

A photograph of a port with stacked shipping containers and a crane. The crane is white with cables and has the text "SAVANNAH, GA. U.S.A no 31" on its side. The containers are stacked in several rows, with colors including white, red, blue, and yellow. The sky is blue with some clouds.

E L I O N

# HOW TO FIX TODAY'S SUPPLY CHAIN DISRUPTIONS

The pandemic and e-commerce exposed vulnerabilities in the supply chain.

**Here are ways to improve it.**

DECEMBER 2021



If 2020 marked the year Covid-19 shut down the world, then 2021 could be defined by the global supply chain slowdown, which resulted in shipment delays and rising prices among a wide range of goods.

While it would be easy to just blame the pandemic for the supply chain industry's problems, the truth is the virus' impact only exposed and exacerbated longtime vulnerabilities. Before the pandemic, in 2018, the U.S. ranked only 14th out of 160 countries for supply chain efficiency, according to the World Bank.

Then, stay-at-home orders and lockdowns accelerated online shopping, with the Census Bureau reporting a 32% increase in the e-commerce share of total retail dollars in 2020.

This year also saw a global shortage of computer chips that paralyzed the auto industry, trains backed up for 25 miles around a major Chicago rail transportation hub, two- to three-week waits for container ships to unload their goods at the Port of Los Angeles, and recently, more than a threefold increase in the cost of shipping on major east/west trading routes.

14<sup>th</sup>

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3X

The increase in the cost of shipping on major east/west trading routes.

## 4 INEFFICIENCIES IN TODAY'S GLOBAL SUPPLY CHAIN

As we approach two years since the onset of the pandemic, supply chains continue to malfunction as a result of crowding, congestion, costs and warehouse capacity.

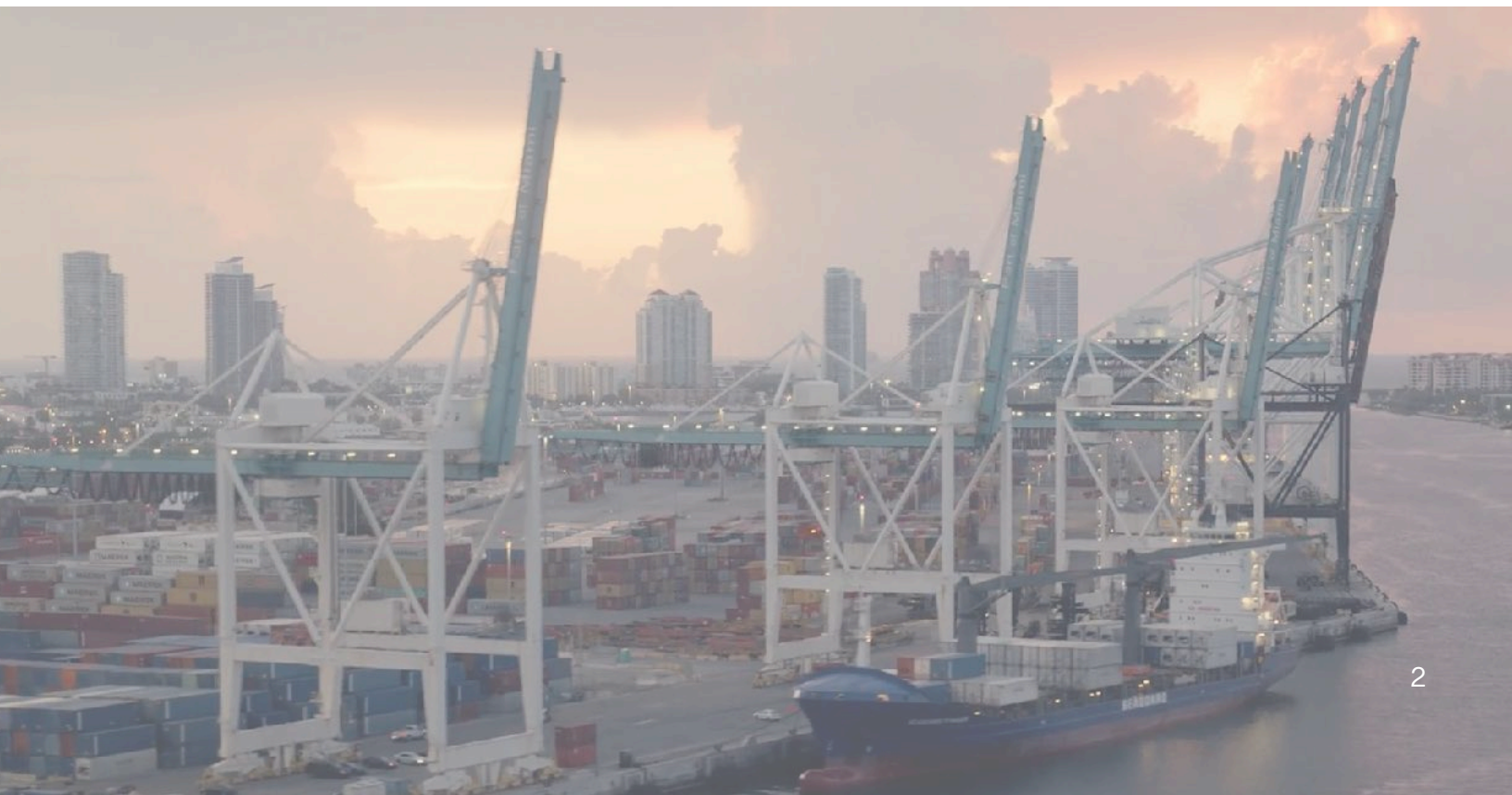
Here's a closer look at several main reasons for the supply chain inefficiencies.

