Digitization of the Freight Industry

WE BOOK MOVE CLEAR STORE FIX TRACK IT.

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IMCG Intermodal Cartage Company · AIS Atlantic Intermodal Services · GIS Gulf Intermodal Services · NDS National Drayage Services · DNJ DNJ Intermodal Services · OIS Ohio Intermodal Services · H&M H&M Intermodal Services · PTS Progressive Transportation Services · IGS IMC Global Solutions

IMC Companies Differentiators

- 9 companies united in their efforts to provide exceptional intermodal service for international shipments
- Largest container drayage company in the country. We also provide expedited services, chassis provisioning, secured container storage and supply chain solutions.
- A team of 2,300 employees with over 1,900 drivers.
- More than 11,000 containers and chassis in our container depots
- Founded in 1982, focused on international supply chain for over 36 years.
- Our Technology investments help us share value information with our customers.
- Culture of Safety
- A unique resource designed to meet your specific intermodal transportation needs

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Our National Footprint

IMC — IMC Companies

AIS — Atlantic Intermodal Services
Atlantic coast trucking. Service available in **Atlanta**, **Charleston**, **Charlotte**, **Greensboro**, **Jacksonville**, **Norfolk** and **Savannah**

DNJ — DNJ Intermodal Services
Great Lakes trucking and transloading. Service available in **Chicago**, **Eau Claire**, **Indianapolis**, **Kansas City**, **Minneapolis** and **St. Louis**

GIS — Gulf Intermodal Services
Gulf trucking and warehousing. Service available in **Gulfport**, **Houston**, **Laredo**, **Mobile**, **New Orleans** and **San Antonio**

H&M — H&M Intermodal Services
Northeast trucking and container depots. Service available in **Kearny** and **Philadelphia**

IMCG — Intermodal Cartage Company
Inland trucking, full service depots and warehousing. Service available in **Alliance**, **Birmingham**, **Dallas**, **Huntsville**, **Memphis** and **Nashville**

NDS — National Drayage Services
Agent based trucking company. Service available in **Atlanta**, **Baltimore**, **Charleston**, **Charlotte**, **Dallas**, **Detroit**, **Houston**, **Jacksonville**, **New Orleans**, **Norfolk**, **Philadelphia**, **Savannah**, **Tampa** and **Wilmington**

OIS — Ohio Intermodal Services
Ohio Valley trucking. Service available in **Cincinnati**, **Cleveland** and **Columbus**

PTS — Progressive Transportation Services
California trucking, transloading and warehousing. Service available in **Los Angeles**, **Oakland** and **Stockton**

IGS — IMC Global Solutions
Single source logistics solutions.

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Three Main Elements For Moving Freight Around the World

The first element is the physical infrastructure
The 2nd element is the people in the industry
The 3rd element is the technology which is changing very rapidly

Over the past 500 years the physical infrastructure has evolved from this

To cargo ships that can carry as many as 20,000 TEUs.

And from draymen that used horse drawn wagons.

To motorized vehicles. But we had to improve the infrastructure to take full advantage of the automation. Which led us to……

To a complex interstate road infrastructure built to facilitate the flow of goods across the country

Our Transportation Infrastructure has greatly improved over the years.

