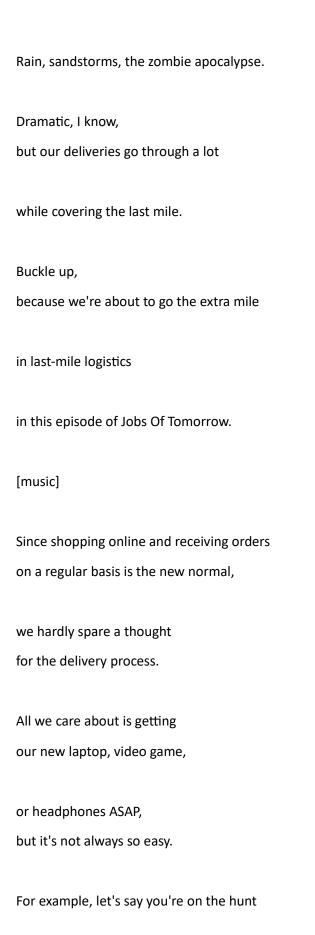
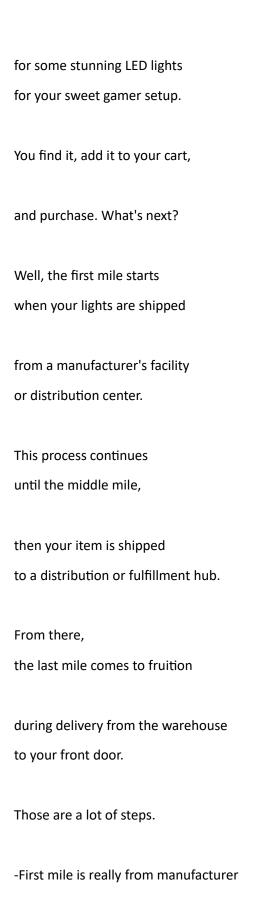
[music]
-The challenge there is not visibility.
The challenge is the cost of delivery.
Cost needs to be controlled.
-When you click the button on your computer,
it says I'm confirming the order.
That's when the clock starts rolling.
[music]
-Oh, love it.
Yes. Want it, need it.
Favorite.
Come back for you later.
We've all bought something online.
It's inevitable.

You got it.
How about a new gaming system?
On the way.
Maybe a four-story cat palace?
Yes.
res.
Oddly specific.
Also, yes but it's all achievable,
thanks to global supply chains.
However,
any order can be affected
by numerous obstacles along the chain.
Many of the most complicated
obstacles occurred
during the final stretch,
or what logistics pros called
the last mile.

Need new shoes?





all the way to the distribution center.

How do we optimize that cost and time and everything else associated with it?

From distribution centers to either stores or other distribution centers,

it's the middle mile piece.

The last mile piece, what you keep hearing about is

the last distribution center or the warehouse in the network,

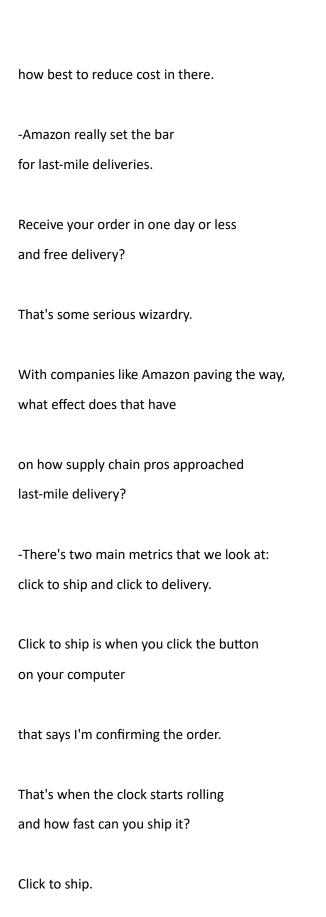
coming to your home, and in between that travel is

the last mile piece.

That is a very costly proposition for all retailers and manufacturers.

The reason why it gains more attention

is because we haven't necessarily figured out fully



Click to delivery is the same thing. You click the button to order the product online. Does it arrive on my doorstep? The only way that you can shorten that delivery time is to have more distribution centers closer to the population center. -That feels familiar. I suppose when I order pizza from the nearest pizza place, it gets to me faster, but how is this translating to non-edible packages? -Now what you're seeing is a more metro e-commerce centers to where before in Atlanta you would not expect

to see distribution centers within the perimeter of Atlanta. Today, that's the case because the orders go to those metro e-commerce centers, they actually get picked up and packed, go into a delivery van, and then literally within six hours of you clicking the button is now at your doorstep. You're starting to see a lot of those e-commerce centers pop up in the metro areas. -More distribution and e-commerce centers are popping up worldwide. That means more opportunities for lightning-fast deliveries. However, according to Kathy

from American Logistics Aid Network,

there are more serious issues that supply chains are tackling.

