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This filing relates to the proposed merger involving Northern Genesis Acquisition Corp. II ("Northern Genesis 2") with Embark Trucks Inc. ("Embark"), pursuant to the terms of that certain Agreement and Plan of Merger, dated as of June 22, 2021.

On September 22, 2021, Embark hosted Embark Day, which brought together a variety of constituents including investors, media, and equity research analysts for a deep dive into Embark's technology, business, and strategy. A copy of the transcript for the Embark Day presentations and modules is set forth below.

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Embark Trucks

Embark Day: Presentations & Modules

September 22, 2021

C O R P O R A T E P A R T I C I P A N T S

Alex Rodrigues, *Co-Founder and Chief Executive Officer*

Richard Hawwa, *Chief Financial Officer*

Mike Reid, *Chief Business Officer*

Mike Pigors, *former Region President U.S. Domestic and International Operations, FedEx*

Michele Meyer, *former President, Snacks Operating Unit, General Mills*

Terry Kline, *former Chief Investment Officer, Navistar*

Pat Grady, *Head of Growth Investing, Sequoia Capital*

Sam Abidi, *Head of Business Development*

Jonny Morris, *Head of Policy*

Hon. Elaine Chao, *Former Secretary of Transportation*

P R E S E N T A T I O N

Male Speaker

Welcome to Embark Day. We're excited to host a bunch of constituents today from the buy side, sell side, research community, partners and current investors. And media, so we've got everyone here today. We really want to give you an opportunity to meet the team, really see the depth of what we're doing, and we think that's the best way to open up the advancement of our technology.

Our sole focus here on trucking we think really differentiates Embark, and that differentiation you're going to hear a lot about today. Our co-founders, Alex and Brandon, have had that vision since the founding of our company, and we think that that is truly unique.

As Alex said to our employees, we're not done yet; we're just at the starting line. Fortunately, our starting line is Mile 20 of our marathon.

With that, we've got an exciting day planned, as you can see here. I'll let Alex walk through all our attendees, but we're going to give you a business update, you'll get to hear from some industry veterans. We're going to give you an investor perspective from one of our existing investors in Sequoia Capital. You're going to hear a lot more about the depth that we have with our carrier partners, that I think you'll find very interesting and unique. Then lastly, we'll have a really informed discussion on AV.

Maybe before I give it to you, Alex, I'll just give a quick process update.

As you know, we announced the transaction and our intent to go public with our friends at Northern Genesis Acquisition Corp II here back in June. We've subsequently filed an S-4. We're working with the SEC to review that and finalize. Hopefully soon, our general counsel sitting here. Then once that's finalized, we'll set a record date. Three to four weeks after that, there will be a shareholder vote.

Male Speaker

(Inaudible - off microphone).

Male Speaker

They will be. I'm told they will be filed publicly. Yes, don't worry.

Then three to four weeks after that there will be a shareholder vote. Closing will occur a couple of days after that, and then the day after closing NGAD officially becomes EMBK.

With that, I'll hand it to you, Alex.

Alex Rodrigues

Thank you everybody for coming out; I really appreciate it. I know a lot of people had to make a bit of a trek, all the way from New York, so we appreciate people making the flight.

We're really excited about Embark Day. I think it's going to be a really great opportunity to get to know the company a little better. Let me start off by telling you a little bit about the folks we're going to have presenting.

Obviously, you get to hear from me and Richard, which a lot of you have heard that on Zoom already, but in addition to that you also get to hear from Mike Reid, our Chief Business Officer, Sam Abidi, our Head of Partnerships and Business Development, Jonny Morris, our Head of Public Policy and Communications.

We've also brought, in addition to Embark's Executive Team, we've also brought some amazing presenters from around the industry that will give you an outside view and really the 360 perspective, not just on Embark, but how it fits in to the bigger ecosystem. We have Mike Pigors, the former Regional President for U.S. Domestic and International Operations at FedEx; Michele Meyer, the former President of the Snack Operating Unit at General Mills; Terry Kline, the former CIO of Navistar; Pat Grady, the Head of Growth Investing at Sequoia Capital; and the Honorable Elaine Chao, former Secretary of Transportation and Secretary of Labor among many other distinguished—quite a distinguished resume that you'll hear a little bit more about later.

Before we get into that, let me give a really short background on Embark and how we're leading the way in the trucking industry.

Embark is America's longest running self-driving truck program. One of the things that really differentiates the business is that we identified this problem five years ago, and unlike a lot of the competitors, we've had the same focus and the same vision for five years. We've been executing on this vision, bringing Embark to a point where the technology is ready to go, and the world has been changing around us to end up at a spot where now today I think a lot of people recognize the unique value of that vision that we've been working on for five years.

The advantage, though, of having been doing this in a focused way for five years is that Embark has built unique technology and go-to-market strategy which embraces the realities of the trucking industry today. We're not trying to force fit a car model or a camera model onto trucking; we've built a technology and a business from the ground up to embrace trucking. That starts with the transfer point model, which is an operating model that Embark pioneered back in 2017; it's now something you probably hear about from a lot of our competitors. This is an idea where you have instead of trying to do the entire self-driving task, you break it up into three parts. You have a driverless truck that goes from near-highway transfer point to near highway transfer point, focusing on a short distance of surface streets, and then hundreds of miles of interstate driving. This allows us to avoid urban driving, which is both the most challenging problem in self-driving and the area where you're seeing a lot of focus from many of our competitors, and quite frankly, where you're seeing people on the car side start to struggle. I think Embark recognized the better opportunity, the better fit that highway driving had five years ago, and we developed this operating model which allows us to focus on the places where we create both the most value and we have the most technical executability.

As a result, Embark has a different technology. We're not a copy paste of technology built for cars. We are tech built from the ground up for trucking. I think nothing demonstrates that more than what we've done with Vision Map Fusion. Vision Map Fusion is built across a multiyear effort to deeply understand roads from multiple sensors and then to create the level of robustness so that when we're going out on a highway and that highway is changing all the time, we're actually able to adapt to the road as it is. This is something that nobody else can do. It's a proprietary technology, patent pending. It's a big part of what sets Embark apart from the others, and it was enabled by years of focus on the most challenging problems on highways.

In addition to the tech, Embark has a very different business model. We focused on being asset-light. We're not trying to become a fleet. We're not trying to build up a giant pool of infrastructure. Instead, we focus on partnering with leaders in the space, and what that means is that every dollar Embark spends is being spent radically more efficiently. We're focusing just on delivering value in the trucking space, and on creating amazing software which we then license to fleets on a per mile basis. By doing that we allow our technology to be far more scalable and to ultimately partner with the industry, and I'll tell you a little bit more about that today.

Then, finally, I want to tell you a little bit about Embark Universal Interface. Embark's path for manufacturing looks pretty different from our competition. Instead of trying to build whole truck, Embark is focused on two modules, a sensor module and a compute module. The reason we've done is because we have a deep understanding from having spent a lot of time with the fleets, of how trucking actually builds trucks. Here, I'll take maybe a quick second and give a little bit of a trucking lesson, which I know for half of you will be exceptionally review.

In automotive you have a monolithic vehicle design where the OEM takes all the parts, sets the design and then you buy it or you don't, but that's pretty much it. Trucks don't work like that. In trucking there's a Lego block integration model. Virtually all the major components have multiple options. You might have an OEM option, you might have a couple of third-party independent options, and it's the fleet who sits down and says, "Okay, I want this engine and I want to have this axle," and then once they've picked all their blocks, they take that spec to the OEM and the OEM is responsible for integrating those components together and shipping a finished truck.

Recognizing that this is a Lego block approach, Embark built our system so that it could be a few of those blocks. Instead of trying to dictate everything, we focused on building sensors and a compute system that supports our driver software and that is designed to be eminently compatible so that ultimately it can be integrated as a factory option across the major OEM efforts. That's a huge differentiator, especially when we're talking to fleets who have a pretty strong opinion about who they want to buy, what parts they want to see in it. So, that's something we think is really exciting.

Overall, we've built a strategy around enhancing the ecosystem instead of disrupting it. We're not here to become the entire trucking ecosystem; we're here to be a partner. We're here to be a partner with the logistics players, with the fleets, with the manufacturers, with the regulators, and five years of being a quality partner that both listens and delivers has positioned Embark to be able to bring this technology to market at scale. I'm really excited to tell you more about all of that today.

Let’s kick it off.

For the first of Richard’s five modules, we have a business update. It’s going to be from myself and our CFO, and we’ll walk through what we’re doing, and specifically, what’s been going on recently. I know all of you want to know what’s the latest.

We’re going to talk about five things: the launch of our advisory board, key partnerships with Tier 1 manufacturers that will enable cross-platform compatibility for Embark Universal Interface, components that we have secured to power our compute subsystem, the launch of a key partnership supporting a nationwide freight network, and advances with our partners in bringing sustainability to the first and last mile.

