte | Orlando | Nashville | Atlanta | Houston | Dallas

Find a course at [Lion.com/Workshop](https://lion.com/workshop) or call 888-LION-511



# Why Is Our Podcast #1 in Logistics? We've Got the Top Thought Leaders!



**Jason Gillespie**  
Dir. of Continuous Improvement,  
DHL



**Brad Jacobs**  
Chairman & CEO,  
XPO LOGISTICS



**Wes Wheeler**  
President,  
UPS HEALTHCARE



**Brent Yeagy**  
President & CEO,  
WABASH NATIONAL



**Sergio Arguelles**  
President & CEO,  
FINSA



**Ben Eachus**  
Co-Founder & CEO,  
FLOWSPACE

**inbound**  
**logistics**  
a **THOMAS** company

VISIT [bit.ly/PodcastIL](https://bit.ly/PodcastIL)  
TO HEAR MORE ON THE  
INBOUND LOGISTICS PODCAST



SPONSORED CONTENT

# CHEMICAL LOGISTICS ON A ROLL





Overcoming capacity constraints, severe weather, and cyberattacks, chemical logistics service providers combine expertise and dedication to keep shipments moving safely and efficiently.

A WSI worker verifies labels on rolls of resin sheets before shipping.

From a pandemic and natural disasters to a driver shortage and cyberattacks—the chemical logistics industry confronted numerous challenges over the past year. To continue to serve their clients, logistics providers pivoted, adjusted, invested, and dug deep.

Early in the pandemic, demand for cleaning and sanitizing products prompted both price increases and supply shortages. For example, the price for isopropyl alcohol—a component in many sanitizers—more than tripled between March 10 and March 20, 2020, jumping from about \$880 to \$3,160 per metric ton.

“The pandemic created a volatile and vulnerable supply chain that turned inventory levels upside down,” says Curt Gonya, senior vice president, chemicals and specialty products with KAG Logistics. “The surges in some industries and the devastation in others was very real.”

#### **CAPACITY CONSTRAINED**

Along with price jumps and commodity shortages, transportation capacity was strained. The limited availability of cylinders and cryogenic storage tanks made it difficult to ship supplies.

The container shortage was largely due to uneven trade fluctuations. “If the rising water had lifted all boats at the same time, we would have been in better shape,” notes Jade Rodysill, Americas chemicals and advanced materials industry leader with EY.

In ground transportation, the driver shortage impacted many shipments, including fuel supplies, as not enough drivers were available to transport petroleum, says Chris Wright, senior vice president of operations with Rinchem Company, Inc., a chemical logistics provider.

The capacity challenges extended to the ports, where some ships waited weeks to discharge their loads. Several factors drove the delays, including the need to comply with social distancing requirements and use fewer employees, as well as absences due to workers who either needed to quarantine or became sick, says Scott Buber, director of chemical operations with WSI, a logistics provider based in Appleton, Wisconsin.

While port congestion is nothing new, most previous instances were isolated and short term, and often caused by regional weather events or specific geopolitical challenges, says Dustin Miles, director of global transportation, Rinchem. During the pandemic, congestion and disruption were global, and they continue to present challenges. Managing these hurdles requires a lot of thought and planning.

Warehouse space was similarly scarce, Buber says. Adding to the challenge, only a few areas within the United States have the capability to store certain products, such as substances that require temperature-controlled storage, ignition control, ventilation, and/or proper segregation.

#### EXTRAORDINARY TIMES

The development of COVID-19 vaccines also consumed transportation infrastructure and drivers, leaving fewer resources to handle other chemicals. “It was one of the first times a vaccine had been mass produced to this scale,” says Joe Hassenfratz, sales and marketing manager with The Logistix Company.

Adding another obstacle, the COVID vaccine products that are based on mRNA technology require temperature-controlled environments for storage and transport. This drove a spike in demand for dry ice. “Chemical logistics providers had to scrape through every bit of capacity available to meet the pressing concerns,” Kaitwade says.

In the United States and other markets, logistics providers directly partnered with dry ice manufacturers and providers on a scale never seen before, he adds.

The weather also presented unwanted surprises. Early in 2021, severe winter weather caused nearly every major chemical complex in Texas to shut down. “It’s the first time I’ve seen gas stations without fuel,” Buber says.

### With some chemical shippers relocating their sources of raw materials, providers are tapping a different set of skills.

Add to this a fluke event like the *Ever Given*, a 20,000-TEU container ship, getting stuck in the Suez Canal for about a week. A chunk of world trade stopped during this time.

Cyberattacks against steamships, pipelines, and logistics providers add more uncertainty. The May 2021 attack against Colonial Pipeline Co. forced it to shut operations for a week. A 2020 Government Accountability Office study found the cybersecurity guidance



**Odyssey Logistics & Technology ensures its customers' shipments—valued at approximately \$60 billion annually—arrive at their destinations safely and on schedule.**

governing 3,300 high-risk chemical facilities across the United States hadn’t been updated in more than 10 years. Without a program of regular review, the facilities could be more vulnerable to cyber-related threats, the report stated.

#### NAVIGATING THE OBSTACLES

Over the past few years, some chemical shippers have relocated their sources of raw materials, adapting to changes in tax regulations and tariff agreements, says David Vieira, chief executive officer with CLX Logistics. For instance, a product that had been sourced in North America might now be sourced in Asia. Managing these new supply chains “requires a different set of skills,” he adds.

In response, logistics providers “dialed up” tactics on which they’ve long relied to manage congestion and weather

environmental impact of shipments.

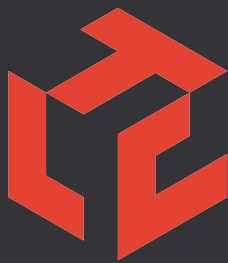
Many logistics providers are relying more extensively on automation to minimize delays that can occur due to human errors, Buber says. Typical human errors include incorrect quantities or types of products being shipped, and inventory mistakes.

Visibility solutions that let companies know the location of their products in shipment, enabling them to act to counter any delays, also are attracting interest. Before a company can determine whether to change its sourcing strategy or inventory policies, it needs visibility to these functions, says Bob Boyle, vice president, North American managed logistics services with Odyssey Logistics & Technology.

Data is similarly key. “The proper use of data, as part of collaborating with customers and carriers, allows for faster recovery and improved service within the various segments of an organization’s supply chain,” Gonya says.

#### GROWING MARKET

Shippers’ need for visibility and leverage with carriers is a positive for many logistics providers, as it’s prompting a growing number of chemical shippers to use their services, Rodysill says. Valued at about \$253.7 billion in 2019, the global chemical logistics market is forecast to reach \$322.5 billion by 2027, for a compound annual growth rate of 3.9%, according to Allied Market Research.



# TheLogistixCompany

FAST FREIGHT WITH TLC

## LTL



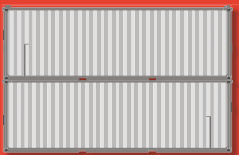
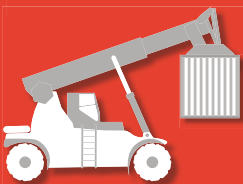
(LESS THAN TRUCK LOAD)



## LIQUID BULK



## ISO & 20'/40'



## DRY VAN & FLATBED



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

(401)560-0660

The macro changes impacting chemical logistics show no sign of slowing down. A more holistic approach to network modeling has become critical, Rodysill says. That means evaluating physical logistics networks on a global—rather than regional—basis and considering all costs, such as taxes, tariffs, and others. This in-depth analysis helps pinpoint where it makes sense to add inventory and where to stay lean.

Adding inventory tends to make sense when you can drive more sales at higher margins. Conversely, when managing regulated products, keeping inventory levels lean and expediting shipments to a location, when needed, can be more cost-effective, Rodysill says, since it's generally harder to move this inventory between countries, as regulations often differ.

Given the futility of trying to predict how regulations might change, the ability to model various scenarios becomes even more critical, Rodysill says. If a model shows a 25% chance a shift will go one way, and a 30% chance it will go another, organizations can decide how to plan for each possibility.

Stakeholders from the chemical logistics sector should increase collaboration with regulators across the globe to bring about "standardization and

regulatory singularity," says Kaitwade. This would allow more seamless transactions between markets with different regulatory regimes.

To ensure quality talent remains in the sector, a focus on improving the workplace environment also is key, Kaitwade says. This includes not only health and safety, but wage rates and other benefits.

---

## Valued at about \$253.7 billion in 2019, the global chemical logistics market is forecast to reach \$322.5 billion by 2027.

---

The companies profiled here have been navigating the recent challenges with intelligence, dedication, and a commitment to their clients and the important work they're doing.

### **CLX LOGISTICS: PROVIDING ECONOMIC VALUE**

The goal of every employee at CLX Logistics is "to provide economic value to our customers," says CEO David Vieira.

By drawing on its extensive history in the chemical logistics sector, CLX Logistics can provide the knowledge, technology, services, and processes needed to meet this goal, whether its clients are trying to optimize their

distribution network, rein in costs, or enhance shipment security.

CLX experts can help clients model their supply chains and determine which locations will be most effective for their operations. As part of that analysis, CLX can draw on extensive freight cost benchmarking data it has amassed, in part through its partnership with BluJay Solutions.

Another CLX offering, Gravity, provides enhanced data analytics and extensive data integration capabilities. It's able to work with information its customers generate internally or capture from external sources.

CLX LaneLogix™ offers freight cost and service level benchmarking. This software, which has been developed specifically for the chemical industry over the past 20 years, incorporates requirements particular to chemical shipments, such as dangerous goods, equipment, and service requirements.

"It does not compare the rate for a chemical shipment with, for instance, the rate for a food shipment," Vieira says.

A chemical company with more than \$100 million in annual transportation spend across multiple lanes and modes and with a mix of products turned to CLX to benchmark its costs and evaluate its procurement strategy. By leveraging its expertise and LaneLogix's capabilities, CLX was able to analyze the company's contracts and costs and gain visibility to all modes across the company's global network.