The Physical Infrastructure and efficiency of Transportation
    Buildings
    Hubs
    Aircraft
    Trucks ------
Have all greatly improved over the years.
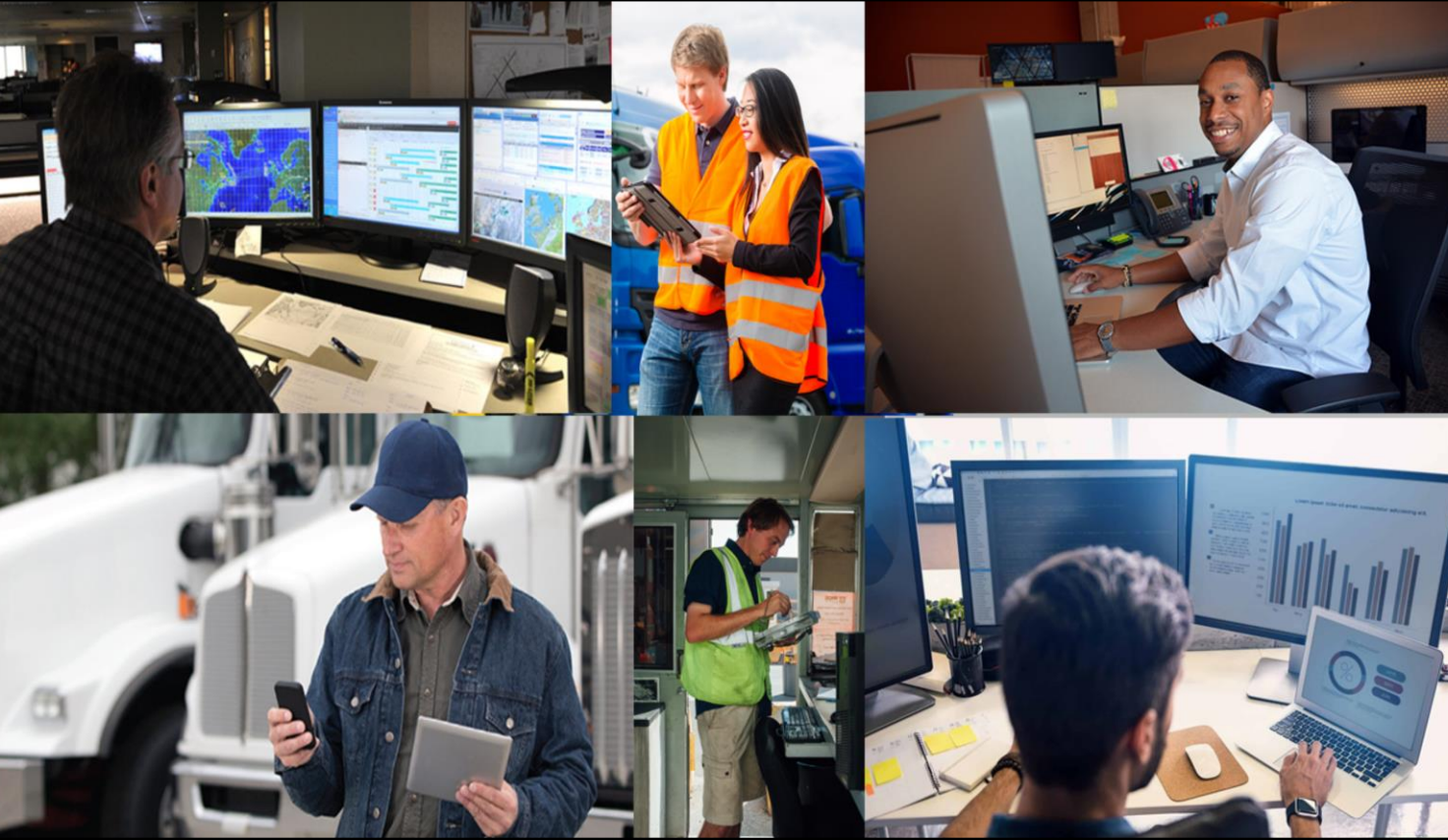
The sophistication of the people in the industry has also greatly improved

Increased Combination of Skills of People in the Industry

People who have a combination of Data Analysis, Quantitative Analysis & Logistics Business Skills

Graduating from programs such as this one at the U of M and many other logistics programs across the country, these are people who have a combination of skills data analysts, quantitative analysts, and business people all wrapped up into one. So the sophistication and capabilities of the people in the industry, the workflows in the industry, and the technology in the industry are really driving things forward.

So let's talk about the technology. 500 years ago this was navigation technology.