Let’s start off with the advisory board. We announced this this morning, so I’ll forgive you if you haven’t see the press release yet. We’re very excited about it though.

Embark has a long history of working with leaders and management teams across the freight industry, and that deep engagement is part of how we’ve built the unique business model that we have here at Embark. We’re really excited today to announce the next step of that strategy. We’ve brought six world-class executives representing a variety of the different stakeholders to bring their expertise and network to help us continue to develop and refine that business model as we bring it to market at scale. We’re excited to welcome Jon DeGaynor, CEO of Stoneridge; Rich Freeland, former COO of Cummins; Dave Jackson, CEO of Knight Transportation; Terry Kline, former CIO of Navistar; Michele Meyer, former President of the Snack Foods Operating Unit at General Mills, and Mike Pigors, the former Region President for U.S. Domestic and International at FedEx – a couple of people who might know a thing or two about logistics.

I’m really excited that we actually have a number of these folks here today, and Mike is going to be hosting a panel discussion later in the presentation so that you’ll have an opportunity hear more directly from these advisors.

The second thing I want to talk about is the work that we’re doing to bring Embark Universal Interface to production as a cross-platform solution.

We’re really excited to announce a collaboration with ZF to validate automatic steering and integrate with Embark Universal Interface to power Embark’s self-driving trucks. One of the things that we’re really excited about with ZF is they’re a leading supplier of series production steering solutions for the commercial vehicle space, and it’s a solution that can be installed across all four of the major OEM platforms. By partnering with ZF, Embark is able to connect Embark Universal Interface to ZF steering columns, giving Embark a consistent, scalable solution to be able to control steering across the OEM platforms. This is the culmination of four years of work. We’ve been working with and developing the partnership with ZF almost since the beginning of Embark, and we’re really excited about this announcement to bring Embark Universal Interface one step further in manufacturing and integration.

We talked about steering; now I’ll talk a little bit about throttle. Embark also recently announced a relationship with Cummins where we’re collaborating on next-generation interfaces for the ability to control engines using Embark Universal Interface. We’re particularly excited to be working with Cummins because this is a business model and a company that’s long inspired us. Cummins is an independent player that is available across all the major OEMs that works directly with fleets to make sure they can be spec’d onto those vehicles, and they’re the number one diesel engine in the United States. That set of ideas is one that really inspired Embark when we sat down and we envisioned the strategy for Embark Universal Interface as a module that’s independent and can be integrated across the OEMs with the support of the fleets.

Because of that strategy, and because of their leading position on management side, we’re incredibly excited to be working with Cummins. We believe that this relationship is going to allow Embark’s system to be able to have high quality control of engine and throttle no matter what truck you install it in. In fact, you might have seen the photo—you’ll see it a little bit later in the presentation, where we have four trucks that are all able to be controlled by Embark Universal Interface and one of the key elements of those trucks is we certainly prefer to put in Cummins engine. So, we’re really excited to actually be working directly to have a next-generation interface specifically to support Embark Universal Interface, and to be doing it with the number one engine in America.

We haven't just been working on integrations though. We've also been working on Embark Universal Interface itself. Embark has for many years worked with NVIDIA and leveraged NVIDIA graphics cards inside our trucks. If you go sit in a truck today, there's a heck of a lot of NVIDIA compute sitting in the back powering not just machine learning but leading parts of our system like our 60-second planning horizon.

While we're doing that, we're also looking to move the ball forward on manufacturing. So, this last month we were really excited about the announcement with NVIDIA to be leveraging NVIDIA DRIVE to bring that same set of power that we are familiar with and have spent many years using on the graphics card side into a production-ready, automotive grade package and be able to have that sit inside Embark's compute modules and power Embark Universal Interface for fleets at scale.

We've also been working on the nationwide deployment of our technology. We recently announced a relationship with Ryder who is going to be powering a network of up to 100 transfer points across the country for Embark's fleets. I mentioned earlier Embark is an asset-light company, which means that we prioritize building relationships with the existing freight ecosystem, and providing access to physical locations to pick up and drop off trailers without going out and signing a whole bunch of leases. I don't think that's what our best use is, and neither is running operations. So, this relationship with Ryder is a huge step forward for us. It allows Embark access to consistent operating procedures across a network of real estate locations without needing to go out and train a whole bunch of operations folks ourselves.

We're really excited. Ryder is obviously a name that all of our fleet partners have heard before, somebody that they trust, and we believe that this is going to be a huge step forward to allowing our trucks to operate nationwide as we roll out this network over the coming years.

We've also been working on the last mile, what comes from the transfer point and takes it to the final destination. This is a key element coming directly out of Embark's Partner Development Program. It's a program we launched earlier this year to continue building on our relationships and really deepening the work that we do with the fleets.

One of the people who joined Embark's Partner Development Program early on was HP, and as we started to dig in with HP you'll hear from Sam later about how much work we really do as we dig in with these partners and make sure that we're ready to deploy the tech in a way that's useful for them. As we started to dig in with HP, one of the things that became really clear is that they wanted to prioritize the sustainability benefits that you could get by operating driverless trucks. We believe that this partnership with HP and BYD allows us to do exactly that.

Embark has long known that this transfer point model that we pioneered gives a unique opportunity to leverage electric trucks for first and last mile. As of this summer, we started doing that in reality, working with BYD and HP to prove out those benefits in a real supply chain. This partnership sees BYD trucks picking up HP freight, moving it through the urban area to the transfer point and then Embark's driverless trucks on a variety of diesel platforms picking up from there and continuing to operate out, moving freight for HP on a weekly basis.

By working with Embark, HP is able to make two major steps towards achieving their sustainability goals. First, they are able to improve fuel efficiency by an estimated 10% across the long haul because Embark's trucks are more efficient, they need to stop less, they're able to go at the right speed, they're able to operate and accelerate and decelerate in a smoother, more fuel efficient way. But not just that. Because of the transfer point model, they're also able to carve out a local portion of the route where electric vehicles are able to fully eliminate greenhouse gas emissions and to do so in urban areas where it's the most important. When we made this announcement, we were speaking with the City of LA and they're really excited about this opportunity because LA has a huge problem with the pollution that comes from diesel trucks coming out of the port, and this is a great opportunity to be able to switch those out for electric trucks in a way that's economically viable today.

We believe that the ability to expand electric operations is a unique benefit that Embark's technology and operating model enable by supporting transfer points alongside autonomous trucks.

What have we been up to over the last three months?

Embark has long prided ourselves on being the kind of company that under-promises and over-delivers, so I thought we'd take a quick step back to the slide where we made some promises. This is a slide from the Investor Presentation three months ago and when we showed you this slide three months ago we said, "Over the next 12 months we want to make substantial, tangible progress on these three key areas. We want to demonstrate partner development reservations through our Partner Development Program. We want to work with manufacturing partners to enable Embark Universal Interface as a cross-platform option. And, we want to expand Embark's coverage map to enable our fleet partners to roll trucks out at scale."

Well, we've been very busy. Just three months later Embark has already announced major partnerships with Tier 1s to enable that cross-platform integration. We have worked together with world-leading hardware suppliers to provide the kind of hardware required for Embark Universal Interface. And we've gone out and expanded Embark's coverage map, including world-class names that all of our fleet partners are excited to be working with.

Next up, I'm going to spend a minute and tell you about what makes Embark different. This is the question that I get from everyone, and so I figured I would take a moment and really dig in a little bit deeper on how Embark is different from the rest of the industry.

This begins with Embark's history. Embark has been running AV on U.S. highways longer than anybody else. Started back in 2016 and while our competitors were still goofing around with robo-taxis, we already knew where the industry was going. In fact, I actually think you guys should have a look at the Embark Seed Slide Deck which was published in Business Insider a few weeks ago. It's almost exactly the same business that we're talking about today. It was a company with a sole focus on trucking, running trucks between transfer points, partnering with fleets, licensing software on a per-mile basis, and pursuing an asset-light business model. Pretty much exactly the business that we've actually delivered and that you are seeing in front of you today. We believe that that early focus and that consistent execution on this vision is one of the things that has allowed Embark to build a business that's truly different.

I'm going to go through three key areas that we think that differentiation is visible in the business today, Vision Map Fusion; our Embark Universal Interface technology; and the asset-light go-to-market that we pioneered.

On Vision Map Fusion, we built a technology that solves the most important problem on highways, which is highways change. Self-driving vehicles don't like change; they like things to be exactly the same. In fact, if you look at the way that things were done in the past when people were building demo (inaudible) for cars, one of the key elements that went into that was the map. People talked about it all the time, "We need to build these HD maps." As people have tried to put them into trucking though, they're struggling. You see quotes literally from our competitors talking about how hard HD maps are, how expensive they are, how much time and energy has been invested. The reality is that we think that's a dead end technology. It's a technology that ultimately requires you to be going out and rebuilding an understanding of the road every time something changes on the highway. For those of you who spent time in the trucking industry, you know the highway is changing all the time. So, Embark has built a better way.