CLX then worked with the company to optimize its chemical supply chain. Among other results, CLX identified savings of about 9 million euros (US\$10.9 million), as well as opportunities to reduce complexity by combining and managing disparate systems.

In some organizations, the inbound logistics function doesn't always receive the attention it deserves from chemical



**CLX Logistics helps chemical shippers enhance the security of shipments and optimize their distribution networks, leveraging its chemical 4PL division ChemLogix.**

# DOOR -TO- DONE®

## The Clear Path For Complex Chemical Logistics

The world's leading chemical companies rely on Odyssey to move their products safely, cost-efficiently and on time. Odyssey understands the technical and regulatory challenges of the chemical industry, and our custom-tailored, Door-to-Done® solutions ensure products are delivered through a safe, secure and environmentally responsible system. We transport both hazardous and non-hazardous products with specific expertise in intermodal and bulk chemical transportation, along with leading edge control tower visibility and global sample fulfillment.

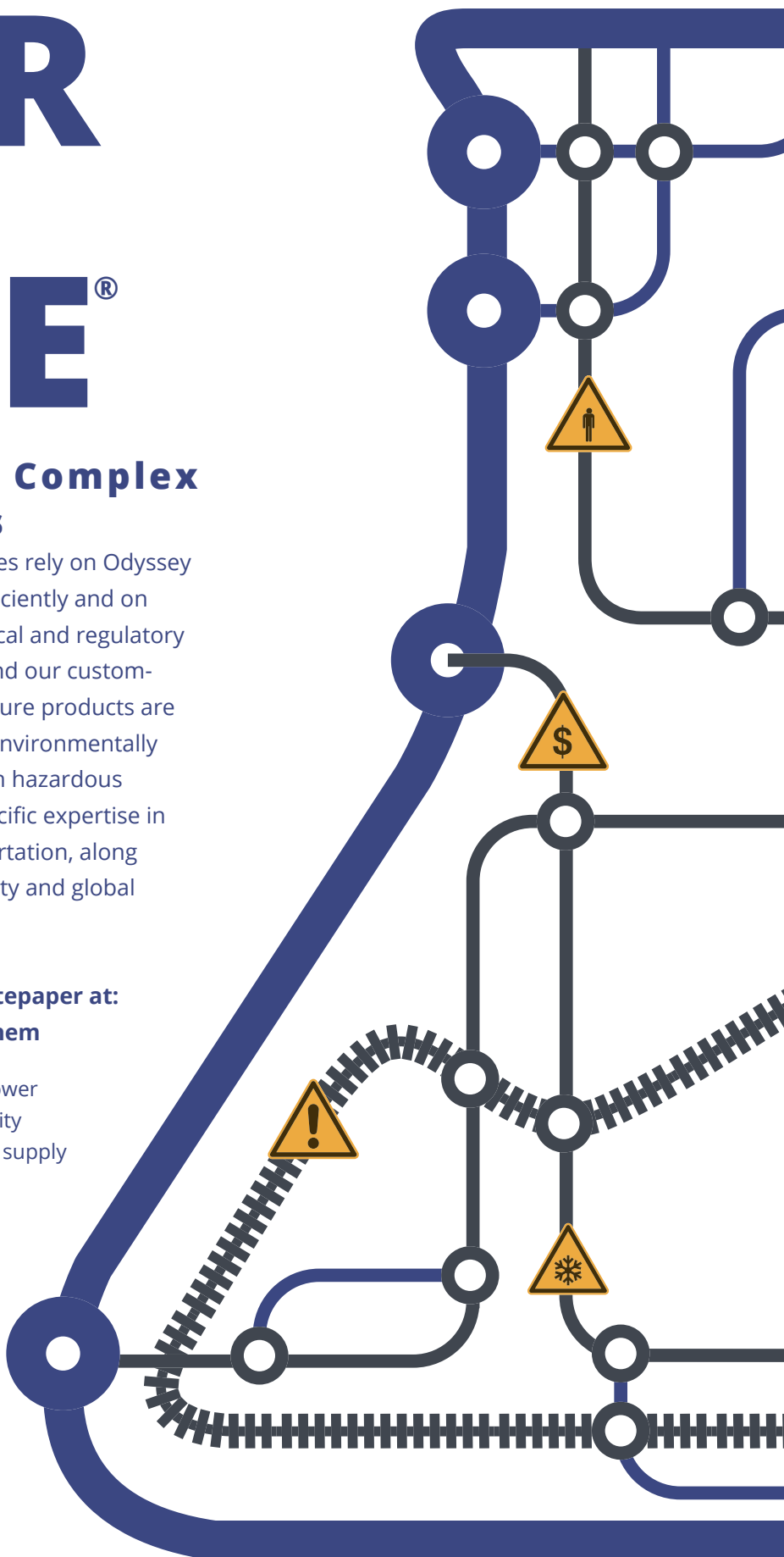


Download Our Whitepaper at:  
[doortodone.com/chem](http://doortodone.com/chem)

Learn how a control tower approach drives visibility and aids planning and supply chain reliability.



**Odyssey**  
Innovating Logistics





**KAG Logistics counts on its people as a key differentiator. With an understanding of the chemical industry, they act as extensions of clients' transportation and logistics functions.**

shippers. “If you’re not looking at your supply chain both ways—inbound and outbound—you’re leaving a lot on the table,” Vieira says.

CLX works with clients to boost carrier utilization on both inbound and outbound loads. Vieira notes that a professional procurement function, like CLX can provide, is key to managing the financial pressures most companies face today.

CLX developed a new product, Global Special Products, to handle oversized shipments. One client using this service moves containment units for spent nuclear rods, which can weigh more than 225,000 pounds. This is just one example of how clients count on CLX to consistently deliver the solutions they need.

“Every day, the CLX team works with our customers to find creative solutions to their challenges,” Vieira says.

## **KAG LOGISTICS: PEOPLE AND PROCESS PROWESS**

A critical component of the success KAG Logistics has enjoyed is its people.

“You win with people,” says Curt Gonya, senior vice president, chemicals and specialty products. “Our people are logistics experts with a deep understanding of the chemical industry.”

KAG’s culture fosters excellence and drives individuals to be the best they can, he adds.

KAG Logistics, based in North Canton, Ohio, serves multiple verticals across North America, including fuel, renewable energy, chemicals, food, and merchant gas supply chains. Its

## **Global issues during the pandemic, congestion and disruption continue to present challenges.**

transportation management solutions include multimodal transportation, brokerage, dedicated transportation solutions and carrier management, and procurement. KAG also offers enhanced tracking and alerts (ETA), fuel management, inventory optimization, and other value-added logistics services.

As a wholly owned subsidiary of The Kenan Advantage Group, Inc., KAG Logistics can offer a range of unique transportation solutions, building on KAG’s North American bulk transportation network. “Our size and scalability allow KAG Logistics to act as extensions of our customers’ transportation and logistics functions,” Gonya says.

Along with its people, process is key. “KAG employs proven processes, time-tested to be best practices,” Gonya says. Its solutions are tailored to meet client-specific needs. KAG’s scale and access to big data allow it to deal with each customer individually, while simultaneously driving collaboration

with its customer and carrier base, to provide solutions that benefit all involved.

Leading technology solutions also underpin KAG’s logistics offerings. Among other solutions, KAG Logistics’ Optimate TMS selects the right mode, equipment, and contract to safely and cost-effectively transport customers’ shipments. Shipment plans are routed to the optimal routes and contracts, while complying with customers’ business rules. This reins in costs while ensuring contract requirements are met. Optimate TMS is supported by a dedicated logistics team and a 24/7/365 Logistics Operations Center.

KAG’s visibility solution, Enhanced Tracking and Alert Solutions, or ETA, continually tracks each load’s location and status and provides real-time visibility, no matter the carrier. It also issues alerts when shipments may be late or disrupted. This comprehensive

visibility to all shipments in transit allows supply chain executives to manage by exception.

“Over the years, KAG Logistics has undergone significant growth,” Gonya says. The experience and expertise it has gained has helped it withstand the challenges of the past year, he adds.

KAG plans to build on its success. “Our vision is to continue to grow and evolve, while staying at the forefront of our contemporaries,” Gonya says. “We will do this with a focus on our people and delivering every load on time and without incident.”

## **ODYSSEY LOGISTICS & TECHNOLOGY: LEVERAGING DATA INSIGHTS**

Odysseus, the hero of Homer’s poem *Odyssey*, was known for the wisdom and strength he displayed when encountering challenges on his travels. *Odyssey Logistics & Technology* demonstrates similar qualities in ensuring its



COMPANY, INC.

CHEMICAL MANAGEMENT SERVICES

# GLOBAL END-TO-END CHEMICAL SOLUTIONS



**GLOBAL  
WAREHOUSING**



**GROUND  
TRANSPORTATION**



**FREIGHT  
FORWARDING**



**LOGISTICS  
TECHNOLOGY**



## ***FEATURED LOCATIONS:***

**Chandler, AZ:** +9,200 pallet capacity , Gas Pad & ISO Pad

**Dallas, TX:** Warehouse Renovation (Summer 2021)

**South Korea:** +3,524 pallet capacity

**Israel:** New ISO Pad (Summer 2021)



**[www.Rinchem.com](http://www.Rinchem.com)**

customers' shipments, which are valued at about \$60 billion annually, arrive at their destinations safely and on schedule.

"Chemical logistics is in our genes," says Bob Boyle, vice president. Its employees possess in-depth knowledge of chemical logistics and the regulations governing these shipments. Odyssey offers end-to-end logistics services, including

with clients to review operational data and recommend opportunities to boost efficiency or cut costs and the environmental impact of its shipments.

Say a shipper is delivering a less-than-truckload shipment once a day, several days a week. Odyssey works with the customer to examine the feasibility of sending a truckload shipment once or twice weekly.