# 1

## CROWDED PORTS CREATE DELAYS

Supply chains remain clogged, especially in Asia, where two of the region's largest ports, Hong Kong and Shenzhen, are reporting record backlogs. That has slowed East to West shipping traffic.

It currently takes 73 days, or 83% longer than pre-pandemic times, for goods to travel from Asia to their final destinations in the U.S. Delays and closures at Asian ports, combined with the disruption in air cargo travel, have resulted in over-accumulation in the system.



# 2

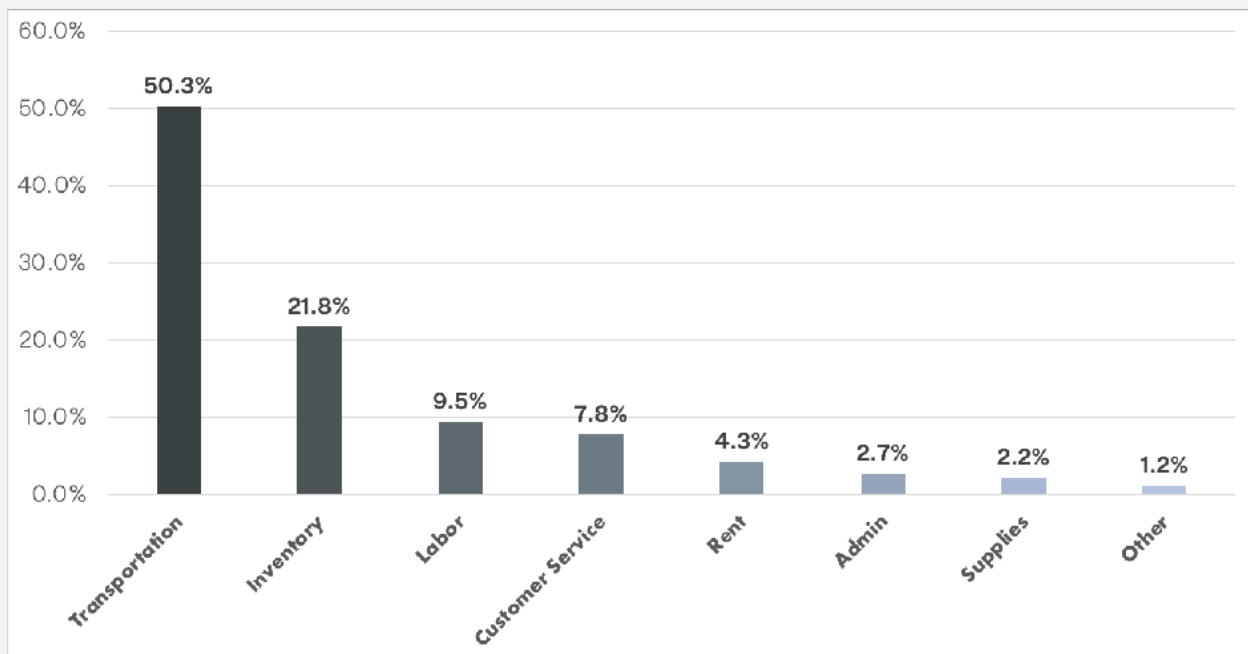
## CONGESTED ROADS AND POOR “LAST-MILE” INFRASTRUCTURE MAKE FOR SLOW LOCAL DELIVERY

With e-commerce on the rise, more trucking solutions are desperately needed and pushing prices upward. Unfortunately, this last leg of the supply chain is often the least efficient, comprising up to 41% of the total cost to move goods, with costs rising by almost 50% year-on-year through November 2021.

Trucking companies are also competing aggressively for drivers, pushing up wages, while warehousing costs are also increasing. Meanwhile, an aging infrastructure system of highways, bridges and local roads struggles to carry increasing traffic.