Now we have computerized navigation is a commodity not only in all ships but most vehicles too.
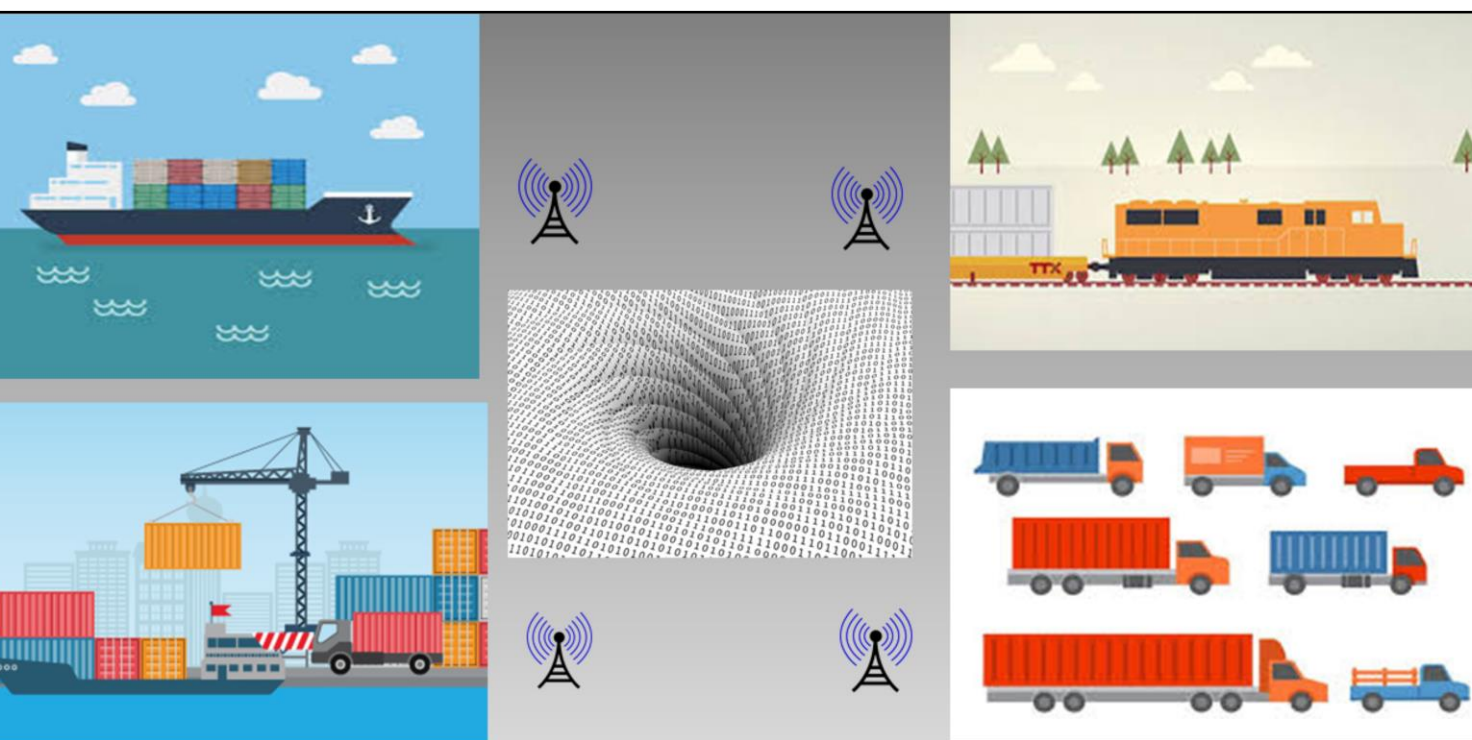
WHAT'S THE BIG DEAL?

Collecting Data In Logistics Is Not New

So what has changed and what is pushing the freight industry to digitize?

The simple answer is Data. There is a lot of it available now. Mostly driven by IOT and the growing capability of logistics providers to exchange data.

Dramatic Improvements In Available Data Over The Last 10 Yrs

Where the assets are Container, size, Truck, partial truck, full truck, Hours of service (HOS) driver has available.