## Visibility solutions, which enable shippers to act to counter delays, are attracting interest and investment.

shipment planning and execution, managed logistics services, intermodal and truck services, among others.

When Odyssey deploys these services, its customers look for several attributes: visibility, along with education and information, Boyle says. To provide these, Odyssey has invested in real-time data acquisition and business intelligence solutions, as well as network modeling software and GPS-enabled tracking.

With these tools, data isn't merely collected; it's also made available to customers, who can leverage it to inform and improve their decision-making. If the technology shows shipments are at risk, Odyssey's clients can work with their customers to mitigate any repercussions.

Members of Odyssey's continuous improvement program regularly meet

"We're able to use data to create actionable steps forward," Boyle says.

Because Odyssey has invested heavily in API integrations, it's able to bring in third-party information that can help in more effectively managing shipments. In 2020, this included the maps that showed COVID outbreaks across the United States. Odyssey could then identify shipments either coming from or heading to highly impacted areas and plan alternative routes as needed, Boyle says.

Odyssey's sample fulfillment service boasts a 99.99978% accuracy rate in safely storing, packaging, and shipping more than 12 million samples of both hazardous and non-hazardous materials.

Odyssey has earned acceptance into the American Chemistry Council's (ACC) Responsible Care partnership program, and also is an EPA SmartWay

Partner. An independent third party regularly audits the company's safety, health, environment, and security principles.

"We incorporate sustainability initiatives into all our logistics and supply chain strategies," Boyle says. This might mean shifting from trucks to rail or consolidating LTL to truckload shipments when practical. Odyssey also evaluates the carriers with which it works to make sure they're similarly focused on reliability, safety, and sustainability.

Customers' interest in visibility, reliability, and sustainability appears likely to continue. The network studies that Odyssey conducts provide "a control tower view" that allows its customers to optimize network flows.

"With this level of visibility, our clients enjoy an immediate improvement in performance and environmental impact," Boyle says.

## **RINCHEM: SOLELY FOCUSED ON CHEMICALS**

For more than four decades, Rinchem Company Inc. has provided first-class logistics management and supply chain solutions specifically for temperature-controlled hazardous chemicals and gases.

"The chemical industry is not a vertical that we serve, it is the sole focus of our business," says Chris Wright, senior vice president, operations with the Albuquerque, New Mexico-based firm. Rinchem provides storage, handling, and transportation services covering final mile, interstate, ocean, and air shipments.

Chemical manufacturers and end users alike benefit from Rinchem's global network. It provides the flexibility needed to scale without significant investment in infrastructure or employee training. "Our assets, employees, systems, and expertise are customized for managing chemicals and gases on a global scale," says Dustin Miles, director of global transportation.

Chem-Star®, Rinchem's proprietary software, seamlessly links Rinchem's transportation and warehousing networks, providing customers with real-time



**Rinchem Logistics provides logistics management and supply chain solutions specifically for temperature-controlled, hazardous chemicals and gases.**



# ATTENTIVE. EFFECTIVE. EFFICIENT.

THE ADVANCED LOGISTICS SOLUTIONS  
YOU NEED WITH THE CARE YOU DESERVE.

## Expertise

Chemical Logistics  
Fulfillment  
Transportation  
Import/Export

## Serving

Chemical Industry  
CPG Industry  
Food & Beverage  
Industrial & Equipment

DISCOVER THE WSI DIFFERENCE

status. GPS tracking technology deployed in Rinchem's fleet of refrigerated tractors and trailers enhances security and visibility. The company's use of radio frequency technology boosts receiving and picking speed and accuracy.

Rinchem has accelerated its investment cycle to address customer needs. It continues to invest in its network's global infrastructure, with expansions in several U.S. states, as well as Israel, Taiwan, and South Korea.

To address the driver shortage, Rinchem has strategically acquired and partnered with select carriers that are experts in handling hazardous materials. This strategy enables Rinchem to leverage a range of assets, Miles says.

include multiple ocean providers, further ensuring access to capacity. To minimize delays, Rinchem has developed relations with operators at multiple ports and diversified its routes.

"We'll continue to do all we can to ensure our customers' shipments move safely and on time," Miles adds.

And even as freight rates have jumped, Rinchem is able to leverage its global buying power and its strong carrier relationships to access the best rates possible and rein in costs, Miles says.

A significant portion of Rinchem's business is directly related to the semiconductor industry and the process chemicals used to fabricate microchips, Wright says. For years, the geographic

United States. "This is very exciting," Wright says. "Rinchem will be there to support them."

## **THE LOGISTIX COMPANY: NIMBLENESS AND EXPERTISE**

From its base in North Kingstown, Rhode Island, The Logistix Company (TLC) has gained years of experience and expertise moving a range of chemicals and managing shipments for entire supply chains, says Joe Hassenfratz, sales and marketing manager.

TLC's expertise ranges from handling dry and liquid bulk chemicals, to managing over-the-road, less-than-truckload, and truckload shipments, and leveraging ocean, air, and intermodal options.

TLC also provides transloading services. In addition, TLC employees can arrange international moves across North and South America. Intermodal transportation can be more economical than other shipping methods, Hassenfratz notes.

At the same time, intermodal transportation requires detailed and in-depth planning to ensure shipments aren't lost or delayed due to miscommunication or regulatory concerns. TLC possesses the expertise required to ensure its shipments will move between transit modes seamlessly and accurately, he adds.

Customers who need blind or double-blind shipments to keep confidential the source of the product they're distributing can also rely on TLC.

To complement its expertise across multiple transportation modes, TLC offers a private fleet with various storage solutions, including ISO tanks, as well as heating, steaming, and anti-freezing facilities. TLC also provides tracking and tracing systems, as well as GPS technology. "Whatever the need, we can call on our own carrier fleet or work with our partners to help facilitate it," Hassenfratz says.

Behind the comprehensive range of capabilities TLC offers is strong, committed ownership. "They provide the resources we need to hire the best people

---

## **To manage congestion and weather events, chemical logistics providers have shifted modes or added locations.**

---

Rinchem also continues to invest in the newest equipment, driver amenities, and competitive compensation models. "These show how important drivers are to our business," Wright says.

To ensure access to capacity, particularly over the past year, Rinchem worked closely with its carrier partners, repositioned equipment, and increased its equipment pool. The breadth of its carrier relationships has been key in gaining access to capacity. Rinchem also has broadened its partnerships to

locations for semiconductor fabs (fabrication plants) have been shifting to Asia Pacific countries such as Taiwan and South Korea.

However, the recent global chip shortage and the resulting impact on U.S. manufacturing have prompted the federal government to earmark \$50 billion for expansion and research. Multiple leaders in semiconductor manufacturing have announced multi-billion-dollar investments in Arizona, New Mexico, and other markets in the



**The Logistix Company (TLC) moves a range of chemicals and manages shipments for entire supply chains. TLC offers a private fleet with multiple storage solutions including ISO tanks.**



# DATA-DRIVEN SOLUTIONS. IMPROVING CAPACITY AND SERVICE.



In a year full of challenges that no one saw coming, the only road forward is through continuous improvement. Using data and collaborative planning to keep your supply chain moving is the best way to stay in front of the next roadblock we face together.

Contact KAG Logistics today, so you can focus on your core business with the peace of mind that we are doing what we do best for you – **Deliver every load. On time. Without incident.**

877-203-3283 | [www.kaglogistics.com](http://www.kaglogistics.com)



**Among the first American Chemistry Council Responsible Care 3PL partners, WSI ensures the safe storage, transport, sampling, packaging, and distribution of chemicals and other hazardous products. WSI acts as a single-source provider of logistics solutions for many companies.**

and invest in technology,” he adds.

TLC’s relatively smaller size also is a benefit, Hassenfratz says, as it fosters nimbleness. The company is able to efficiently onboard new customers and evaluate multiple freight options. Its flexibility also allows it to quickly manage volume surges.

The company’s employees also have made a point of developing strong relationships with workers at multiple ports, particularly on the East Coast, as well as with drayage and freight companies across the country.

“Our relationships help ensure our customers’ shipments move quickly and aren’t overly delayed by congestion,” Hassenfratz says. And if one port is congested, TLC’s employees have the knowledge and relationships that allow them to quickly shift to another.

While TLC currently is a smaller logistics provider, that might not be

## **WSI:**

### **ABOVE-AND-BEYOND SERVICE**

WSI was among the first ACC Responsible Care 3PL partners. “This shows our dedication to voluntarily operating above and beyond what’s required to ensure the safe storage, transport, sampling, packaging, and distribution of chemicals and other hazardous products,” says Scott Buber, director of chemical operations.

The company’s commitment to safe, sustainable operations has been a hallmark of operations for the approximately 30 years it has worked within the chemical industry, and is instilled in employees, from the front lines to executive leadership. “We take a lot of pride in how we operate, and we’re dedicated to providing the expertise required to meet our customers’ needs,” Buber says. WSI’s chemical facilities comply with myriad regulatory schemes,

solutions it provides, WSI can act as a single-source provider of chemical logistics solutions for many companies. Many top-tier organizations have turned to WSI for just that reason. “We’ve completed just about every function within the chemical arena,” Buber says.

Along with its emphasis on safety, WSI is working to enhance sustainability and reduce the level of emissions its operations generate. Among other steps, the company is shifting to electric lifts, upgrading equipment to cut power consumption, and installing energy-efficient lighting. WSI tracks all improvements and works to continue reducing its environmental impact.

As part of these initiatives, WSI partners with its customers to help them reduce their environmental footprint where possible. This may mean, for instance, evaluating greater use of intermodal or rail transportation. These analyses can help customers cut costs and greenhouse gas emissions.

WSI’s chemical warehouse in Council Bluffs, Iowa, is a Free Trade Zone. Customers pay no duties while storing their products, only when moving them into the domestic market. “This provides huge tax benefits, especially when bringing in products from overseas,” Buber says.