We don’t need to go out and remap every construction zone every time it changes. Instead, we start with a map and then we layer in additional information to heal flaws in the map on the vehicle in real-time. We do that by fully reconstructing the road geometry from our camera, doing it again from our LiDAR, and then taking all of those geometries and using them to actually understand, “Okay, we have three points of data here. We have a redundant way of understanding the road. Let’s figure out areas where the map is wrong and we’ll allow the truck to be able to fix that as it drives, and continue operating.” It’s incredibly powerful technology, one that allows Embark to be the only company that can drive through unmapped construction zones, and we think that’s going to be a key element in scalably deploying the tech.

To give you a little bit more of a sense of what that looks like, I’m going to show you a video. We combined together Embark’s Vision Map Fusion tech with Embark’s ability to detect cones and signs and understand the construction geometries. It allows us to deal with construction zones that nobody else could. In this video here, we’ll first show you a clip of a Waymo car encountering a fairly basic construction zone and seeing how it works, and then you’ll see an Embark vehicle going through a similar situation.

(Video Presentation)

Alex Rodrigues

All right, hopefully that gave you a sense of why that’s important, and clearly something that sets Embark’s technology apart.

Second item of differentiation is Embark’s cross-platform Embark Universal Interface. We built standardized sensor and compute modules which are based on industry-leading components that can then be spec’d on to any of the major OEMs. We built pilot trucks for our partners that demonstrate this capability, where we’ve actually gone out and done this. You can see those same trucks here running the sensor bar, running the same compute stack. You can actually see a few of those trucks as you wander around the Embark office if you pay attention.

That ability to offer a product that doesn’t constrain our customer to a single OEM is a big differentiation in how Embark actually sells the product. We believe that manufacturing partnerships and integration are of course critical elements of bringing this to market. That’s why you saw announcements like the ones we made with ZF and Cummins to bring this integration together with industry-leading players.

At the same time, we think you need to focus on the Lego bricks that you own and not dictating the entire truck design if you want to get the support of the major players in the logistics industry, and that’s exactly what Embark has done. Where others have tried to copy what they’re doing on the car side, try to build a single monolithic design that’s complete antithetical to the Lego brick approach in trucking. So, by building a cross-platform approach and supporting that with the key relationships required to support manufacturing integration, Embark has built something that’s truly differentiated from the perspective of our customer.

I’ll leave you with a stat here of the majority of the top 25 truckload carriers in the United States are running more than one truck in their fleet. That’s probably not surprising to those of you who know trucking. Those companies want to run the trucks that they want to run. They are certainly not excited to become homogenous fleets based on a single piece of technology when Embark offers them the opportunity to continue owning the truck-buying process and spec’ing the truck that they want for their needs.

Finally, I want to tell you about our asset-light go-to-market.

Again, this is a big differentiation between Embark and the competition. Many of our competitors are talking about becoming their own fleet. Frankly, I don't think that makes sense. Embark is able to achieve far more scale by leveraging partnerships and also benefit from the skills, expertise, driver relationships of people who have been doing this in some cases for close to 100 years.

Let's just think about the number here for a second. Just the top 100 carriers in the United States, people who are very clearly in Embark's funnel as we have our partnership conversations, these are folks who are spending over $10 billion a year buying trucks. This is purchasing power that you can access through partnerships that dwarfs even the most well-funded competitor's ability to go out and buy trucks directly. It means that when Embark is scaling, we're scaling by going out and having one sales conversation and potentially bringing thousands of trucks worth of purchasing capacity into the network, rather than scaling by buying trucks one at a time. I think that is a dramatically different business model that sets us apart.

We do the same thing on the real estate side. Embark focuses on building great software, and we build partnerships with key operations players and industrial real estate players, like the one that you see us doing with Ryder, and you look at just the industrial real estate players Embark works with today, they manage thousands of physical locations in key markets, usually well located for trucks, that Embark can access and scale to in a way that doesn't require us to go out and sign a bunch of leases. That, again, allows us to put our dollars to work doing the thing that matters the most, building the industry-leading software that we're famous for.

We believe that being asset-light is something that puts us in a huge advantage, not just in the near term where it allows us to focus—and I think you probably heard me say that word enough to realize that that's a part of Embark's DNA—but also in the long term because we believe it's farm more scalable and that this idea of being a vertically integrated player is probably a passing fad. Most people start to think about, "Oh wow, I need $10 billion of purchasing power a year and a whole bunch of real estate." It seems like the right way to do that is to access it through high quality partnerships, which is where Embark has been investing for many years.

We've taken the same approach when it comes to hardware. Embark has, in contrast to some of our competitors, hasn't tried to take a not-invented-here approach. Instead, we've made key bets on winning hardware solutions early on, and those have paid off significantly by giving us access to the best technology without having to spend a whole bunch of our own money building a cost-and build solution.

What does that mean? Well, let me give you a quick example.

In the LiDAR space, some of our competitors have spent hundreds of millions of dollars purchasing LiDAR companies, building their own assets, and the result is that they have a technology that has far fewer years of development than what's out there in the market today, and that technology's key advantage, the ability to identify and separate car from points that are on the rest of the road, is actually less compelling than technology that is built in-house at competitors, and what Embark has been able to do by being the first company to run a Luminar on a truck many years ago, by taking that time experience and focusing on software, building amazing machine learning models that can actually differentiate not just vehicles from roads, but lane markings and shoulders from vehicles, and from other parts of the road geometry, which nobody else is able to do using the technology they built out in-house. Having that level of differentiation is a big advantage. Having LiDAR, which is the furthest along in terms of being automotive-ready, as well as in terms of range and performance, is a big advantage.

But guess what? Not just that. Embark has been able to do that and to access LiDAR, which has over a billion dollars being spent on it as a leading hardware provider, and to do it while spending in order of magnitude less money than our competitors. We believe that it's that approach, that understanding that software is what we do well and that focus then on partnering with the best hardware players, that puts Embark in a leading position. Not invented here makes a ton of sense if you're running a research lab; it doesn't make as much sense when you're trying to build a scalable company and sell automotive grade hardware to people across the logistics industry.

So, put this in a nice table that will make it easy to throw in the report: How is Embark different from everybody else? We've been doing this for longer than anybody else. We started in October 2016 in terms of running on highways, and we've been focused on trucking the whole time, which means that the dollars we spend have gone a lot further.

We're developing a system with Embark Universal Interface that's designed to be able to be installed across all the major platforms, which is attractive to almost all the fleets who want to be running more than one OEM under the hood.

We've built key technologies over that time, like Vision Map Fusion, which allows us to operate in conditions that nobody else can, and we have an asset-light business model that's both attractive to partners, and at the same time allows us to scale and focus on what we're really good at. And we back that with a group of partners who believe in what we're doing, building one of the best groups of partnerships, across both shippers and carriers, who are excited to help us take this technology to market.

With that, I'm going to pass it over to Richard, who will tell you a little bit about the financial story and give you some more details.

Richard Hawwa

Cool. Thanks, Alex.

Great. I'm excited to talk a little bit about the financials with you. I know many of you have seen this and we've talked through in detail, so I'll go relatively quickly, but we can always follow-up with some more answers to any questions you have.

I think one takeaway here is we believe as we look through our market there's partial penetration from Embark. We think there's upside to the extent we're able to penetrate more than our model represents. The way that we sort of think through our model is really looking at the number of addressable miles in our TAM, and then really building that into a serviceable market. I'll talk a little bit more about that on the next few pages.

Secondly, we look at our pricing model. As we think through what's the cost of an autonomously-driven truck versus a human-driven truck, relatively straightforward. We calculate $1.76 per mile for a human-driven truck and we calculate it to be $0.80 of net savings. While a lot of that is part of the driver, it's actually the net amount, so including the cost of the truck, fuel efficiency, additional repair and maintenance. I know we spent a lot of time talking through that.

The way our business model works, we talk about the transfer point model and the direct-to-customer model. The pricing is relatively straightforward in that we share a portion of that $0,80 with our carrier partners. Embark charges a per-mile subscription fee of $0.44, and then for the transfer point hauls we actually provide a fixed fee rebate for a portion of the last mile of the drayage cost. It's something that as we talked through it with our carrier partners they really like that because they understand how the industry works.

Another great slide that could be copy and pasted into a report. Before I go into the specifics of our model, I thought I would just maybe take a step back and just talk through the freight logistics market. It's obviously integral to the U.S. economy and our national infrastructure. It truly impacts everyone: states, companies, people. And this $700 billion industry, there's 2 million semi trucks on the road today. If you think about an average replacement cycle, that's 300,000 trucks being replaced every single year. There's a driver shortage, 60,000 driver shortage today, expected to increase to over 160,000 by 2028. A U.S. DoT study that came out in 2021 basically said that even with this driver shortage and proliferation of autonomous trucks, we'd expect no job displacement as a result from long-haul trucking given the commencement cycle of autonomous trucks, which we think is critically important. One in five shippers that wants to move goods literally can't find a carrier to move it for them.