Vessel, port, rail data, Availability for pickup,

Being able to see all of that in real time and get access to the data at effective costs has all changed dramatically

Now recently there has been a new mandate around electronic logging devices or ELD in the industry which initially was implemented to manage hours of service but also provides a platform in every truck that can collect a lot of other information. At the moment there is a lack of standards around some of those platforms and over time there will be some standardization there which will in some regards commoditize the basic data but it should create an overall increase in efficiency in the industry.

While the advancements of the technology, along with the proliferation of the data are good, it also becomes your biggest challenge to make sure that the data that you have is the data that you want and to sift through the information that is really important and bubble it up to the top.
We are generating so much data everyday it is easy to get de-focused and derailed from the mission at hand.
So lets go over some of the technology used to make sense of the data.

Big Data and Predictive Analytics
How Can We Use Predictive Analytics To:
> Keep a Shipment From Being Late
> Prevent a Manufacturing Line From Going Down
> Help a Retailer Meet Their Contractual Obligations By Having Good Delivered to DC In Time For Distribution to Retail Outlets.
> Divert Products or Shipments from Other Locations to Get it there on time
> Easy to Provide the Fancy Visibility on a Screen. It is More Difficult to be Able to Take an Action Based on What that Analytics is Driving.

The Key Is: Understand the data and provide an analytical environment to not only be able to see it, but to act on it.

Other Typical Use Cases
- Avoiding Traffic Delays
- Avoiding Congested Locations During Certain Days or Time Periods
- Alerting Customer When Driver Is Going To Be Late
- Matching Equipment based on customer needs
- Identifying a Continuous Set of loads/moves to maximize revenue miles
- Identifying and Assigning Loads to route the driver home after a period of time
- Identifying Loads/Moves that fit within the drivers available Hours of Service (HOS)
- Routing Freight to carriers based on what works best in their network to maximize their revenue
- Must be based on your ability to analyze data and make decisions based on it as early as possible

But at the end of the day we can't automate just to automate. There has to be an associated cost reduction.

Automate routine, mundane, non-value added work
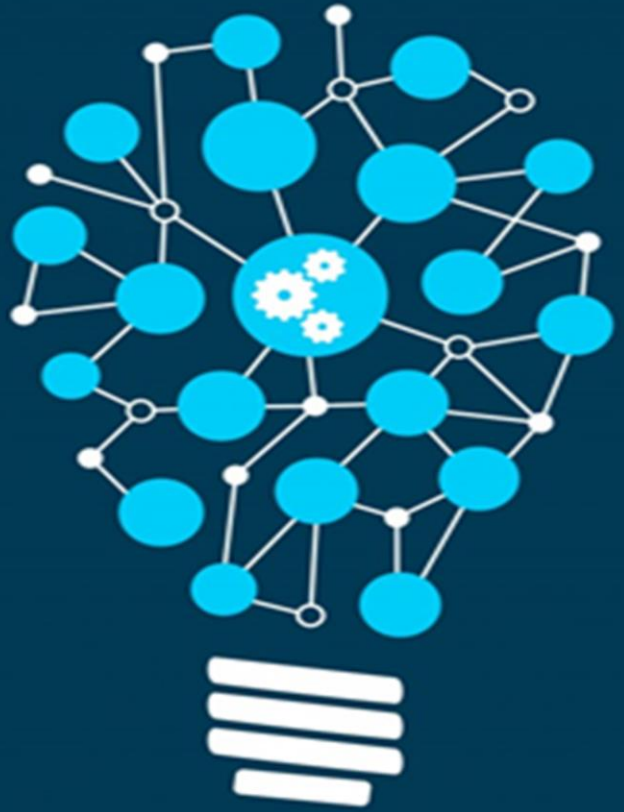- Allows work 24x7 cycle
- Lower skill work
- So work is done more accurately
- to free up resources to work on real problems

Allowing our employees to work on the things that we need their brain and their capability is going to be the key to your success.