The complexity of today’s chemical industry demands flexibility and responsiveness, as well as a strong culture of safety. “Safety is not just a priority at WSI, because priorities change,” Buber says. “It’s part of our culture. We strive every day to be safe, faithful stewards of the products entrusted to us.” ■

## **The complexity of today’s chemical industry demands both flexibility and responsiveness, along with a safety focus.**

the case for long. “We have a strong customer base and we’re looking to grow,” Hassenfratz says.

TLC’s clients recognize the value of the stellar customer service and competitive rates the company provides. They also appreciate the range of carriers with which TLC partners, and the breadth of its services. “We can manage entire supply chains, including for companies with multiple, complex operations,” Hassenfratz adds.

including DOT, EPA, DHS, and others.

In addition to outfitting all warehouses with the latest fire suppression and containment systems, WSI regularly invites local fire departments to conduct drills at all its chemical sites. “This helps build rapport and the firefighters become familiar with our operation,” Buber says. If anything unusual should happen, the department is prepared to respond quickly and effectively.

Given the range of services and

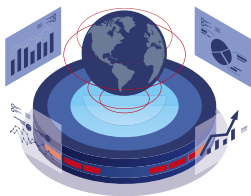
# Put the Pedal to the Metal

Drive Next-Gen Supply Chain Transformation Today



## Steer Towards Success with the World Leader in Chemical Logistics

Trusted by chemical companies globally, CLX ChemLogix, the industry-leading chemical 4PL division of CLX Logistics, drives **comprehensive, easily integrated, flexible engagement solutions that enable chemical manufacturers, carriers, and customers to succeed.** With CLX ChemLogix, your chemical supply chain operates faster, more efficiently, and more cost-effectively at every stage.



Visit [clxlogistics.com/chemical-logistics](https://clxlogistics.com/chemical-logistics) to start building your next-generation chemical supply chain.

- Reduce costs and spend
- Eliminate driver capacity constraints
- Avoid shortages and delays
- Lower your carbon footprint
- Simplify ordering processes

**CLX LOGISTICS**  
THE WORLD LEADER IN CHEMICAL LOGISTICS

Philadelphia, PA (HQ) | Chicago, IL | Eindhoven, NL | +1 (800) 288-4851 | +31 (0)40 293 86 16 | [CLXLogistics.com](https://CLXLogistics.com)

GLOBAL TMS • INTERMODAL • MANAGED SERVICES • CAPACITY MANAGEMENT • PROCUREMENT, BENCHMARKING & BIDS • TRANSPORTATION ANALYTICS  
SUPPLY CHAIN CONSULTING • INTERNATIONAL LOGISTICS • FREIGHT BROKERAGE

# Supply Chain Insights

THE LATEST FREE WHITEPAPERS, VIDEOS, PODCASTS, AND MORE...

## webinar

### USE TOTAL COST OF OWNERSHIP TO OPTIMIZE SUPPLY CHAIN COSTS AND DRIVE SAVINGS

Offered by Gartner

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

Supply chain leaders often focus on achieving short-term savings with cost-reduction targets. However, using a total cost of ownership model can help you focus in on shared strategic goals. This free, on-demand webinar examines the benefits of total cost of ownership, and how to incorporate the model into sourcing and procurement processes.



## whitepapers



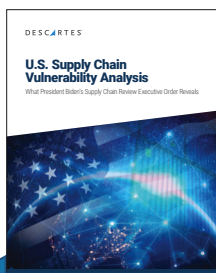
**DOWNLOAD**

[bit.ly/LionMay21SCI](https://bit.ly/LionMay21SCI)

### 5 Hazmat Shipping Paper Mistakes (And How to Avoid Them)

Offered by Lion Technologies

When you ship hazardous materials, accurate and complete shipping papers are critical to prevent logistics delays. Mistakes as minor as a missing word or an incorrect phone number can result in rejected shipments, time-consuming corrections, and delayed deliveries. This free guide lays out five of the most frequently penalized mistakes shippers make and how to avoid them.



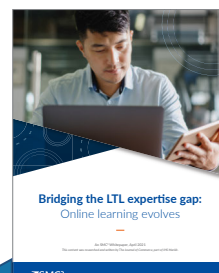
**DOWNLOAD**

[bit.ly/DescartesApr21SCI](https://bit.ly/DescartesApr21SCI)

### Analyzing U.S. Supply Chain Vulnerability and Mitigating Risk

Offered by Descartes Systems Group

The Biden administration recently ordered a review of U.S. supply chains to prevent shortages, which have been exacerbated by COVID-19. This free whitepaper analyzes the current situation to offer a perspective into what the administration's review could reveal, and provides insights to all companies—not just U.S. businesses—on how to mitigate supply chain risk.



**DOWNLOAD**

[bit.ly/SMC3May21SCI](https://bit.ly/SMC3May21SCI)

### Bridging the LTL Expertise Gap: Online Learning Evolves

Offered by SMC3

The need for less-than-truckload (LTL) expertise is growing as rapidly changing consumer habits impact global supply chains. At the same time, there is a noticeable gap in resources to bring newcomers up to a competitive level of excellence or enable industry veterans to expand their knowledge. Read this whitepaper to learn about the transportation industry's first online LTL curriculum with a path to LTL certification.

# Supply Chain Insights

## whitepapers



**DOWNLOAD**

[bit.ly/GEODISMay21SCI](https://bit.ly/GEODISMay21SCI)

### As E-Commerce Demand Shifts, Omnichannel Brands Take the Lead

*Offered by GEODIS*

The acceleration of online buying behaviors has altered the face of e-commerce logistics. Brands that already began optimizing their supply chains before the pandemic are more aligned with their omnichannel consumers and ahead of the game. With the right approach, you can achieve greater flexibility, personalized support, and enhanced visibility to surpass competitors and create a long-standing competitive advantage. Read this free whitepaper to learn how.



**DOWNLOAD**

[bit.ly/NulogyMay21SCI](https://bit.ly/NulogyMay21SCI)

### The Journey to Effective Supplier Collaboration

*Offered by Nulogy*

Effective supplier collaboration offers substantial opportunities to improve operational excellence and business growth, but it is imperative for supply chain leaders to lay out a framework for leveraging the partnerships within their networks. This research report outlines key activities that procurement professionals should follow to execute an effective supplier collaboration strategy. Download this free report to form a strategic framework for effective supplier collaboration.



**DOWNLOAD**

[bit.ly/FlockFreightApr21EB](https://bit.ly/FlockFreightApr21EB)

### Why Your Shipping Business Should Change for the Greener

*Offered by Flock Freight*

Shippers have the potential to reduce their company's environmental impact more than ever before—starting with their supply chain. In this free whitepaper, learn why your organization can't afford to put off supply chain sustainability and why carbon-neutral shipping is the answer. Learn about the gravity of the freight industry's carbon output and the landscape of carbon offsets for the freight trucking industry.

## podcast



David Foulsham



Dan Diliberti

### The Right Tool to Do the Job Right: How the Panasonic Toughbook S1 Handles Logistics Challenges

*GUESTS: David Foulsham, Executive Area Sales Manager; Dan Diliberti, Product Marketing and Development; Panasonic*

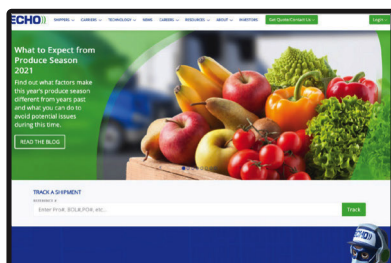
[bit.ly/PanasonicJun21Pod](https://bit.ly/PanasonicJun21Pod)

From warehouse workers to truck drivers to last-mile delivery, supply chain professionals need accessible, durable tools in hand to gather critical information for customers and stakeholders. The new Toughbook S1 is built for the most challenging environments, especially transportation and logistics operations. David Foulsham and Dan Diliberti of Panasonic discuss the power and performance of this new device.



## IN THIS SECTION: 3PL

### 3PL

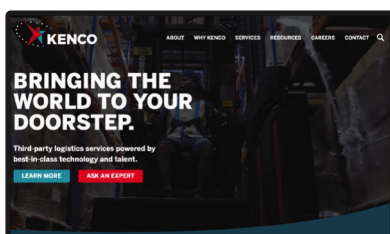
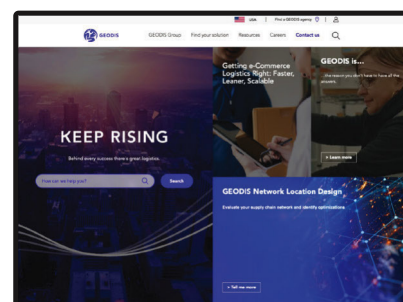


#### ECHO GLOBAL LOGISTICS • [www.echo.com](http://www.echo.com)

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.

#### GEODIS • [www.geodis.com](http://www.geodis.com)

With 5,500 people and a global network, GEODIS is one of the world's largest freight management companies, serving customers with integrated supply chain solutions that deliver cargo by sea and air. The company's expertise, value-added services, and e-services enable you to streamline the flow of goods. GEODIS also makes your supply chain more transparent and easier to manage. A self-reliant network of offices and air and ocean hubs in more than 50 countries ensures that your cargo flows efficiently and consistently across the world.

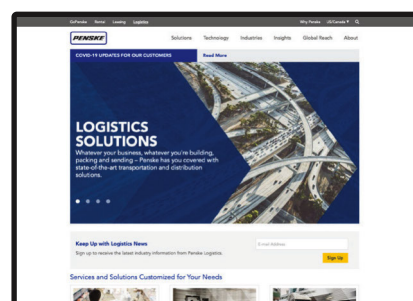


#### KENCO • [www.kencogroup.com](http://www.kencogroup.com)

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.