-ALAN or American Logistics Aid Network is a nonprofit organization

that really exists to connect supply chain resources

with the needs that occur after a disaster.

For example, organizations that are working

in disaster areas need to get supplies to help survivors.

They need to bring food and water and medical supplies and shelter

and all of those things

and everything that they need has to come from somewhere.

They have to have their own supply chain, they have to have their own logistics.

Well, ALAN is that link between the non-profit community and to the supply chain industry. -This isn't the first time we've seen supply chains come together in an Avenger-style team-up. Let me set the scene. A village hidden away in a deep African jungle, far removed from major hospitals in nearby cities.

That's where many medical supply chains deal with restraints.

From lack of infrastructure to limited resources and funding.

A small boat arrives.

There's a refreshingly familiar sight: a bottle of Coca-Cola.

This iconic brand has managed to penetrate even the most remote corners

of the continent,

thanks to a wide supply chain network.

Now, you may say, wow,

it's easier to get a Coke than medicine.

Maybe they should somehow

help get medical supplies there.

Cue Project Last Mile.

This innovative partnership between the Coca-Cola Company,

the Global Fund,

the Bill and Melinda Gates Foundation,

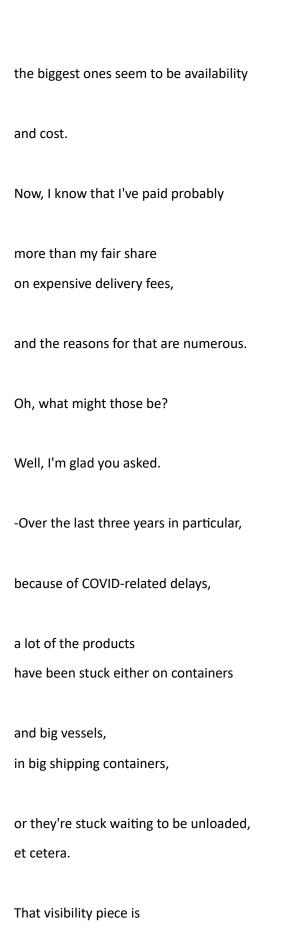
USAID, and PEPFAR is a game changer in the world of public health.

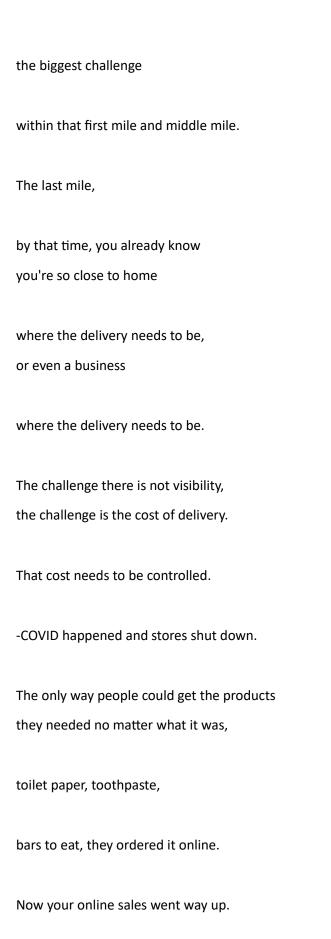
By transferring knowledge and expertise in supply chain management

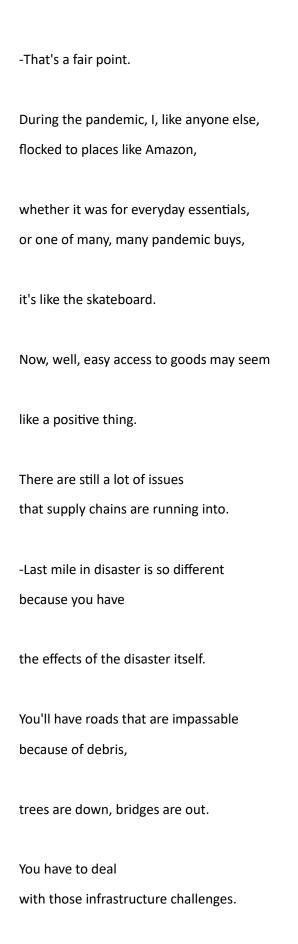
and strategic marketing to public health sectors in Africa,

Project Last Mile is bringing medicine and equipment to those in desperate need. -You'll have roads that are impassable because of debris, trees are down, bridges are out. You have to deal with just those infrastructure challenges. [music] -As you've seen, the last mile reaches farther than we imagined. There are people like Kathy Fulton making positive changes in the wake of disasters with the help of numerous supply chain networks. We've also seen challenges associated with e-commerce deliveries.