Where It's Going Next
      Reduce Fraud & Account Fraud
      Protecting Customers
      Protecting Revenues
      Ensuring Accuracy of Invoices Received
      Verifying the Accuracy of Data
      Is The Data Coming From Who I Expected
      Ensuring The Security of Clients Goods

AI is not as common but is growing in use in the logistics industry
Typical Use Cases
- Chat Bots and Voice Bots
- Enhanced quality as information is interpreted and delivered more accurately to the customer and in real time
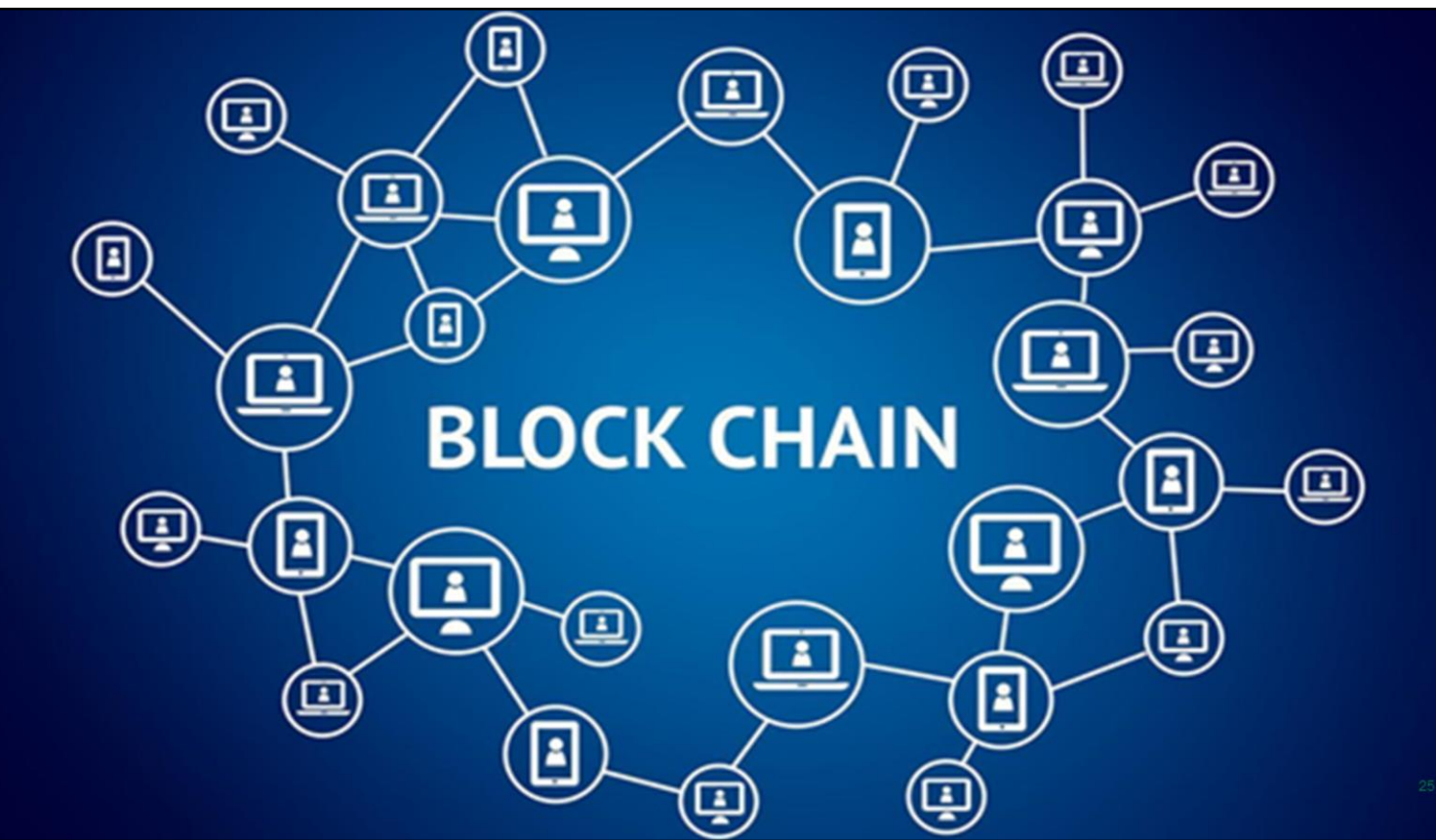- Gives more Information to the customer
- Increase visibility
- Increase the ability to scale and grow your business
- Which increase the productivity of employees, dispatchers and drivers.
- Cuts the learning curve of new employees, dispatchers and drivers.