#### PENSKE LOGISTICS • [www.penskelogistics.com](http://www.penskelogistics.com)

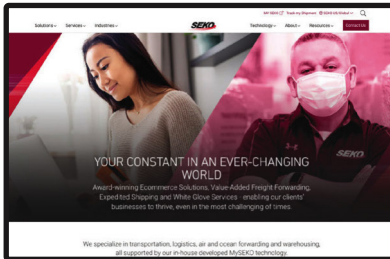
Penske Logistics is an award-winning logistics services provider with operations in North America, South America, Europe, and Asia. Its products and services range from dedicated contract carriage and distribution center management to transportation management and fully customized solutions. No matter what your needs or industry, Penske Logistics engineers supply chain solutions that deliver business results like boosting productivity, improving service, and shrinking carbon footprints. Call us today at 1-800-529-6531 to learn more.



## IN THIS SECTION:

## 3PL

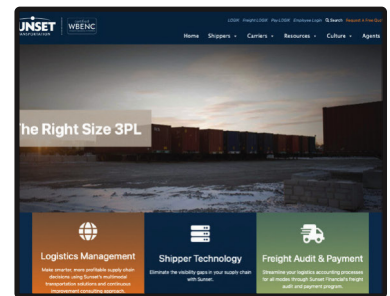
## 3PL

**SEKO LOGISTICS • [www.sekologistics.com](http://www.sekologistics.com)**

SEKO prides itself on a commitment to customer service, whether it's a 2 a.m. pickup for a critical industrial part for a plant that is 4,000 miles away, or the cost savings achieved from proactive communication with your vendors overseas. SEKO offices have the knowledge and expertise to expedite or to consolidate, depending on your need. From Hong Kong to Amsterdam, SEKO knows how to serve its clients. As a non-asset-based third-party logistics provider, SEKO has the flexibility to meet your supply chain needs using a variety of modes and carriers.

**SUNSET TRANSPORTATION • [www.sunsettrans.com](http://www.sunsettrans.com)**

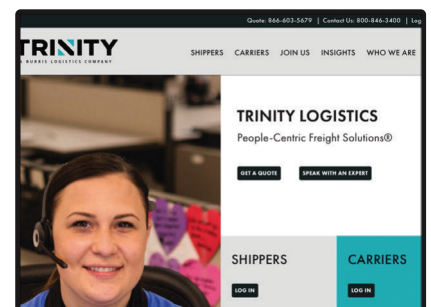
Sunset Transportation isn't just another 3PL. We are driven by the right-size fit for each business, using all levels of global and domestic supply chain resources and services. Our culture allows customers to feel like family, while offering advanced TMS solutions, reporting, and shipment reliability. Our approach is simple: through analysis of historical shipping data, we identify opportunities for optimization, service improvement, and technology enhancements. All this is done with five promises we make to every customer, every day: savings, visibility, data-driven decisions, continuous improvement, and relationships. Sunset is the right size 3PL for your growing business.

**SYFAN LOGISTICS • [www.syfanlogistics.com](http://www.syfanlogistics.com)**

Since 1984, Syfan has provided customers with a competitive advantage through superior transportation and logistics services. Syfan consistently strives to meet and exceed customer expectations of service through timely communication and quality information. Leveraging its rich experience and dedicated team, Syfan's commitment is to provide you with on-time pickup and delivery—every time.

**TRINITY LOGISTICS • [www.trinitylogistics.com](http://www.trinitylogistics.com)**

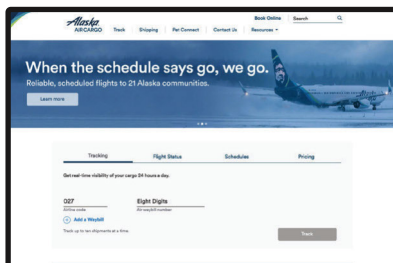
Trinity Logistics is a team member owned, leading third-party logistics company specializing in freight arrangement and supply chain solutions. Trinity can help you gain control and visibility of your supply chain, reduce costs, improve performance, and increase efficiency. With 35 years of experience and a relationship-driven team, Trinity is the 3PL company you can rely on.



## IN THIS SECTION:

## Air Cargo - Chemical Logistics

### AIR CARGO



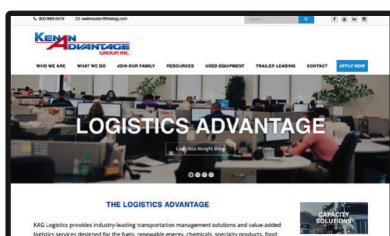
#### ALASKA AIR CARGO • [www.alaskacargo.com](http://www.alaskacargo.com)

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.

### CHEMICAL LOGISTICS

#### CLX LOGISTICS • [www.clxlogistics.com](http://www.clxlogistics.com)

CLX Logistics is a global provider of comprehensive logistics management, technology, and supply chain consulting services to a broad base of industry verticals. From chemical and energy to manufacturing, retail, agriculture, automotive, and heavy haul, we help clients in nearly every industry to realize sustainable supply chain value by employing a mix of managed services, on-demand global TMS technology, and comprehensive transportation management services to improve performance and reduce cost. CLX Logistics is dedicated to solving its customers' most vital logistics challenges.



#### KAG LOGISTICS • [www.kaglogistics.com](http://www.kaglogistics.com)

KAG Logistics provides transportation management, capacity solutions, and a variety of logistics services across North America—all tailored to meet your unique needs. Our experienced logistics team is here for you 24/7/365, with our extensive carrier network, proven processes, industry-leading technology, and analytics to support your supply chain initiatives while driving value into your business. Serving the fuels, chemicals, specialty products, food, and merchant gas industries, we deliver on-time, error-free results—guaranteed.

#### ODYSSEY LOGISTICS & TECHNOLOGY • [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:

## Chemical Logistics

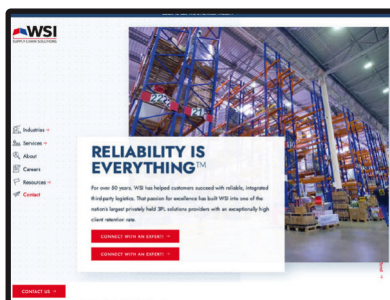
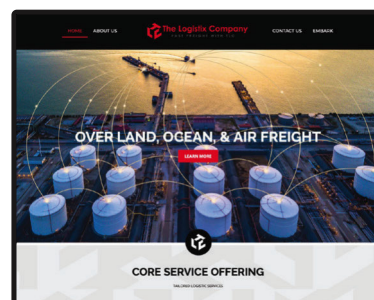
## CHEMICAL LOGISTICS

**RINCHEM** • [www.rinchem.com](http://www.rinchem.com)

Rinchem is a leading provider of chemical management services to the semiconductor, chemical manufacturing, and pharmaceutical industries. We are an asset-based logistics company that streamlines customers' supply chains, resulting in increased efficiencies and reduced costs. Since 1976, Rinchem has provided comprehensive services including chemical warehousing, chemical and waste transportation, waste stream management, and safety and regulatory training and consulting.

**THE LOGISTIX COMPANY** • [www.thelogistixco.com](http://www.thelogistixco.com)

The Logistix Company (TLC) has years of experience in the logistics field, which enabled it to build a private fleet of carriers servicing the transport of freight across the nation and around the globe. TLC offers flexible options for every shipping need. From a single shipment to managing shipping for your entire supply chain, when TLC takes charge of your shipping needs, its focus is on closely monitoring your shipments from pickup to delivery. The company's private fleet of carriers provides customers with the resources to deliver freight to where and when they need it, safely, efficiently, and cost-effectively.

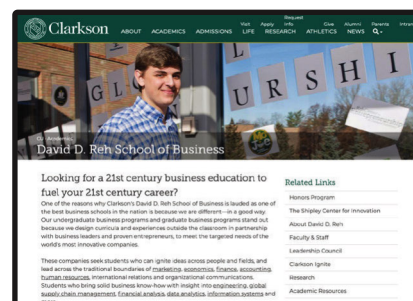
**WSI (WAREHOUSE SPECIALISTS, LLC)** • [www.wsinc.com](http://www.wsinc.com)

At WSI, we believe your supply chain ought to be safe, sustainable, and reliable. So we've spent over 50 years providing our customers world-class logistics services with an excellent safety track record. As one of the top 3PLs in North America, WSI offers world-class warehousing, distribution, fulfillment, transportation, and IT services nationwide. You can depend on us for increased efficiency, reduced costs, and Absolute Reliability.

## EDUCATION

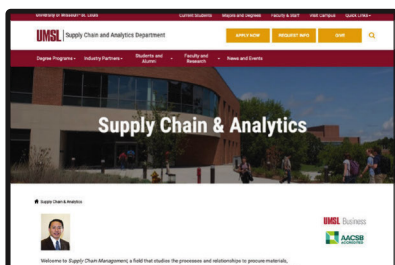
**CLARKSON UNIVERSITY** • [www.clarkson.edu/academics/business](http://www.clarkson.edu/academics/business)

Clarkson University is an AACSB-accredited university in upstate New York. Ranked in the top 90 MBA programs and Top 20 overall supply chain programs countrywide, it provides residential and online programs including a Masters in Supply Chain Management. The program is fully online, includes live lectures in every class, and is available to start any of four quarters with flexible, accessible, and efficient classes designed for working professionals to complete in one to two years.



## IN THIS SECTION: Education - Intermodal

### EDUCATION

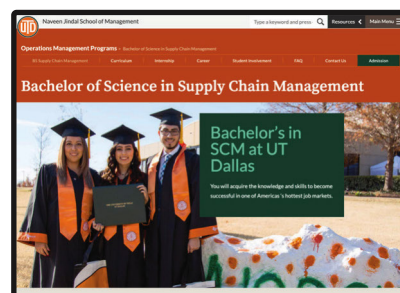


#### UNIVERSITY OF MISSOURI-ST. LOUIS • [umsl.edu/divisions/business/ms](https://umsl.edu/divisions/business/ms)

The Master of Science in Supply Chain Analytics program at the University of Missouri-St. Louis is designed to meet the current and future demand for professionals in the broad fields of Supply Chain Management and Business Analytics. Bridge the gap between a pure data scientist and a supply chain domain expert to become an advanced data analytics professional or data professional who wants to implement machine learning technology.