When it comes to the last mile,







Then you also have to think about, are the people who used to be in that location are they still there or have they moved somewhere else? Are they in a shelter now? Have they gone to stay with friends and family? Those evacuation components make that last-mile. Figuring out where the last-mile is now makes it even more challenging. I live in Central Florida. Last fall, we had Hurricane Ian that affected the southwestern part of the state. Because power was out, because of the winds and the water,

a lot of people lost the food

in their homes. They didn't have access to safe, reliable meals. ALAN was able to work with several different organizations to help support those families. -It would appear that teamwork really can make the dream work. With so many organizations lending a helping hand, there's no end to the promising possibilities. -ALAN is very fortunate with the network of organizations we work with. They span everything from the major industry associations that represent general supply chain, that represent equipment,

that represent transportation. That's where the problem-solving happens. Who is the right organization? Who's the right company? Who has the right equipment? Who's in the right geography, who has the right capabilities at any point in time? -In a lot of ways, the last mile seems a true underdog story. With all the costs, labor shortages, and even natural disasters standing in the way, it's impressive to see how supply chain professionals are facing those challenges. -Everybody wants their stuff as soon as they click the button

and that really is the Amazon effect. Amazon started that a few years ago with prime shipping. If you get Prime and you order it, then we'll guarantee it's going to be there within two days or less. Now that Amazon has done that, every other retailer out there is basically doing the same model. -There's a lot of challenges with transportation in terms of meeting service levels. Customers are very demanding when they're shipping different loads and they have certain delivery windows that need to be met. There's also availability.

Are you going to find capacity

on certain lanes? Then in terms of last-mile deliveries as well, if you're making last-mile deliveries, that cost service trade-off. You can get your goods to a customer next day, it will just cost you a lot. -Some of the delivery charges associated with orders typically cover things like operating the van or the cost of labor, but elements like the threat of roadwork, weather delays, or inaccessible delivery routes can impact the overall process. Sounds like a lot to handle, right? Imagine having to deliver packages to opposite ends of the city

during a snowstorm or a nasty rush hour traffic jam. -It's still a challenge. If you live in a residential neighborhood and someone's coming by and they only have one or two deliveries on your street, what is that price point, right? -Isaac Newton once said something along the lines of, for every reaction, there's an equal and opposite reaction. Well, in the case of the supply chain, with every challenge, comes the opportunity for a possible solution. -Any type of technology that you get, whether it be an AMR, a good-to-person system,

auto store type system,

it's really trying to automate the travel distance perspective where the person is not actually doing that travel distance. If you can imagine, if you reduce 75% of a person's travel time, then that increases their throughput. Solutions like a robot making a delivery have been tested, a drone making a delivery have been tested, but we haven't necessarily seen full scale deployment of that nature for a variety of reasons. Safety reasons, airspace related reasons. The true and tested method still continues

to be

a delivery van coming to your home or a business and making a delivery.

Much like parcel carriers like UPS, FedEx, and others have done for years.

-You may be thinking there's no saving grace in sight.

Thankfully, many professionals have some tricks up their sleeves.

-We have solutions which optimize throughout the entire journey of an order,

if you will.

If you as a consumer ordered something, wherever it's coming from,

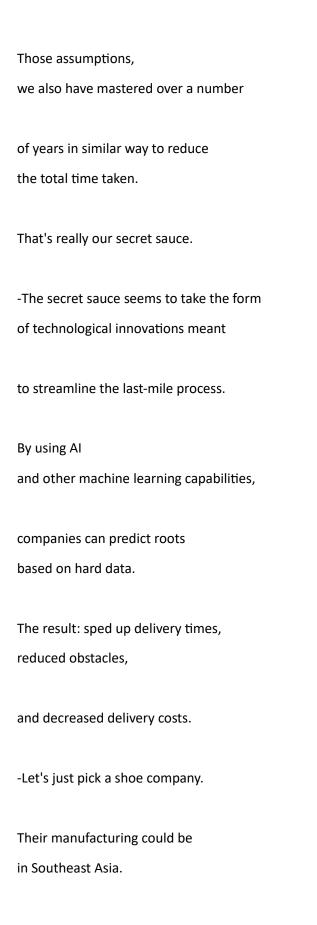
it has a first mile component associated with it.