Then lastly, as we look through what the trucking market looks like relative to other modalities, well, it's a large portion today. We would expect there to be further penetration from other modalities as autonomous trucks become more efficient.

Our model. We calculate there to be 300 billion miles annually today. We then look at what's economical for autonomous trucking, for transfer point hauls greater than 300 miles, for direct to customer greater than 100. Eighty-six percent of these lanes are greater than 100 miles. We then further calculate down into our operational design domain, or ODD. We calculate that about 80% of those lanes, which will increase to 90% as the technology evolves, and that's our serviceable market, as you can see on the left here.

I think what's interesting, again, as I talk about that penetration, to achieve our 2024 revenue targets and our mileage targets, we expect to penetrate just over 1% of those lanes. So, again, on the right side I provide a little more detail, which you've seen before.

What does this all mean?

This is our model and the output of that is we would expect $867 million of revenue in 2024, and just over $2.7 billion in 2026. We're guiding to long-term margins in the mid 70% range, EBITDA margins greater than 30%. What does that mean? We expect to continue to invest in the business. This isn't get to commercialization just to have a Gen 1 product; it's continuing to evolve and invest and grow the business.

What does this also mean? As we look at 2026 and beyond, for all the reasons Alex walked through in our partnership model, we think this can scale extremely rapidly. And this is critical because as we think through what our plug 'n play technology unlocks for our customers and all their constituents—the quality of life, the financial impact—we think that this is going to be something that's going to be desired, but ultimately required to be competitive.

One other thing we've done is we've extrapolated to get a bit of a reasonableness check on our model. We looked at our existing carrier partners—and many of you saw this slide in our Investor Deck back in June. They had 32,000 trucks in their fleet. Replacement, over 8,000 trucks annually, and over 3 billion human miles driven. What we did is we extrapolated the lanes we expect to operate on in 2024, and we looked at the number of trucks that are required to achieve our mileage targets, and we examined that they had 89% of the trucks already in their fleet today.

Well, since then, our partner have grown. They now have 35,000 trucks in their fleet. Using that same extrapolation, 97% the trucks and the lanes we expect to operate on in 2024 exist with our existing partners today, and that's still a few years away from commercialization. That gives us a lot of conviction, and we look forward to talking to you more about this in the future.

Lastly, commercialization. When is that going to happen? Well, we've got very good line of sight as we look through what are the key milestones to achieve an autonomous truck at commercial scale. We've identified early on 16 key milestones that need to occur. Eleven of those have already occurred and we've demonstrated them. There's five remaining technological milestones that we're working on, and we believe between now and 2024 we'll accomplish those, and we look forward to really sharing with you these developments over time.

Then lastly, I think there's some nonfinancial metrics probably worth highlighting, and we kind of look at three pillars around this: safety, testing, commercialization. Well, as measured by the FMCSA, we've had zero crashes, zero failed inspection score. We live by our safety record and we continue to work on this.

Testing. As Alex mentioned, we tested longer than anyone else in the U.S. We have a highly efficient fleet. We believe 60,000 miles per truck per year since 2018 is best-in-class. What does that really mean? It means we know how to test. We know what works, what doesn't work. It also means as we continue to scale we're ready to scale with purpose and not just for growth.

Then lastly, commercialization. Like we said, we're ready to scale. We've got partners that are ready to scale alongside us, and our model is set up to scale rapidly. Ultimately, we're going to measure our success by safely commercializing our technology.

With that, Alex, I pass it back to you.

Alex Rodrigues

All right. I will just wrap this up for you quickly so that you can get on to listening to the more exciting members of the Embark team.

Let's summarize what you heard today in this module from Richard and I. Embark has been focused on a clear market with a tangible use case and a realistic business case for five years, and that's why we're able to set out aggressive targets and deliver commercialization in the near term. This is hard technology, frankly. This is something that I understood deeply as someone who spent 15 years doing robotics, from the moment that we started Embark. And so we knew that we needed to focus, we needed to understand what was realistically deliverable, and that's something that I think the autonomous vehicle industry has needed. Perhaps that people have learned some lessons over the last few years, but I think Embark leads the way because this is something that's been built into our DNA from the beginning.

We have a commitment to build a product that is focused on safety. We have a leading safety record in the industry, one that is best-in-class for AV trucking companies, and frankly, a very good safety record for human-driven trucking companies, something we're super proud of.

When we build a partnerships model, one that is asset-light which benefits us, but also that's built from the ground up to benefit our partners, and we have high quality partners that are in the trenches with us to prove it.

Overall, Embark is a very different company than other fly-by-nights, that maybe have been around a long time but realized that trucking was an opportunity. We are a company that lives and breathes the trucking industry, one that has invested against this problem for many years, and one that has a business model focused on enhancing and evolving the trucking industry instead of disrupting and replacing it.

We're not your everyday Silicon Valley company. We're a company that takes the best of Silicon Valley but also spends a lot of time understanding, learning from the players across the industry to provide a real solution and not just a science fair project.

That's a great transition. We'll pass it over to Embark's Chief Business Officer and members of the Advisory Board.

Mike Reid

All right, thanks everybody.

I'm Mike Reid, Embark's Chief Business Officer, and I'm thrilled to be here with, today, three members of our newly announced Advisory Board. Before we get into some of the questions that we got from the audience, we figured we'd give a little bit of background on why we put together an advisory board and then some short bios for Michele, Terry and Mike here.

As you've heard from Alex and Richard, Embark is pursuing a partnership-centric business model which has us work really closely with shippers, carriers, OEMs and suppliers, and we brought together the Advisory Board to really help strengthen our relationships and our strategies in each of those areas.

So, with that in mind, maybe first some background on Mike Pigors who joined FedEx in 1979, back in the early days, and spent over 40 years there and was most recently the President of their U.S. operations where he had over 50,000 drivers in his organization and a budget of $10 billion.

Then Michele Meyer, who spent most of her 30-year career in CPG at General Mills, which for context is an organization that spends over $800 million on transportation a year. In her most recent role as President of their Snack Operations Unit she played a big part in helping revitalize the global supply chain.

Then last but not least Terry Kline, who was most recently the CIO at Navistar where he played a really big part in shaping some of their early AV strategy, and prior to that he spent over a decade at GM where he was most recently their CIO.

With that context in mind, we're going to, to give a little bit of structure to the conversation, go through advisor by advisor and chat through some of the questions that we got. So, we'll start with Mike.

The first question is, over the years fleets have taken more of an interest in self-driving trucks. Can you speak to what's driven this interest?

Mike Pigors

For me, it would be the philosophy that FedEx had, People-Service-Profit. I would look at Embark under that microscope being people first, and you heard Alex say—a lot of this you've already heard Alex say, but safety would be number one. Five thousand deaths a year, 150,000 injuries from tractor trailer operations on the road. They have a perfect safety record, or near-perfect. That would be a major selling point to me.

The second would be on service. To me what Embark has been doing—and I've told several people this today—it's a no-brainer. The competitive advantage I get by the elimination basically of hours of service is amazing. I can now run a truck from Memphis, Tennessee, or in my former job run a truck from Memphis, Tennessee to Los Angeles in less than 30 hours, which means I don't have to put that package on an airplane. That's a very big deal to an express carrier to help reduce costs.

On the profit side, you saw Alex, the numbers, I think it's $0.40 a mile. I get less idling time. I get much better utilization of my asset, which is—these are expensive assets. Obviously the depreciation would accelerate, but that's how I would look at if you were to come to me in my former position, those are the things—and you check all those marks for me.

Mike Reid

Great. The next question is Embark is, contrary to some of our competitors in the space, pursuing an asset-light go-to-market strategy. Can you maybe speak to the trade-offs around doing this from a fleet's perspective?

Mike Pigors

I like the asset-light because personally we would use more than one OEM for our tractors. I don't want to be pigeon-holed into one manufacturer. So if you were only working with Peterbilt and we were using Volvo, that would be a barrier that would have to be broken down, so I like the asset-light approach. I like the opportunity to work with multiple OEMs. I think that would be a big deal to me.

I also like the idea that in talking to you guys in the two weeks I've been involved, you're trying to develop a real partnership and I can tell you the company that I came from, a partnership is a very big deal. Knowing that you're there to make sure the software works and it's reliable would be incredibly important to me. In the Express side of the business that I came from, service is number one. We sell delivery by 10:30. We sell delivery by 08:00. We sell two-day. There's a huge advantage to what you're offering, in my opinion.

Mike Reid

Great. Then the final question for you Mike is, how do you think about how the technology is going to be received by drivers in the industry in the next few years?

Mike Pigors

Well, you kind of covered it. There's 60,000 openings; it's going to triple over the next six years, and I can tell you that the drivers know that. I'm somewhat in touch with what's going on with drivers and some of my former senior vice presidents and the difficulty they are having getting to hire people, especially tractor trailer drivers. The tractor trailer drivers are feeling this. Hours of service being pushed to the limit, they're working seven days, they're being forced overtime, and this is everywhere. You hear it everywhere.