#### UNIVERSITY OF TEXAS, DALLAS • [om.utdallas.edu](https://om.utdallas.edu)

UT Dallas' Bachelor and Master of Science in Supply Chain Management (SCM) programs deal with issues related to developing, producing, and delivering goods and services from suppliers to customers. Students enrolled in the supply chain management programs gain the knowledge, skills, and expertise necessary to manage and improve the efficiency and productivity of business operations, and to improve the quality of services and goods produced. The faculty has significant teaching, research, and business expertise in logistics, purchasing, sourcing, supply chain, and operations management, offering students a unique, accurate perspective.



### INTERMODAL

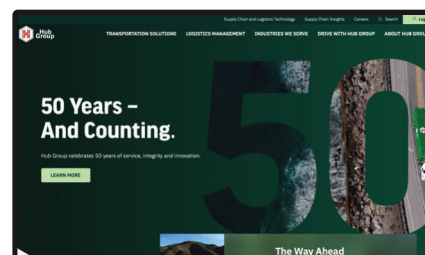


#### ALLIANCE SHIPPERS INC. • [www.alliance.com](https://www.alliance.com)

Delivering The Perfect Shipment® from pick up to destination. With operating facilities in the United States, Canada and Mexico, Alliance Shippers Inc. combines excellent customer care with state-of-the-art rail, highway, ocean and air transportation solutions. Additional services include warehousing, distribution, customs clearance, equipment/driver leasing and expedited transportation. For cost-effective logistic solutions tailored to your company's exact needs, contact Alliance Shippers Inc.

#### HUB GROUP • [www.hubgroup.com](https://www.hubgroup.com)

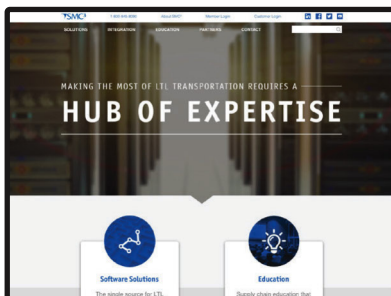
Hub's extensive service network—built over many years—enables it to provide innovative transportation solutions that are versatile, flexible, and designed to deliver maximum efficiency. With this advantage, Hub Group is able to collaborate with customers daily to help them meet their transportation challenges. 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.



## IN THIS SECTION:

## Logistics IT - Trucking

## LOGISTICS IT

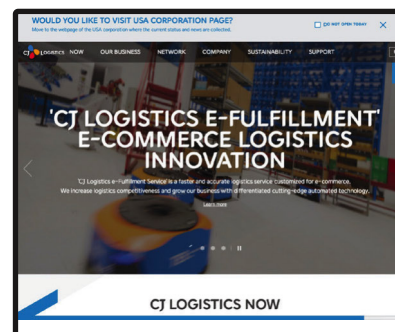
SMC<sup>3</sup> • [www.smc3.com](http://www.smc3.com)

SMC<sup>3</sup>—the leading provider of freight transportation technology data and solutions—delivers the only integrated suite of intelligent technology data solutions geared toward the less-than-truckload and truckload industries. As a leader in both transportation software innovation and supply chain education, more than 5,000 North American shippers, carriers, logistics service providers and freight-payment companies rely on SMC<sup>3</sup>'s sophisticated LTL base rates, content, and expert bidding tools to make the best business decisions, achieve higher returns on their transportation investments, and meet the dynamic demands of the market.

## SUSTAINABILITY

CJ LOGISTICS AMERICA • [www.cjlogistics.com](http://www.cjlogistics.com)

With experience, knowledge, and IT—as well as supply chain capabilities that are adaptable, versatile, and focused on changing customer needs—CJ Logistics America helps companies reach their business goals. CJ Logistics provides supply chain analysis and design, strategic solutions-based consulting, systems integration, process improvement, and management of logistics operations such as warehousing, transportation, packaging, and fulfillment. In today's business environment, filled with rapid and unpredictable change, CJ Logistics manages change and information in the supply chain by using a strategy called sense-and-respond and by being ready for anything!

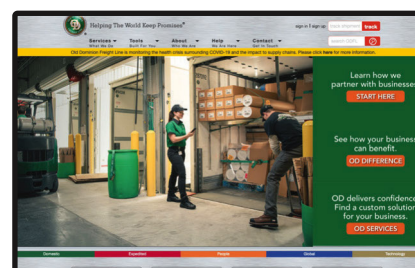
LYNDEN • [www.lynden.com](http://www.lynden.com)

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.

## TRUCKING

OLD DOMINION FREIGHT LINE • [www.odfl.com](http://www.odfl.com)

Old Dominion Freight Line is a less-than-truckload carrier providing complete nationwide service within the continental United States. Through its four product groups, OD-Domestic, OD-Expedited, OD-Global, and OD-Technology, the company offers an array of innovative products and services to, from, and between North America, Central America, South America, and the Far East. The company also offers a broad range of expedited and logistical services in both domestic and global markets.



[IN FOCUS]

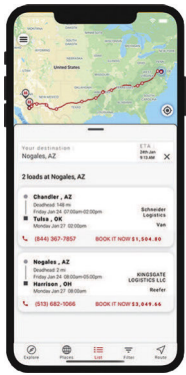
# INBRIEF

## New Services and Solutions

### > TECHNOLOGY

> **Trucker Tools** *Book It Now* automated load-booking is now live within **MercuryGate's** transportation management software platform. Shippers who work within the MercuryGate application can select and populate available

shipments in the Trucker Tools Mobile Driver app. The shipments are then visible to approved and available truckers as a *Book It Now* load on their smartphone.



> **Manhattan Associates** unveiled its new *Manhattan Active* Transportation Management solution, which aims to reduce the time involved in optimizing transportation networks. The cloud-native solution lets transportation planners visualize their entire network and process large volumes of data to create optimal logistics plans.

> Non-profit organization **MassRobotics** released the MassRobotics Interoperability Standard, which lets autonomous mobile robots from multiple vendors integrate and work



> Stretch, the new box-moving robot from **Boston Dynamics**, is designed to increase pick rates in warehouses and distribution centers. The multipurpose mobile robot can handle package variability and can reach cases throughout a truck or pallet.

together to support safe and efficient operations in warehouses, distribution and fulfillment centers, and factories.

> Shippers can gain pre-transit predictive insights as well as real-time in-transit visibility with the partnership between **project44** and **Everstream Analytics**. Combining project44's end-to-end real-time location visibility and Everstream's predictive risk analytics, the partnership aims to increase supply chain agility.

> Tech start-up **Haidrun** launched an enterprise blockchain platform targeted at the manufacturing supply chain. The private blockchain—a digital ledger that records supply chain transactions between two parties—is scalable and supports

simple interoperability with third-party systems, aiming to remove the complexity of public blockchains and provide a platform for supply chain collaboration.

> **3G**, a provider of cloud-based transportation management software, made the Pacejet Transportation Planning for NetSuite available to shippers using the NetSuite cloud-based ERP. The order fulfillment solution for NetSuite users utilizes 3G's transportation optimization engine to evaluate consolidation opportunities and select the most efficient combination of modes and carriers.

> **InMotion Global** and **uShip**, a logistics technology platform for large and bulky goods, teamed up to provide real-time LTL rates, booking,

tracking, and billing services to customers of InMotion Global's *AscendTMS*. *AscendTMS* users, which include small and mid-sized shippers, can now access both FTL and LTL capabilities.

> Consultancy **Drewry** and **Freightender** teamed up to offer a single-source ocean freight procurement e-solution to mid-sized shippers. The solution combines Drewry's ocean freight cost benchmarking and procurement support services with Freightender's cloud-based procurement technology platform to help shippers manage complex sourcing events.

> **3PL Evans Distribution Systems** introduced a business intelligence tool called *evans365*, which provides warehouse

customers a holistic view of their account activity based on real-time data. The new tool accesses and analyzes data sets from Evans' warehouse management system and other data sources.

## > PRODUCTS

> The new RR200 UltraSeal interior roll-up door from manufacturer **Albany** features a slim design and tight seal for applications where space is limited. The RR200 UltraSeal door's bead design creates a strong seal that minimizes dirt and contaminants in warehouse facilities.

> **Confidex** introduced four new RFID labels that are readable on metal, plastic, and other surfaces to ensure asset management can be conducted faster with fewer errors. The new Confidex Silverline Micro II, Slim II, Blade II, and Classic II labels are engineered with **Zebra Technologies** to print on Zebra printers.

> **Verizon Connect** introduced a compact, discreet asset tracker device for customers on the Verizon Connect Reveal fleet management platform. Now, trailers, storage containers, and other equipment can be located and managed remotely online through the Verizon Connect Reveal fleet management platform or the Verizon Connect Spotlight app.

> The MAX mobile workstation from **ACD Group** can now handle deep-freeze applications. Designed for inventory taking and quality assurance, the workstation can cope with temperatures as low as -18.4 degrees Fahrenheit, making it ideal for cold storage areas and even outdoors in winter.

## > TRANSPORTATION

> The new East Africa Service 3 (EAS3) from **Hapag-Lloyd** offers direct weekly sailings between China, Southeast Asia, Kenya, and Tanzania. Deploying seven 2,800 TEU



> **Samskip** established a dedicated airfreight business, launching the new division at Schiphol Airport in the Netherlands. The new entity adds to the transport group's rail, road, shortsea, and inland waterway links throughout Europe.

