

## Fifty Years of Transportation Technology The strongest link in the supply chain



The movement of freight hasn't changed very much over time. From the horse drawn wagons of yesteryear to the drone powered deliveries of tomorrow, supply chain is all about moving goods from point A to point B, as efficiently, safely, and economically as possible.

Supply chain has grown exponentially over the past 50 years. No matter what metric you look at, total tonnage, miles traveled, skus in inventory, the bottom line is that a global economy has experienced hyper growth. The behindthe-scenes technology that facilitates and powers supply chains has evolved in its sophistication to make the complex science of moving goods faster, safer, more cost effective, and more reliable.



One company that has pioneered innovative technology and the development of highly advanced transportation management systems and software is Carrier Logistics Inc. (CLI). The story of one of the industry's oldest and longest-lasting providers of

freight transportation management solutions is a window into the evolution of trucking software. Here are three examples of the then and now:

• In the 1970's, when Carrier Logistics was founded, to place an order for transportation a shipper, such as a manufacturer, would pick up the phone and call a carrier, fill out paperwork by hand, and then wait. Because there was no visibility into the status or lifecycle of the shipment, there was no choice but to wait until the goods arrived. Today, the vast majority of freight is booked electronically and automatically, and webservices which provide proactive shipment visibility are the norm. Fortunately, due to online computers, transportation companies can react in real time to any potential disruptions and recover quickly to keep freight moving.

• In the 1970's, truck routing was entirely a manual operation. The most advanced operators had engineers who produced published, static routing guides which served as "atlases," allowing a service location to be found in the guide and then freight would be directed to a preassigned route. Today, truck routes are calculated in real time using sophisticated optimization models which factor in predicted traffic, weather forecasts, and vehicle capacities, resulting in saving time and reducing fuel



 In the 1970's, freight facilities were driven by onerous paperwork, clipboards were everywhere, and pencils were as important as safety vests. Today, every operation is computerized, freight can be rerouted on the fly, and autonomous and drone forklifts improve warehouse throughput while also reducing injuries.

As the supply chain has become increasingly global, computer systems have been developed to optimize and manage the ever more complex process of logistics. Early systems allowed for data to be uploaded, reducing keystroke entry, and calculating freight charges. Today's systems optimize the routing of each shipment, provide real-time visibility within seconds, improve safety, and facilitate error free handling.

The power of these systems is opening up new opportunities for the use of advanced analytics that help solve immediate tactical problems and address long term issues. Sophisticated algorithms that optimize operations, and Al-enabled solutions that lead

to higher degrees of automation and connectivity are increasingly used to streamline logistics. Th work of companies like CLI, is what make these systems possible.

In the era of COVID, the general public became much more aware of the importance of the supply chain. The early days of lockdowns gave many a new appreciation that just about everything they eat, or enjoy is transported, in some way, by truck. The technology used to make this happen has made yesterday's science fiction today's reality. While the front-line heroes of the COVID era were the essential personnel, without the behind-the-scenes technology, service disruptions would have been much worse.

"Throughout our lives, we rely on a multitude of goods and services to prosper as individuals and as a nation. No industry is more central to that story than trucking."

## **Chris Spear**

President and CEO, American Trucking Associations

As for tomorrow, there is no doubt that autonomous vehicles will change the way the industry operates. Who knows what else the future holds – there will be developments we can't even imagine. But through it all, Carrier Logistics will be leading the way with technology innovations that power the supply chain well into the future.