With the growth of the industry, I just don't think it's going to be that big of a deal because it's going to continue to grow. As ecommerce grows and as companies like Amazon put distribution centers—you know, they have well over 120 now—that trucking is just going to continue to grow.

But I would also add this. A company has to have very, very good employer relations and very good at communicating to their drivers, so they understand that their jobs aren't going away, that their jobs are going to be more local, quality of life probably improve for them, and you're always going to have that one guy or one woman who wants to drive cross-country all the time, but those jobs aren't going away. Your strategy on rolling out, Sunbelt first, rest of the country, I just—I don't think it's that big of a deal. At least from where I came from I don't think it would be that big of a deal.

Mike Reid

Great. Thanks Mike. Now I'll transition over to Michele with the shipper perspective.

The first question is, how do you see Embark technology changing the transportation strategy of a shipper in the long run?

Michele Meyer

I'll start off by saying as a shipper or from the manufacturing industry, really, they're mostly focused on can you get my goods that I have produced to my customer on time? Can you get them there safely, so in good shape, and can you get them there at a reasonable cost? That's significantly important. I think when you guys introduced me you talked about just even what General Mills spends on distribution and transportation, but if you were to take it even a level above and say for CPG, consumer packaged goods, they spend about $150 billion a year on distribution and transportation. So if you can provide the argument to the CPG or to the shipper or to the manufacturer industry that says, "I can get your goods there. I can get them there safely. I can get them there in a sustainable way. I can get them there with better service levels. And I can get them there in a cheaper way than you have done before," that's going to get their attention, and frankly, that's going to help them start to think about transformational change, which is really what's required on the shipper side as you start to think about driverless trucking, right? Some of the changes, you might say, "Can I rethink how I do my distribution network from a supplier? Can I move my distribution warehouses and can I put them closer to entrances from the freeway? Can I have longer distance in between transit nodules? Or can I even think about possibly if the timing is right and the service levels are good and the cost is better, would I move some of what I move today through ships and through rail, would I actually move that back over?" and I think there is increased penetration in the trucking world overall.

Those are just a few of the thoughts that I've got there.

Mike Reid

Great. Then, can you speak to where the sustainability benefit comes from, and how that impacts a shipper's decision making?

Michele Meyer

Yes, certainly. You guys all know sustainability and ESG is really, really important. It's at the very top of, whether you're a manufacturer, or any company, frankly, at this point, and it's something that we're all—or General Mills certainly was very, very focused on. Alex highlighted some of this earlier.

If you think about it for a self-driving truck, right, just the sheer fact that it is self-driving and that you're at a more reduced speed or at a constant speed, that when you're accelerating it's at the optimal acceleration, what that does is that saves about 10% of fuel costs, so it's a cost savings, number one. But when you're using less fuel then there's less diesel emissions, so there's less pollution in the environment. Then, sort of, the second piece to it is if you can convince suppliers to move their distribution networks closer to highway on/off ramps, then frankly you can switch to a different type of (inaudible) diesels trucks that are picking up and going intercity. So if there's the opportunity for the EV drayage or the electric trucks that you can do, that you can take that last mile and last couple of miles as you go into cities, that reduces pollution as well.

Anything that helps with our sustainability goals and ESG goals from the manufacturer's side is critically important. There's no question.

Mike Reid

Great. Then, what will shippers want to see to get comfortable in transitioning to self-driving as a mode to move their freight?

Michele Meyer

I think that's a really good question, Mike. You've got to put together the right type of case for them, and a case meaning these are the issues that I know that you're facing and then these are the benefits that we're going to bring to you, right? I sort of outlined them earlier. It's really the concept of can you do it safely? Can you get there on time? And frankly, manufacturers have struggles. There's no 99% service level any more that's happened certainly since COVID and the shortage of truckers, so getting back to can you get it there on time and can you get me a better service level, which is critically important? Then, frankly, everyone is looking for margin points and so can you do it in a way that is cost effective? By creating that sort of cost benefit analysis scenario for suppliers or shippers or manufacturers is going to go a really long way to making sure that you understand where they're coming from.

I guess I would just say when it's a big change that you are asking, it really requires an early adopter, right? I don't think you're going to get the industry to go there entirely all at once, so it requires an early adopter. And we think the early adopters, frankly, as they access the technology, they're going to see big wins. So you'll see sort of a standard adoption curve after that, but somebody has got to take the first bite of the apple. And what Embark has got, which I is absolutely fantastic, is the Partner Development Program where we'll be working alongside and sort of understanding the cost and benefit by industry with many of our partners and as we do that really sort of taking them along the journey, and I am super excited to work with Embark on that (inaudible).

Mike Reid

Great. Thanks Michele.

Then finally with Terry on the OEM perspective, Terry, you worked on the passenger car side with GM as well as on the truck side with Navistar. As we look ahead at the OEM partnership landscape around self-driving trucks, what parallels can we draw from what's already happened on the passenger car side?

Terry Kline

Yes, so passenger car innovation has always led what happens in truck by a few years, and I don't see any difference in the autonomous space. It's going to be led by the passenger cars.

When we think about the partnerships on the AV side with the car guys, those have evolved quite a bit over the last few years, and actually significantly changed in the last few months. So, I see that same path. There's no reason to believe we won't follow that same path on the truck side, on that evolution of partners.

The other thing Alex indicated, unlike car product development, truck product development is highly influenced by the fleets, by the big carriers. They drive optionality. The manufacturers in truck are used to building components that have lots of different options, so it fits right into this Embark strategy with the universal interface.

Then finally, this universal interface strategy sets Embark in a good position for a couple of reasons. One, there's a finite number of manufacturers. They're sticky, and the carriers actually are doing the purchasing. Because Embark's gone with a multiple OEM strategy, or not trying to knock anybody out of the race, compared to some of their competitors who have gone down to a singular OEM kind of partnership, they keep that open for big fleets, for the big carriers to buy. Because as a number of us have said, big fleets don't own one brand. I always say, if they do—and I used to sell trucks—so if they do, just wait a year and then they won't. They own multiple brands and that won't change. They're going to light an AV system across those multiple platforms.

Mike Reid

Great. Then, how do you see—this is sort of a follow-on question to that. How do you see the strategies of truck manufacturers evolving, looking ahead a few years?

Terry Kline

All the OEMs are working on level L4 ready redundant chassis sensor integration. Everybody is working on it. Everybody has been working on it for a while. You look at the partnerships and there's been some preliminary, nonexclusive partnerships named recently for some of the AV guys. People have been added and removed. They'll be added and they'll be removed, in my mind, as we go forward here, over time, just like we saw happen in the car world.

The purchasing decision on the AV is really going to come back to the carriers and the big fleets. They're going to decide what AV system they buy, and they're going to base that off of map coverage, price, the ability to that solution to go across their fleet. That's what's going to drive it, and that's why the fact that this universal interface is such an attractive, powerful strategy, along with this Partner Development Program that we talked about. Getting the fleets involved now, developing to their needs, working with the OEMs and the fleets together to ensure that the product we have at the end meets everybody's needs.

Mike Reid

Great. Thanks, Terry.

That wraps everything up for this session. Hopefully it gave a little bit of perspective on the industry from a number of important vantage points.

Alex Rodrigues

We've got a really special speaker here to tell you a little bit, give another unique perspective as we run through that.

I want to welcome Pat Grady. Thanks so much for coming and joining us here today. Pat is both a member of Embark's Board of Directors and a close partner of ours for many years, helping bring Embark to where it is today. I'm excited to have one of the best in the business when it comes to investing to tell you guys a little bit about the investor perspective on Embark and what we're doing.

On that, I'll pass it over to Pat. Over to you.

Pat Grady

Thank you for the kind introduction, Alex.

A pleasure to be here today. There are three things that I'm going to talk about. First, I'll give a little context on Sequoia. Then I'll talk about our point of view on autonomous vehicles. And finally, I'll talk a bit about Embark.

Number one, Sequoia, I thought I would provide a bit of context. You all may have heard of Sequoia, been familiar with Sequoia, but our mission is to help the daring build legendary companies from idea to idea and beyond. Today we're present in the U.S., Europe, Latin America, China, India, Southeast Asia, sort of all around the globe where there are fertile technology markets for us to explore.

The thing that most people don't realize about Sequoia is that we actually make a small number of investments. Our strategy is distinctly different from the strategy of some folks in the private markets. We do not take a spray and pray strategy. We try very hard to only get into business with the emerging leaders of markets that we think will be important in the fullness of time. We make a ton of mistakes; we obviously don't always get it right, but over the years we've been lucky enough to catch some of the most important companies and some of the biggest waves of technology.