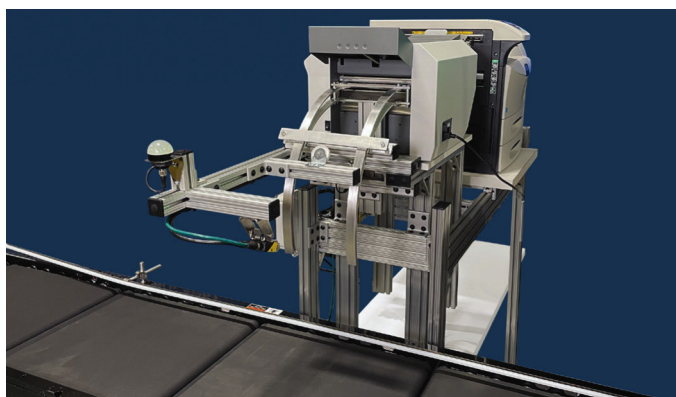
vessels, the EAS3 provides connections to Hapag-Lloyd's global network via the hub ports of Singapore, Port Kelang, and Shanghai.

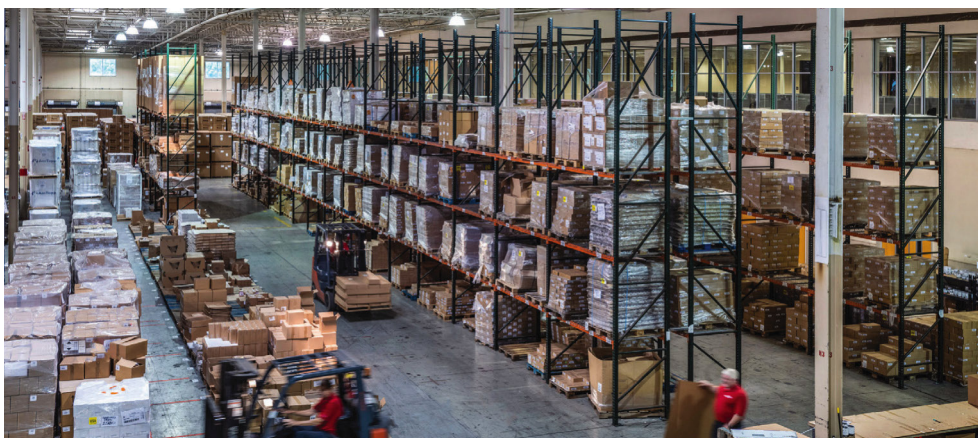
> **American Airlines Cargo** expanded its temperature-controlled shipping capabilities, extending its cold-chain solution network to 30 new stations, including Cincinnati, Memphis, and Pittsburgh. Through the use of CSafe Global's packaging and temperature loggers provided by CargoSense,

the airline verified its aircraft maintains ideal environments for passive temperature-sensitive shipments.

> **Amazon Air** added Pittsburgh to its expanding U.S. cargo network. Amazon Air packages arrive once daily at the Pittsburgh International Airport (PIT) via a Boeing 737-800F freighter. Through a partner lease agreement, Amazon Air will use 50,000 square feet of space at PIT.

> **StreamTech Engineering's** FoldSert, a system for inserting multi-page plain paper pack slips into open cartons, automatically identifies each package, communicates with the software system to receive the correct pack slip, prints, folds, and inserts the pack slip into the carton, while scanning each page for verification.





> **Averitt Express** opened a distribution and fulfillment center near Dallas, Texas. Located close to Dallas/Fort Worth International and Dallas Love Field airports, as well as BNSF Railway and Union Pacific Railroad intermodal depots, the facility features 400,000 square feet of enclosed space to handle domestic and international freight and cargo.

> To offer shippers more loading space, **Dachser** is opting for mega trailers—which have greater cargo space dimensions with otherwise the same length and width—in its new fleet purchases over standard semi-trailers. Full conversion of its German fleet is scheduled to be completed by 2027, with some 680 new mega trailers in total. Dachser will also start replacing its fleets in the 24 other European countries where it is represented through its European Logistics business line.



> **CG Railway** (CGR) launched the first of two new rail ferries. Part of a joint venture between subsidiaries of Genesee & Wyoming and SEACOR Holdings, CGR operates a U.S. Class III freight railroad across the Gulf of Mexico. The newly launched vessel began operations in the second quarter of 2021, with the second new vessel expected in the third quarter.

> **THE Alliance**, comprised of Ocean Network Express (ONE), Hapag-Lloyd, HMM, and Yang Ming Line, is revising its transatlantic schedules to cover a wider range of countries. Replacing the Atlantic 3 service, the new Atlantic 5 weekly service rotation from ONE includes Hamburg, Germany; Rotterdam, Netherlands; Antwerp, Belgium; La Havre,

France; Southampton, England; Halifax, Canada; Port Everglades; and Cartagena, Colombia.

## > SERVICES

> Importers can reduce demurrage and detention (D&D) storage costs and improve the end-user experience with **Maersk North America's** Destination Cargo Management (DCM) product. DCM analysts help shippers and their trucking providers with D&D mitigation strategies, using a data-driven approach to track dwell time, provide visibility of the ship-to-shore process, and identify chokepoints.

> **Echo Global Logistics** launched EchoShip Rewards, a loyalty program for shippers using its shipping platform. Shippers can earn reward points when they book LTL and truckload shipments via EchoShip, the company's self-service web portal that lets users quote, book, ship, manage invoices, and track shipments in real time.

> Direct-to-consumer companies can gain transparency into their shipping process with the partnership between online commerce solutions provider **Bond** and **EasyPost**, a multi-carrier shipping solution. The companies offer shippers same-day and on-demand fulfillment as well as returns processing.



> The new Liftpoint LTX-series fork truck service lift from **Mohawk** allows technicians to safely perform preventive maintenance and repairs on forklifts, electric pallet jacks, aisle riders, and other types of materials handling equipment. Utilizing mechanical and hydraulic safety locks, the LTX meets national safety standard for service lifts.

> **UPS** enhanced its specialty pharmaceutical offerings by establishing UPS Cold Chain Solutions, a suite of cold chain capabilities for healthcare customers. Designed to provide pharmaceutical companies, healthcare providers, and laboratories with an end-to-end cold chain service offering, UPS Cold Chain Solutions includes storage and distribution, transportation, visibility, and quality assurance capabilities.

> **Hamburg Süd** now offers additional protection and fast resolution in the event of cargo damage with its new Value Protect service. The solution enables shippers to protect the value of their cargo against logistics-related risks—including fire, theft, and cargo damage due to ship delays or shipping accidents at sea—during transportation.

> **Trailer Bridge** introduced a global shipping service that provides end-to-end logistics solutions for domestic and transnational shipments through the company's non-vessel

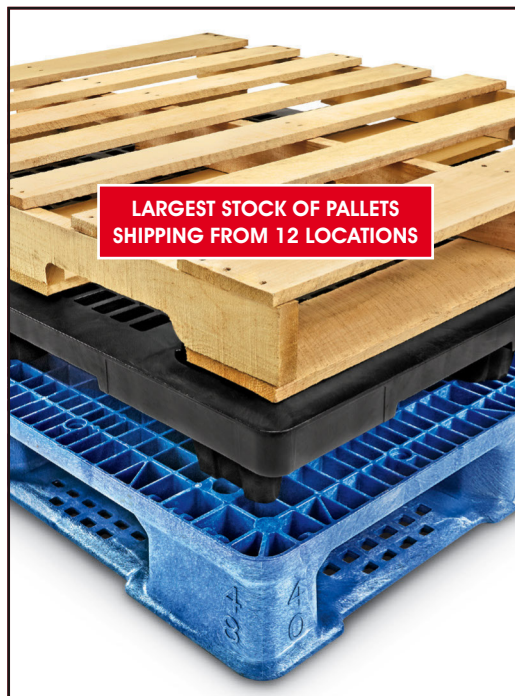
operating common carrier and freight forwarder license, as well as its fleet of marine and over-the-road assets.

> Event logistics specialists **Rock-it Cargo** and **Sela Sport** teamed up to expand logistics services to the sports and entertainment market. Under the partnership, Rock-it acts as Sela's global freight forwarding and logistics provider in all countries outside of Saudi Arabia, with Sela acting as the logistics provider to Rock-it within Saudi Arabia.

> **TechTrans**, which provides transportation, logistics, and tracking for manufacturers of specialized high-value equipment, is consolidating its corporate offices and

warehouse in the Dallas-Fort Worth area into a single, larger location. The new warehouse space totals 25,000 square feet—an increase of 10,000 square feet from the company's current facility. The warehouse area features 24 feet of clear height to provide space for future growth.

> **RJW Logistics Group**, a provider of retail logistics solutions for consumer packaged goods companies, expanded its centralized warehouse operations with a seventh warehouse in the greater Chicagoland area. Its Lockport, Illinois, warehouse will receive an estimated 550,000 pallets and ship more than 66 million cases annually, while creating 200-250 new warehouse jobs.



## ULINE

SHIPPING SUPPLY SPECIALISTS

OVER 7,400  
MATERIAL HANDLING  
PRODUCTS IN STOCK

ORDER BY 6 PM FOR  
SAME DAY SHIPPING

COMPLETE CATALOG  
1-800-295-5510  
uline.com

# CALENDAR

## Logistics Events 2021

Connect with industry peers, join thought-provoking discussions, and discover the future of supply chain.



**JAN  
25-27,  
2022**

**LAS VEGAS, NV**

### Manifest 2022

[manifest2022.com](https://manifest2022.com)

Discover the future of logistics technology and hear from more than 200 thought leaders and pioneers. Explore thought-provoking topics and networking opportunities to stay ahead of the IT curve.

**JULY 12-13, 2021  
LAKE GENEVA, WI**

### MARS

#### Summer Meeting

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

The Midwest Association of Rail Shippers provides an open forum for resolving transportation issues, coupled with educational programs focused on railroad operating practices, new innovations in transportation, and legislative matters. Attendees can participate in networking tables and have the option to attend in-person or virtually.

**JULY 13-16, 2021  
SAN DIEGO, CA**

### IWLA Essentials of Warehousing

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

Get broad-based education on warehouse safety, law, sales, leadership, customer service, and more at the International Warehouse Logistics Association's conference. The association is supplementing its robust online learning options with these interactive, in-person sessions, covering key topics such as business development, cybersecurity, risk mitigation, technology, staffing practices, fulfillment, and more.