It has middle mile component, it has last-mile.

Our claim to fame is we optimize the entire process.

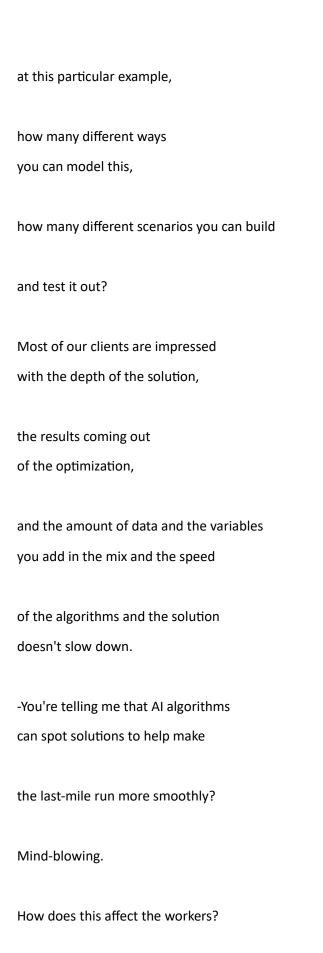


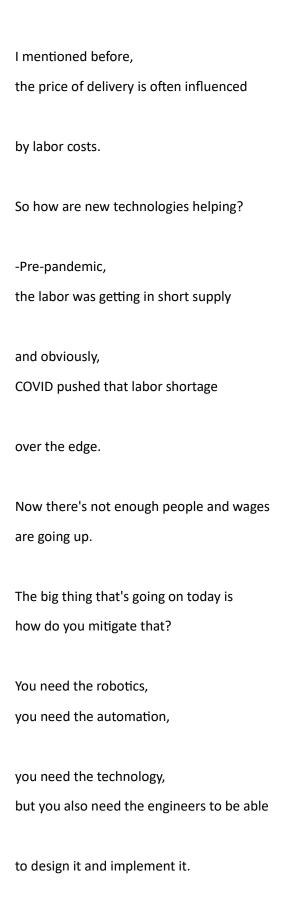
There are various routes you can take.
How less of a time it takes, how less of a distance you can travel.
That part is what we optimize
from the last-mile perspective.
Last few years, we have been using machine learning
and artificial intelligence.
Machine learning piece is also discussing models being tested for,
what's the best time to reach the destination
based on historical trends.
Imagine you're going on Google Maps or Apple Maps and it gives you prediction.
That prediction is based on certain assumptions.



From there, they're bringing products into various countries where they're selling it. What's the best way to get the container loaded at the point of origin? The load plan itself as well as the point of origin of that container, all the way to where the destination port of entry is, whether that could be United States, could be Canada, could be UK, could be anywhere, right? Modeling that and testing out various other ports of entry. That's your one way to look at it from the first mile.

When you start looking





-Automation is playing a big role in the industry. It makes sense that it would find its way into the last-mile, whether it's with drones or robots. -From a technology standpoint, we are piloting these different technologies, automated drivers and remote drivers. These are things we're keeping an eye on. -Automated vehicles on the road are not too far off from becoming our new reality. We're slowly seeing companies roll out robots designed to make deliveries right from the sidewalk. Amazon Scout and Postmates Serve are

just two examples.

Imagine this, you just ordered a late birthday gift for a friend.

It says it should be there in two days and just in time,

you think to yourself.

Here's the thing: with all the obstacles that pop up during the last-mile,

you can't know for sure that you will get it in time

unless you have a trusty autonomous delivery robot.

Not only can it avoid traffic buildup, but a whole fleet can deliver packages

all over town.

The best part, you're likely to get your products as scheduled.

Now, that's an intriguing prospect.

In fact, we're already seeing

autonomous robots in supply chain environments. -If you have a peak season, then you can almost rent extra AMRs, extra bots for two months to get you through your peak season. They basically come in, you uncrate them, you hit the go button, they learn from each other, and then they're off and running. There's very little time to get them up to speed. -As you can see, technological innovations like AMRs, AKA, Autonomous Mobile Robots, aren't meant to replace human warehouse workers.

They're here to help make

the last mile easier.

-Then when your peak season's down or goes away, and you basically create the robot up and you ship it back, and so they're able to flex up and flex down to the demand, especially from a peak season perspective. AMRs are definitely in the mix. -The last mile delivery, it's something that for e-fulfillment to work, it has to be done extremely economically. Because it's just grown so much, there are just so many options out there. -There you have it. The future of the last mile ahead of us. While there may be a stockpile of concerns regarding e-commerce delivery,