If you go back to the 1970s when semiconductors were just starting to produce systems, we were lucky enough to get into business with Apple and Oracle. If you look at the 1980s when networks were becoming a thing, we were lucky enough to get into business with Cisco. If you look at the 1990s when those networks were starting to produce the public Internet, we were lucky enough to be in business with Google and PayPal and Yahoo! If you look at the 2000s, when that Internet started to produce more mature applications, we were lucky enough to be in business with folks like Service Now on the enterprise side or YouTube on the consumer side, or LinkedIn, which is a little bit of both. If you look at the 2010s and the cloud and mobile boom, we've been lucky enough to get into business with folks like Snowflake and Zoom and DoorDash and Airbnb.

I mention all of that not to beat my chest or to suggest that Sequoia is so great or anything. I just mention we—the whole thing that we orient our business around is trying to identify big waves of opportunity and trying to identify the companies that are in the best position in those waves. That's what brings me to topic number two for today, which is autonomous vehicles.

When we look at the 2020s, we think that the theme of the decade is data. That's not a particularly unique point of view, but we're not sure that everybody has fully thought through the implications of that point of view. It is fairly easy to see some of the infrastructure that people are investing in to support this theme of data. Snowflake would probably be the canonical example. It is less easy at the moment to see some of the killer applications for where this deluge of data can be applied.

Several years ago, when we were familiarizing ourselves with the autonomous vehicle industry, the reason was because it seemed to us that transportation was perhaps the single-most interesting place to apply all of the data that is now available. The buzzword that we can apply here is AI or machine learning or whatever technique you want to use to analyze that data. But it seemed like autonomous vehicles and transportation were going to be the killer application, so to speak, for this next data era. That caused us to look at autonomous vehicles as an industry.

Now, we had a bit of an unfair advantage in looking at the autonomous vehicle industry and the reason is when the industry wasn't born in what is currently called Waymo, and at the time it was a special project inside of Google, if you were to trace that reporting chain all the way up, before you ran into the founders at Google, just before you ran into the founders in Google, you'd have run into a man named Bill Coughran. Bill Coughran at the time oversaw about two-thirds of engineering at Google, including core search and infrastructure and the beginnings of Waymo. For about the last 10 years—Bill actually hits his 10-year anniversary next month—for about the last 10 years Bill Coughran has been a partner of mine at Sequoia. So, we had a bit of an unfair advantage in understanding how the technology worked and in understanding some of the teams that were going after autonomous vehicles.

We met with everybody we could find and basically concluded that if autonomous vehicles were the killer app, so to speak, for this data era, trucking was the killer app for autonomous vehicles. That was not a consensus point of view at the time. So, at the time, people were very focused on passenger vehicles. The allure of trucking for us is twofold. It was a bit of the technical feasibility of the problem and the prospect that it could be a real business within our lifetimes versus passenger vehicles which may take quite a bit longer, and it was a bit related to the gap in the market. The gap in the market we thought was the more important thing because ultimately we are not investing in technology for technology's sake; we are investing in technology to solve real problems which show up as big markets and big businesses.

So the gap in the trucking market has kind of a supply component and a demand component. The supply component is around drivers, and the supply of drivers is tapering because people aren't entering the workforce. The average age of drivers is increasing. And the demand component has to do with ecommerce and generally the Amazon effect or the Shopify effect or whatever you want to call it is just putting more demand on the trucks that are on the road. So we saw a supply shortage, a demand increase, and this gap that was opening up in the market just waiting for autonomous trucks to come and fill. That was what sort of inspired us to go after the truck market in particular.

That brings me to topic number three for today, which is Embark. We like autonomous vehicles. We like trucking specifically. Why Embark?

Kind of three big points that I'll make on Embark. The first is Embark's business orientation, and I say business orientation as opposed to business strategy or business model for a reason. A lot of the teams in autonomous vehicles—and this is very true early on and it remains true today—a lot of the teams are full of brilliant technologists who care much more about the technology itself than they do about turning it into a commercial enterprise and using it to solve an overall problem. Embark, by comparison, has both world-class technology, in our opinion, and they focus on using it to solve real business problems.

I think the evidence of that is fairly abundant and even was then, starting with they picked trucking. Most people picked passenger vehicles. Alex and Brandon looked around and said, “Well, trucking is a better market. We pick trucking.” So they were one of the first to pick trucking as a market.

I think—I think, I don’t know this for sure—I think today Embark is the longest standing pure play in trucking, and so that was a pretty savvy choice.

Another piece of evidence around their business orientation was prioritizing safety from time zero. Another piece of evidence was hiring a policy person as one of the first 10 employees at Embark, and we’ve seen how policy can interplay with technology, more recently with the partnership that Embark has with the Arizona Department of Transportation, which allows us to do construction zone navigation, which is an industry for Embark.

Then I think finally around business orientation, you look at what’s happened more recently with the Partner Development Program, it’s been pretty effective. The PDP program, the team is basically preparing (inaudible) operate and maintain Embark-equipped OEM trucks while Embark focuses on providing the self-driving software necessary to navigate those trucks. The partnership-based model is a win-win for Embark and the freight industry because it leverages existing shipping carrier relationships to scale, it uses the complementary logistical expertise of carriers to deliver a better service, and it allows Embark to focus on delivering a safe, reliable autonomous truck. So, the PDP program I think is another good example.

Point one on why Embark is business orientation. Point two, technical approach. I already mentioned our partner Bill Coughran who is again a bit of an unfair advantage understanding the different approaches. I think if I had to characterize Embark’s technical approach in one word, it might be pragmatic, which is to say Embark has world-class technology and world-class technologists, but everybody is very, very focused on driving towards a solution that can be done in business. So, it is a very pragmatic approach. I think that the Embark Universal Interface is a more recent example of this approach. Fundamentally, EUI puts Embark’s customers first.

Most large carriers have fleets of more than one truck brand, so it’s not just one of the four OEMs; often it’s multiple or all of the different big OEMs. And most large carriers have spent quite a bit of resources on building out maintenance capacity for those trucks. They really want open platforms for telematics for a fleet management solution. So, instead of forcing carriers to choose one specific OEM in order to leverage self-driving technology, EUI allows carriers to run Embark-powered trucks while preserving their OEM relationships and their fleet management investments. For Embark, this means happier customers, broader and more easily accessible market opportunity, and fast scaling.

Point one on Embark, business orientation. Point two, technical approach. Point three, the team.

As early stage investors in companies, the team means quite a bit to us. A lot of times the team is the only input that we are only able to observer before making an investment, and in our opinion the team at Embark is nothing short of A+. That all starts with Alex and Brandon. If I look at Alex in particular, I think of Alex as a learning machine. I think of Alex as somebody who has an incredibly steep slope, and I think of Alex as somebody whose runway as CEO of this company is effectively unlimited. At Sequoia we have an expression, which is ‘Hire for slope, not intercept,’ and I think Alex has one of the steepest slopes we have seen. So, we think the world of Alex and Brandon and the rest of the team.

When we partnered with Embark back in 2018, we saw some of the same ambition and grit and pragmatism that’s characterized some of the best teams that we’ve ever been in business with, and since then we’ve seen them execute on the vision, we’ve seen them produce groundbreaking technology, we’ve seen them put together a savvy business strategy that positions them at the front of the pack. Again, Embark’s ambition to lead and willingness to learn over time have been integral to the team’s success. I think it will continue to serve them well as they enter this new phase as a company, and we think Embark has a chance to fundamentally change the way we move goods around the world.

That is all I have to say on this today. Thank you for listening, and with that I will hand it off to Sam.

Alex Rodrigues

Thank you very much, Pat. Also for the kind words; I didn't know he was going to say that. Thank you very much for taking the time. Everyone here certainly really appreciates it.

Next up, we'll have Sam to talk about Embark's Partner Development Program in more detail.

Sam Abidi

Nice to meet you. I'm Sam Abidi. I'm Embark's Head of Business Development.

So, today I'm going to take a little bit of time to talk this group through some of the work that we do with our partners. You heard a little bit this morning about our partnership-based business model. Now, obviously to achieve that level of growth you need to start early and work deeply with the carriers in the space in order to achieve it. I'm going to take some time to do that today, to talk you through some of that work.

But before I actually dive into it, it's worth probably giving a bit of an overview of what carriers actually do today. As Alex said earlier, for those who are focused on the industrial space this is probably a review, but for others this will be very informative so that you understand what they do today, how it applies to what we're asking them to do, and how it will be slightly modified by autonomous trucks.

Right here, we've got the carrier who is our primary customer. They sit in between the OEM and the shipper, buying trucks from the OEMs, running them and selling capacity to the shippers, either on annual RFPs or even on a load-per-load basis.

The things that they do to actually achieve that are listed here at the bottom, and that starts with truck purchasing. We talked a lot about that today. It's everything from figuring out the specs to how it's going to modify the carrier's financials. From there we move into dispatching. Today, whenever a load gets moved, there's a dispatcher at command center who is interacting with the human driver, telling them where to go, how to pick up that load, where to take it and when it should actually be arriving. This is something that's going to have to become a little bit more systematic with AV trucks that don't have drivers in the cab.