While Blockchain is meant to be a secure and trustworthy platform for sharing data, it also has the potential to provide you access to even more data that you did not have visibility to before by subscribing to certain supply chain events that your organization is evolved or privileged to view.

This self-driving truck just drove from California to Florida

Embark: LA to Jacksonville - 2,400 miles on Feb 6, 2018

In the U.S. one of the challenges around autonomous vehicles is the overall infrastructure particularly like on the east coast it is very difficult to see that implementation happening anytime soon. My opinion is that you'll see these consolidation centers start to develop outside of major cities where you'll have an autonomous vehicle move from outside of one city to 30 miles outside of another city and you'll have a human driver take the shipment the rest of the way in. We have seen demonstrations of this technology. It's being used in small ways right now.

I think we are a long way from it being found across the board, but we see that it going to be driven a lot by the fact that there is such a shortage of drivers. A lack of people heading into that field of work. So it is going to force the issue a little.

In Europe they seem to be a little more progressive in moving forward with the autonomous trucking paradigm. Because there is a lot better infrastructure in certain countries that are allowing for it.

I believe it will be 20 to 25 years before we will drive down an interstate and see 10% or more trucks that are autonomous.

> This is conservative not because of the technology from the truck perspective. It's the infrastructure that has to catch up. The infrastructure has to be brought to a appropriate level to support it. Very similar to my earlier slide with the truck on a muddy road.
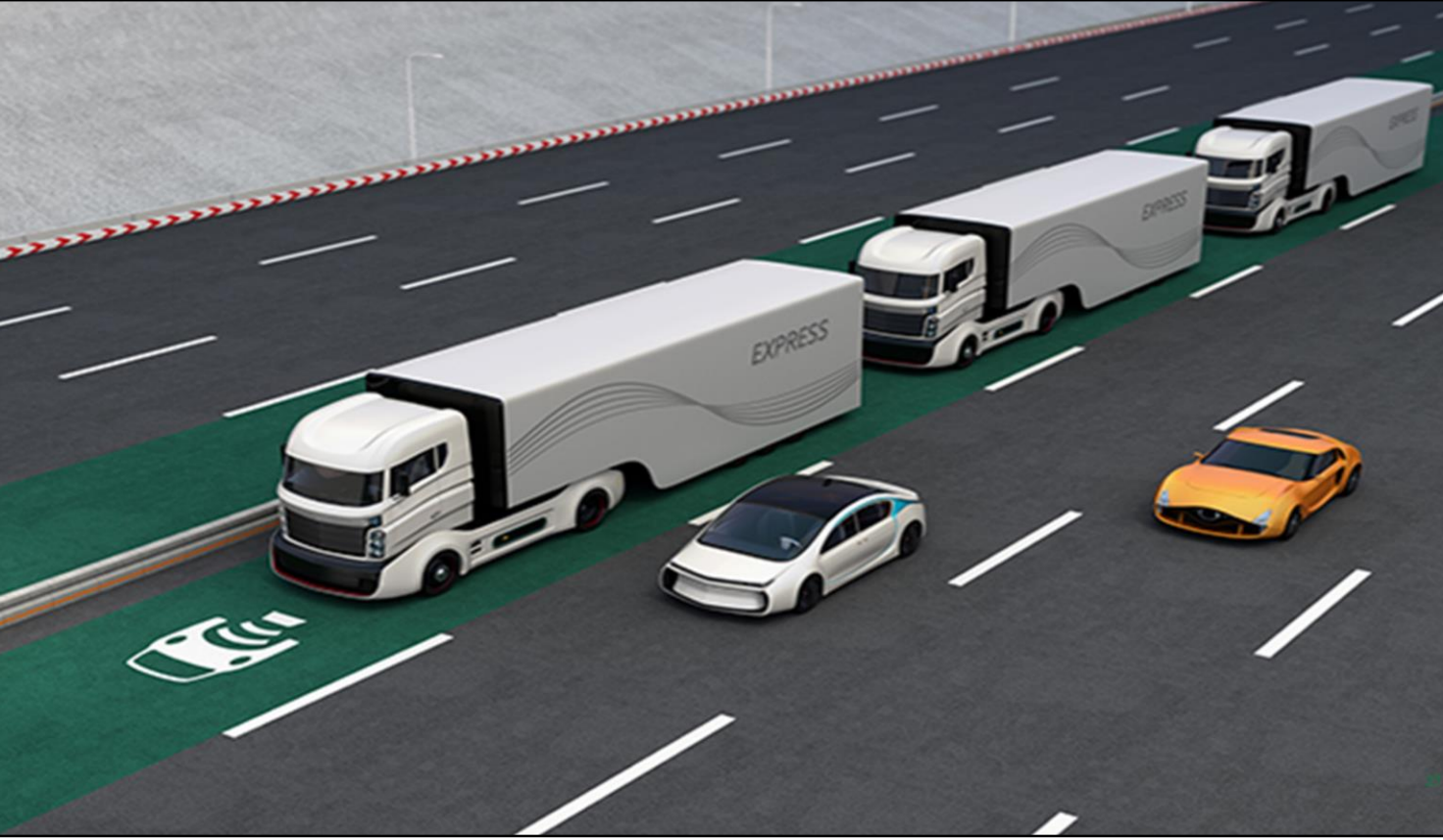
But that is a lot of technology resulting from the autonomous vehicle efforts that is taking us step by step towards the driverless truck.

Like platooning where you have a train of trucks traveling at a high rate of speed often at odd hours of the day moving good pretty quickly into the outskirts of urban environments. Where then the urban infrastructure is used to perform the file mile logistics.