**JULY 16-17, 2021  
WAYNE, IN**

### Expedite Expo

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

Learn about the latest expedited trucking industry news, equipment, career opportunities, and products

geared toward owner-operators and drivers of medium-duty and heavy-duty trucks. Attend workshops with advice on how to spec a truck, choose the right carrier, reduce costs, improve profits, and save time. There's something for every type of industry professional, from beginners to managers and chief executive officers.

**AUG 17-20, 2021  
ORLANDO, FL**

### Link: The Retail Supply Chain Conference

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

Get together with top executives in the retail supply chain to network and learn about the latest in retail. This forum addresses challenges with retailer breakouts and roundtables, industry executive general sessions, executive insights, and a bustling expo experience, so you can take back fresh ideas and best practices to your company.

**SEPT 13-17, 2021  
LONDON, ENGLAND**

### London International Shipping Week

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

This global shipping and maritime event offers sessions and networking opportunities for leaders across all sectors. High-level government and shipping leaders explore how the shipping industry can balance recovery with mounting pressure and opportunities. The key drivers of trade, finance,

technology, and people are highlighted, backed by the principles of environment, social responsibility, and governance.

**SEPT 19-22, 2021  
ATLANTA, GA**

### CSCMP Edge

[bit.ly/CSCMP2021](https://bit.ly/CSCMP2021)

The Council of Supply Chain Management Professionals conference supports the supply chain management community by fostering relationships and building careers through education, professional development, and networking. Curate your own agenda with 22 dedicated tracks and more than 120 sessions spanning the end-to-end supply chain.

**SEPT 25-28, 2021  
LAS VEGAS, NV**

### Truckload 2021

[truckload2021.com](https://truckload2021.com)

Attend truckload-specific educational sessions with industry experts, insightful panel discussions, and engaging keynotes. Take advantage of dozens of unique networking opportunities with trucking's most engaged leaders as well as dedicated exhibit hours to learn about the latest products and technology for your fleet.

**SEPT 28-30, 2021  
LAS VEGAS, NV**

### RLA Conference and Expo

[rla.org/event/125](https://rla.org/event/125)

The Reverse Logistics Association presents industry thought leaders who

discuss how to navigate the demanding world of reverse logistics, especially during this unprecedented disruption. Take part in keynotes, content-driven panel discussions, and ample networking opportunities.

**OCT 3-6, 2021  
NASHVILLE, TN**

### TMSA Rise

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

At this Transportation Marketing & Sales Association conference, attendees share ideas and experiences focused on transportation, logistics, sales, and marketing. Regroup with industry experts on the recent business disruption, and gain meaningful insight from interactive roundtable discussions, an expo, and networking activities.

**OCT 26-28, 2021  
MIAMI, FL**

### Air Cargo Americas

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

Air Cargo Americas gathers executives from all sectors of the aviation and logistics sectors to exchange views and experiences to enhance the growth of the cargo industry. Topics include security, regional consolidation, manufacturer and shipper needs in high-growth cargo, trade facilitation, service quality, responding to market changes, and controlling costs while streamlining customer service.

*These in-person events were scheduled to proceed as of press time.*

# RESOURCECENTER

Use our Resource Center and let the information you need find you.

## 3PLs

**CJ Logistics America** pg. 7  
cjlogistics.com 714-994-1200

**Echo Global Logistics** Cover 4  
echo.com 800-354-7993

**Lynden** Cover 2  
lynden.com 888-596-3361

**Penske Logistics** pg. 13  
gopenske.com 844-868-0818

**Performance Team, A Maersk Company** pg. 27  
performanceteam.net 866-775-5120

**Syfan Logistics** pgs. 22-23  
syfanlogistics.com 855-287-8485

**Trinity Logistics** pg. 11  
trinitylogistics.com 866-603-5679

## AIR CARGO

**Alaska Air Cargo** pg. 5  
alaskaair.com 800-225-2752

## ASSOCIATIONS/EVENTS

**CSCMP Annual Conference** Cover 3  
cscmpedge.org 630-574-0985

**IANA** pg. 29  
intermodal.org 301-982-3400

## CAREER DEVELOPMENT/EDUCATION

**Clarkson University** pg. 63  
clarkson.edu 315-268-6400

**Lion Technology** pg. 66  
lion.com 888-546-6511

**University of Missouri-St. Louis** pg. 65  
umsl.edu 314-516-5000

**University of Texas, Dallas** pg. 63  
utdallas.edu 972-883-2111

## CHEMICAL LOGISTICS

**CLX Logistics** pg. 81  
CLXLogistics.com 800-288-4851

**KAG Logistics** pg. 79  
kaglogistics.com 877-203-3283

**The Logistix Company** pg. 71  
thelogistixco.com 401-560-0660

**Odyssey Logistics & Technology** pg. 73  
odysseylogistics.com 855-412-0199

**Rinchem** pg. 75  
rinchem.com 888-3PL-CHEM

**WSI** pg. 77  
wsinc.com 920-831-3700

## EQUIPMENT

**KWIPPED** pg. 25  
kwipped.com 800-273-8404

## INTERMODAL

**Alliance Shippers** pg. 21  
alliance.com 800-222-0451

**Hub Group** pg. 24  
hubgroup.com 800-377-5833

## LOGISTICS IT

**Controlant** pg. 17  
controlant.com 855-44-CONTROL

## PACKAGING

**ULINE** pg. 93  
uline.com 800-295-5510

## TRUCKING

**Old Dominion Freight Line** pg. 3  
odfl.com 800-432-6335

## INDEX

Alaska Air Cargo	5
Alliance Shippers	21
CJ Logistics America	7
Clarkson University	63
CLX Logistics	81
Controlant	17
CSCMP Annual Conference	Cover 3
Echo Global Logistics	Cover 4
Hub Group	24
IANA	29
KAG Logistics	79
KWIPPED	25
Lion Technology	66
Logistix Company, The	71
Lynden	Cover 2
Odyssey Logistics & Technology	73
Old Dominion Freight Line	3
Penske Logistics	13
Performance Team, A Maersk Company	27
Rinchem	75
Syfan Logistics	22-23
Trinity Logistics	11
ULINE	93
University of Missouri-St. Louis	65
University of Texas, Dallas	63
WSI	77

### FOR A SPECIFIC RESPONSE

Contact these advertisers directly.  
Please tell them you saw their ad  
in *Inbound Logistics*.

### FOR FASTER SERVICE

Request information  
via our online RFI/RFP:  
[inboundlogistics.com/rfp](http://inboundlogistics.com/rfp)

# BBQ Supply Chain SIZZLES

**With consumers fired up to grill, manufacturers and retailers turn up a range of strategies to smoke the competition.**

Sales of grills and smokers in the United States soared 41% to

**\$3.2 B**

for the 12 months ending in March 2021, according to data from NPD Group.

## Heating Up in 2021

Grill makers, caught by buying surges in the latter half of 2020, are turning on the afterburners this year to catch up to demand.

- Newell Brands, the maker of Coleman grills, got current partners to provide additional capacity for its grills and will add new suppliers to meet higher demand.
- Weber-Stephen Products made a record number of Weber grills at its U.S. plant in March 2021—the biggest production month in the company's history—by having the factory run 24 hours a day.
- Char-Broil moved up its shipment schedule for 2021, shipping to retailers as early as fall 2020.

• In April, Clorox Co., the owner of the Kingsford charcoal brand, reported a record-setting quarter of shipments for grilling products such as charcoal, pellets, and lighter fluid. The company has seen steadily increasing sales in the grilling category since the pandemic started.

## More Surf Than Turf

The top-growing barbecue-related categories for the 12 months ending April 2021 were main courses: seafood by 29%, chicken by 18%, and vegetables and imitation meats by 17%, according to NCSolutions.

## Where's the Beef?

In June 2021, Walmart's Angus beef supply chain cooked up its first product: McClaren Farms brand. Working with U.S. cattle producers and processors starting in 2019, the retailer built an end-to-end supply chain for Angus beef, with the goal of being traceable and transparent. Walmart opened a case-ready beef facility in Thomasville, Georgia, in

January 2020, which serves as a distribution hub for some Angus beef cuts, such as steaks and roasts, to 500 Walmart stores in the Southeast, including Georgia, Alabama, and Florida.

## Here's the Rub

2021 is not a surefire banner year for grill sales, however. Some dampers:

- The resurgence of restaurant dining
- Rising commodity prices, particularly steel and aluminum
- Port congestion and container shortages

**81%**

How much sourcing for barbecue grills shot up in May 2021, year over year, on the Thomasnet.com platform.



SUPPLY CHAIN  
CONFERENCE & EXHIBITION  
SEPTEMBER 19-22 | ATLANTA, GEORGIA

# See you in Atlanta!

Visit [cscmpedge.org](https://cscmpedge.org) for registration details.



Networking



Community



Education



Council of Supply Chain  
Management Professionals

*Educating and Connecting the World's Supply Chain Professionals.™*

Connect With Us



# VOTE FOR ECHO

## AND THE LOGISTICS LEAGUE SUPERHEROES

AS YOUR #1 TOP 3PL FIVE YEARS IN A ROW



**Logistics is complicated. Who to vote for is simple.**

Last year you voted us #1 for the fourth year in a row because every day our logistics experts use their passion and industry experience to solve problems and simplify your transportation management. Armed with our extensive network and advanced technology, including EchoShip™ and EchoDrive®, our team members work hard to be your superheroes. Vote today for your Uncomplicators.

**[WWW.ECHO.COM/VOTE](http://WWW.ECHO.COM/VOTE)**

**ECHO))**  
Transportation Simplified™



Managed Transportation • LTL • Truckload • Partial Truckload  
Intermodal • Expedited • International Air & Ocean

**ECHO.COM 800.354.7993**

© 2021 Echo Global Logistics. All rights reserved.