Truck monitoring is something else that is also a big part of a fleet's day-to-day. Currently, our partners have tens of thousands of trucks running around the U.S. today, and when they want to know where one is, what condition it is in or why it needs to go get maintenance, they call up the driver and they talk to him direct. In the future, this is going to look a little bit more like a military command center type of situation where they're actually remoting into that truck to see its condition.

Drayage operations is another thing. We talked a little bit about the transfer hub model. That essentially has loads being moved from the highway-adjacent pieces of land to the end delivery point. This is not a new concept for a lot of our carrier partners. Some of them have sizable Intermodal operations where they do this regularly, or some of the LTL operations that they do where this is also a component of their business today. However, the scale at which we're going to be asking them to do it and the criticality of the business is going to increase for them, and so we're working with them to figure out how to further optimize those processes.

Truck maintenance is another one that gets mentioned often. Today carriers have really optimized how they maintain these trucks inside of their own fleets and when and if they use OEMs or third parties for maintenance. That calculus has to essentially be redone top to bottom because these trucks have additional components on them. Things that used to make sense to be done in-house may now make sense to have done out of house, and vice versa.

Then lastly, AV scaling. A lot of our carrier partners see autonomous trucks as a way to grow revenue and topline total miles. The reason that is is because we're removing one of the greatest barriers to growing your fleet today, which is hiring drivers. When you remove that barrier, you start to need to think about where can my operations support more loads, how can I sell more loads to shippers, and those are questions that we're working with them on day in and day out.

This is kind of the broad range of activities that have to happen, and it's because this range of activities is so broad that we actually set out to launch a program to help carriers prepare for transforming all of those processes to work with autonomous trucks. This program is the Embark Partner Development Program, and it's essentially a systematic multi-quarter project plan that we walk every carrier who we work with through and on the other side of this they're essentially equipped to take ownership of Embark autonomous trucks and run them effectively.

The work within this program can really be thought of as being part of one of three workstreams. It's either strategic planning, operational testing or ecosystem building. Today, I want to kind of double-click on each one of these to show you some of the work that we're doing inside with our carrier partners. As I go through this, it's worth giving you a little bit of color on what actually executing these looks like.

You'll notice that we span every corner of the business. That requires us to interact with every corner of the business inside the carrier, from the CEO to the management team to the Ops team to the drivers and dispatchers when we run commercial hauls with them. On our side, we've made an investment to actually build an entire team focused to executing this project plan with our carrier partners.

Let me get into it.

Strategic planning is one of the first things we do with any partner. What this actually looks like is analyzing their network at a lane level. You can think about it in two bodies of work: a general network assessment to figure out a rollout plan, and then deployment planning, which is essentially working backwards from that rollout plan to get everything in-house ready to essentially support it.

On a network assessment front, we start by helping the carriers understand what the actual benefits are of using autonomous incremental of current human drivers. That might sound quite simple in that it applies the same across the network, but it's actually quite different from lane to lane, and I'll give kind of an example.

On the surface you might think that a 500-mile lane and a 600-mile lane would deliver roughly the same incremental value if you convert them to autonomous. But if you actually go through and execute that, on the 600-mile lane, when you get to Mile 500 in a human driven truck, that human has to stop because of hours of service limitations. They now have to spend the night idling at a truck stop, and in the morning after 10 hours of break they take that truck to the final destination, arriving a little over 20 hours after they started. The autonomous truck drives straight through and arrives at roughly 11 hours, 11 or 12. This is an example where two seemingly similar routes, a 500-mile route and a 600-mile route, actually generate very, very different incremental benefits for our carrier partners, and there's a whole bunch of edge cases like this across the region that they operate in, the frequency of the load, what driver hiring looks like in that area, that actually allows you to start to take all of the lanes and kind of organize them 1 to n. Then from that, you can cluster them and build a rollout plan. This is essentially the business plan against which we underwrite our partnerships with our carrier partners.

Once we have that plan, we move on to deployment planning. This is where we actually work backwards from the miles that are associated with those lanes to understand how much truck capacity our carrier partners need in order to achieve the goals that we've set out. We can then back into the capital needs and how it would actually shift over time. Then finally, and probably most importantly, we start to work through the geographic operational considerations.

Now that you know how many lanes are going to be converted, you can start to say, "Hey, this is how many drayage trucks I need in the LA market," or the Atlanta market, to support this traffic. Or, "Let's start talking to the shippers that I actually service in this particular market because I'm going to be running traffic through it already. Might as well add capacity." Those are the kinds of discussions that we're starting to have today in order to be prepared to scale quickly in 2024.

In parallel, I want to talk a little bit about the operational work we do. We've got kind of the high level strategic planning. This gives us direction as a partner. Then we're actually running operational testing. We think about it in two bodies of work: one is commercial hauling and then one is actual process development.

On the process testing, this is running commercial loads with our carrier partners and shipper partners, and we try to make sure that we're doing this across all of the major industry verticals. The idea here is that by running today at relatively low volumes you can learn a lot and actually improve the products so that you don't have some of the scaling friction that typically occurs when you put a product out, and I'll give just kind of one anecdotal example of where this happened recently.

We were moving goods for a shipper whose loads tend to be relatively heavy, and we scaled out at their facility on the weigh up. This is where your truck and the trailer together weigh more than 80,000 pounds and they can't actually get on the road because it's too heavy. When we were debriefing with them we realized that the reason this had happened is because they typically have a lighter truck, what's known as a day cab. It's essentially like this but a little shorter and it weighs a little less. They typically have a day cab pick up that load. We had come with a sleeper, with our system. What this essentially taught us was you've got to be able to share the weight of not only the truck that's coming to pick up the load, but the one that will get it at the transfer hub, so that you don't have a scale-out later when the trailer is 10 miles down the road. This is something that's relatively easy to update; most shippers actually, a lot of them already track this, but this was something that we learned today, can correct for and won't have to worry about it when we're actually deploying. There are lots of examples like this that come out from testing day in and day out.

On the process development side, this is a bit more strategic in nature. This is where we build the systems that help our carriers gain comfort with running the trucks at scale. One of the biggest questions lots of folks in the room have kind of asked over the past day is, "How do you handle adverse weather?" What if it snows or there's a heavy rainstorm? We get that same question from our carriers and it's one of the first things we need to have a definitive answer to. So, we actually set out to answer this a while back as part of the program.

The way we did this is we essentially set up a series of questions. We want to understand how often does our truck need to stop because of adverse weather? When it does need to stop, for how long? Then once you know that, let's work backwards to generate repetitive logic that helps us essentially make a decision before a truck is dispatched if it can make that journey or not, similar to how airplanes are dispatched today. Then on top of that, once it's out on the road, continually ask, "Should I pull over or should I keep driving?"

In order to arrive at this answer, we worked with our carrier partners' weather centers, which keep thousands of trucks running today, handling weather. We talked to airline providers, and we worked with data scientists. All of this to analyze about 15 million data points spanning 10 years of U.S. weather data. Now we have essentially a piece of logic that gives our carrier partners great comfort in the way that these trucks will run in adverse weather scenarios.

It's things like this that both get carriers more excited to work with you because it gives them clarity, and it also, again, allows you to scale quicker once you're actually in market.

The last thing I want to talk about is ecosystem building. This covers a pretty broad swath of things. It's everything from helping our carriers work through regulatory hurdles, insurance, tech integration, and then also real estate. I want to focus today on the Embark Coverage Map, which you heard a little bit about earlier by way of our partnership with Ryder. There's two major components here and I want to dive a little deeper to help you understand the full strategy of how you actually deliver something like this so that carrier partners can essentially run between any of these nodes.

The Embark Coverage Map at a high level is essentially a series of points across the U.S. between which our carriers can launch and receive Embark autonomous trucks that they own and operate. When you think about it, it's got two components, the real estate and the transfer point operations. On the real estate side there's two big points to make here. One is the partnership-based approach. We work with a number of real estate operators, maintenance providers and truck stop operators, all of which who can end up having their real estate be points on the map. The second big point here is to actually understand the different types of real estate that will end up in this because it's not one size fits all; there's actually three of them and they have pros and cons.

At the very top is the dedicated transfer point. This is a relatively large site that's meant to handle large throughput of trucks and is purpose built for autonomous traffic. It's so large that shared sites would likely buckle under the load that comes through it. Shared sites, like maintenance facilities and truck stops, will help built out the remaining density in the network. A good example is secondary markets where it may not make sense to have a dedicated site. Then the last is shipper transfer points. As many of you probably know, we do plan to run point-to-point for some shipper facilities, and we'll be mapping those into our network.

With those three pieces of real estate you then get into the other side of this, which is what happens when the truck actually shows up at one of these facilities. This is the transfer point operations and this is actually where the Ryder partnership comes into play.