### Middle- and Last-Mile Logistics Cost Breakdown

*Logistics costs typically account for 80% of operating costs,  
while real estate accounting for less than 5%.*



Source: Exchange, Inc. Logistics Cost & Service Report



# 3

## RISING SHIPPING COSTS

Overseas shipping costs have increased by three to four times over the last two years, while air shipping costs have risen even faster, by four to five times per kilo. Manufacturers and retailers then try to pass these costs along to consumers.

## GROWING PRESSURES ON WAREHOUSE CAPACITY

# 4

Warehousing space is largely commoditized, though costs vary by location, class, height restrictions and parking availability. Supply is inelastic, especially in crowded coastal markets. Consequently, demand is expected to continue to exceed supply, driving rates upward.

Warehouse storage costs represent a small 5% to 6% slice of the total cost of delivery. Freight accounts for approximately 50% of logistics operating costs, making proximity to the consumer crucial for distributors and putting a premium on local warehouse space.

As rates rise, it becomes especially challenging for newcomers to the sector to value specific properties correctly. Players who already own warehouse properties and are actively involved in renting the space have an advantage, as do investors who are well versed in current market conditions.



# HOW TO FIX THE GLOBAL SUPPLY CHAIN

Snarls in the supply chain will likely continue until several fundamental issues can be addressed, including infrastructure upgrades, delivery and technology innovations, and onshoring.

Here's what is needed in these areas to make a difference to the global supply chain.

## • INFRASTRUCTURE UPGRADES

Much of the U.S. is in dire need of investments in its road systems. Decades of deferred maintenance have left major arteries and roads barely able to cope with current usage. State, local and federal governments can commit to bringing this vital last mile of infrastructure into the 21st century to manage increasing vehicle flow and, further, the widespread adoption of autonomous vehicles.

## • INNOVATIONS IN DELIVERY

Innovative alternatives to current ground-based delivery capacity, including sky-based delivery, tunnels, and two-story arteries dedicated to commercial freight and built above or below consumer traffic lanes, could also help improve current supply chain issues. Of course, such solutions will take time to build and require substantial capital.

## • ONSHORING

Suppliers can also accelerate delivery times by moving production of raw or semi-finished goods onshore, which can help ensure more reliable, local availability of goods even if global supply lines falter.

Factories can't be built overnight, but longer-term, increased investment in local production could help alleviate delays, cost increases and volatility due to the overreliance on global shipping.

Unfortunately, this is a tougher nut to crack as local production often relies on imported materials. A shortage of overseas supplies can halt even onshore manufacturing.

## • INNOVATIONS IN TECHNOLOGY

Technology can play a key role in giving suppliers, retailers and other industry players a granular, real-time view of commodity movement worldwide.

For example, in Rotterdam, the largest port in Europe, a data-sharing platform called [PortXchange](#) provides real-time information on shipping traffic, including satellite tracking of individual vessels and estimated arrival time predictions as much as three weeks in advance.

The tool was designed to allow freight companies to optimize shipping traffic while reducing carbon impact. In addition, freight brokers and trucking companies are pioneering [Uber-like transportation](#) applications to ease port congestion.

Other innovators are developing [blockchain technology](#), [artificial intelligence](#), and [internet-of-things](#) capabilities to provide better tracking and monitoring of the global supply chain.

## • SMART STRUCTURES THAT PUT EFFICIENCY FIRST

Solving the warehousing problem isn't a matter of simply constructing new facilities. Often the process is rushed, and facilities are terribly designed and fungible.

Builders may pay little attention to how design speeds up or impedes the flow of goods, which can exacerbate the problem by creating logjams and adding costs.

Building efficient new logistics spaces requires aligned relationships and deep knowledge of tenant behaviors. Success depends on a nuanced grasp of how space is used and how it fits into a broader supply chain.



# THE SUPPLY CHAIN CAN ADAPT TO A CHANGING WORLD

The pressure on the global system is driven by demand for basic and necessary consumer and business goods.



Without drastic innovation or a significant reduction in the need for such goods, supply chains will continue to be stressed.

The global supply chain is always evolving, whether because of once-in-a-lifetime events, like Covid-19, or gradual trends, like the growth of e-commerce or the increasing dominance of Asia in tech-driven sectors of the economy.

By understanding these trends — and taking steps to mitigate their impact — we can ensure healthy and consistent trade flows even in challenging conditions.

An aerial photograph of an industrial park. The image shows several large, rectangular warehouse-style buildings with flat roofs, interspersed with parking lots filled with cars. The overall tone is dark and monochromatic. The word "ELION" is superimposed in the center in a white, serif font.

ELION