Freight logistics is still a fragmented business from a surface perspective
　　　Thousands of smaller motor carriers with 20 or less trucks
　　　They rely on 3rd party logistics providers to get them access to freight
Average age of a driver in the U.S. is 50+ years old
　　　This is contributing to the fragmentation challenge
　　　This is also probably the main contributor to the work on autonomous trucking

Uber Freight primarily deals with very small trucking firms,

Mostly with single truck operations

Only one side of the logistics challenge is finding capacity and getting access to the capacity

The other side of the logistics is dealing with all of the challenges that happen
Providing Value Added Services Using Your Data
> Working with your customer to automate appointment settings.
> Just in time supply chain logistics - Making sure the material goods are arriving when they needs to arrive.
> Helping organizations with their inventory turn so that actually the logistics part of the equation becomes a strategic imperative and a driver of operative advantage in the company

Uber Freight is not addressing all of these things
> They are simply trying to match drivers/truckers with some freight that they may have.
> The simple movements of goods from point A to point B is no longer just moving the goods, you also need to have a lot of technology involved that to make sure that that shipment is facilitating whatever other strategic imperatives are associate with the goods that is being moved.

So by utilizing your data and empowering your employees to use that data you can provide value added services to your customers and separate your organization from the pack.

In closing the Freight industry is rapidly changing. This due to the convergence of available data, advanced analytical tools, and a growing work force with a combination of data analytic skills to build work flows, tech savvy logistics companies are driving the logistics industry forward by acting on data to provide value added services beyond the basic movement of goods.

But at the end of the day we can't automate just to automate. There has to be an associated cost reduction.