Ryder has decades of experience running yards for trucks, and this is what we plan to have them do nationwide at our dedicated transfer points. When a truck shows up at a transfer point, it needs to get through the gate, have its trailer unhooked, possibly have maintenance done, have pre-inspection completed, have a new trailer put on and be launched. The speed with which you can do that and the consistency of that experience from anywhere in the U.S. is critical to getting carriers to trust running their trucks in this network, and Ryder has the pedigree and the history to deliver on that. We also look to do exactly those same activities at our shipper facilities.

All in all, this is the type of thing where when we invest the time and energy today to get this network ready, it gives our carriers the conviction to actually work with us deeply to plan on how they'll actually roll out.

Real quickly to summarize, this is a lot of work on both parties, for us and for the carrier. The reason both sides are making this huge investment today is because we see it as an opportunity to pull forward the benefits of autonomous trucks. You heard earlier today from some of our speakers how shippers and fleets both think about autonomous trucks and what it can do for their business. The opportunity to pull that forward months and years is what this program is all about.

With that, I'll hand it over to Jonny Morris and former Secretary of Transportation Elaine Chao, who is also an Embark Board member.

Jonny Morris

This afternoon we have the pleasure of being joined by Secretary Elaine Chao. She served as the 18th Secretary of Transportation for the United States from January 2017 to January 2021. During her time as Secretary she recognized the importance that the automated vehicle industry will play in improving safety, modernizing U.S. supply chains, and improving U.S. economic competitiveness.

During her time as Secretary, she led the federal government's efforts to promote transparency and collaboration with the automated vehicle industry, modernized the regulatory environment, and prepared the U.S. transportation system to unlock the benefits of automated driving.

Under Secretary Chao's leadership, the Department of Transportation issued a number of federal guidance documents as well as the U.S.'s first comprehensive automated vehicles plan, including guidance in 2018 that was the first of its kind to introduce—to tackle the issue of autonomous trucking and how these trucks would interact with federal motor carrier safety regulations. This was an important milestone for the industry that provided needed clarity for us moving forward.

Prior to serving as Secretary of Transportation, Secretary Chao established an expansive career as a consequential leader in the public, private, and nonprofit sectors. She served as the Secretary of Labor, unanimously confirmed from 2001 to 2009, and actually became the longest serving cabinet secretary since World War II.

Nearer to my heart, she also served as the Head of the Peace Corps, opening programs in the Baltic States and the former Soviet Union. I actually served as a Peace Corps volunteer in Ukraine, so it's a small connection that we have.

And finally, she brings to Embark significant public board experience. She's served on the boards of Wells Fargo, Dole Foods, Northwest Airlines, Ingersoll-Rand and Clorox. Earlier this year, in addition to being added to Embark's Board, joined the boards of Kroger and Hyliion.

It's my distinct pleasure to welcome you to Embark Day, Secretary Chao.

Elaine Chao

Thank you.

I want to thank everyone who is the room. I am so sorry that I can't be with you because I would have loved to be with you and kind of tell you all about the company, and also see your excitement and learn from you as well. So, I want to thank you for sparing the time to learn about Embark. Thank you very much. And as I mentioned before at the start of this conversation, that's a good looking crowd there.

Jonny Morris

Great. Well, I want to start, you served as Secretary for about four years and I've actually been at Embark for about four years and so we kind of had these parallel tracks, and during your time as Secretary you saw a lot of change and a lot of growth in the automated vehicles industry. I want to hear from you how you approached managing that change and managing that innovation while still maintaining safety, and keeping the Department up to speed on all of the innovation.

Elaine Chao

Under my tenure the Department had three major goals. The first one—and you and I have talked about that—it's always safety. Safety has got to be number one.

Number two, I focused a great deal on investing into infrastructure. We spent about $330 billion over 3.5 years to shore up, repair, rehabilitate the infrastructure, transportation infrastructure of this country.

Then thirdly, I felt it was really important that we who are in the government have a stewardship role of developing the infrastructure, the transportation infrastructure for the future, and our mantra was always to engage with new, exciting emerging technologies to address legitimate public concerns about safety, security and privacy without hampering innovation. We are, after all, and Department is after all regulator., so their number one priority is to ensure safety.

If you look at just that point of view, the easiest thing to do as a regulator is to just tell everyone, "Stop." That is the easiest way to ensure safety, but obviously that's not realistic. So, we want to make sure that America maintains its pre-eminent position as an innovator, as the beacon of literally new creation that is such a part of what the American character and what our history is all about.

I've always been very interested in automated vehicles and most of the people that came in during the last four years were similarly experienced, pretty knowledgeable, and interested in furthering the development of autonomous vehicles, but to do so, again, in a way that will address public concerns and that will spur new innovation but not at the expense, obviously, of safety, the environment, infrastructure, because that's obviously what we all care about as well.

When we came into office in 2017, there was already a template. It was called AV 1.0. That was a guidance document. Having gone through that document we felt that that was very prescriptive, and if taken badly, it could actually be a blueprint or a roadmap to litigation. So we felt that it was really important to have a guidance document that was realistic, that protected, as I mentioned, safety and the environment with—again, without compromising innovation.

We started anew and came out with AV 2.0 in September of 2017; it took about a year. Then subsequently we came out with AV 3.0 in September of 2018, and then in September 2019 we came out with AV 4.0. AV 3.0 was particularly important, as I'm sure people in this gathering know, and that is that we basically said that a vehicle that moves without a human driver behind it was allowed. AV 3.0 also addressed specifically the trucking industry as well.

Through those four guidance documents, I hope that the regulated industry, those in this room, have found those guidance to be practical, realistic, responsible, but also engaging in terms of further innovation as well.

Jonny Morris

We spend a lot of time here preparing our inputs in the public comment process for each of those guidance documents. I want to ask you which one is your favorite because it's probably like asking someone which of their children are their favorites, but since I wasn't working at the Department, I can say AV 3.0 is definitely my favorite because it was the one that really clarified, for example, that hours of service would not be applied to a vehicle that didn't have a human driver operating it, which is obviously a pretty critical point of clarification.

I'm curious if you can describe a little bit the process that happened at the Department to develop those guidance documents.

Elaine Chao

For people in the private sector, it just seems incredible that these documents take so long, and the reason why they take so long is because there is extensive input from the public. The federal sector does really present an opportunity for input, and I think it's really important for people in the private sector to understand the process and understand how to inject yourself into that process.

It's actually pretty egalitarian, but it does depend on paper submissions, meaning text. Everything that is submitted is for the record. So when sometimes a rule-making process goes on, something called the ex parte communications is something that has to be watched very carefully so that no inappropriate discussion occurs that is not transparent and within the purview of the public sector. So the written submission is very, very important.

Actually, I didn't know Embark at all until I left the government, pretty much, and Embark was very skillful—that's a compliment to you, Jonny—about submitting your comments. I thought I had heard from my people that Embark always presented detailed, practical, illustrative examples when they submitted their public comment. So, the public comment is really, really helpful.

Jonny, thank you also for reminding me about the hours of service because that was an enormously important regulation and guidance document that basically was hugely important to the trucking industry, that indeed—and it only made sense because if there was no human being behind the wheel, then the hours of service, which addresses human fatigue, would not apply.

Jonny Morris

Wonderful. I appreciate the kind words. I know we worked really hard on this end to kind of go line-by-line through the regulations and make sure that we were giving good input. I think you mentioned the egalitarian nature of the process and I think that's very true because in 2017, 2018, we were not a big company. We didn't have a lot of clout in Washington, but we were able to put in substantive comments that stood alongside the comments of much bigger companies that maybe weren't as detailed, and we were able to really have an impact and see that in the result of AV 3.0.

That brings me a little bit to a question of expertise, which is our industry is moving really fast to new…

Elaine Chao

There's one more thing. You did ask me which one of the regulations I liked, and you're right, it's like choosing between children, but I do want to mention about AV 4.0. That was actually quite significant because there are 38 different agencies within the federal Department of—the federal government alone, that has some interaction on this issue. AV 4.0 basically set forth a common platform and agreed upon protocol and coordination on how these different, 38 different federal agencies come together and coordinate their response and how to regulate—at the federal level, at least—of the AV industry. Wouldn't you agree? I hope that's what you would agree to that, Jonny?

Jonny Morris

Absolutely. I think from the private sector perspective oftentimes, even just within DoT, there are jurisdictions that are you talk to NIST about this, you talk to FMCSA about that, and then if you zoom out beyond DoT there are a number of agencies that are relevant, and sometimes it becomes difficult to follow from the outside looking in. So to have a roadmap like that that really clarifies and sets for a vision for how that should be.

I guess the other thing I would mention about the guidance that really resonated is that when I have conversations with career staff, it's something that they've put a lot of time into and I think it's something that has—it's not about one administration or who is in power; it's something that I think is very lasting, that has a lot of buy-in from the career side as well.

Elaine Chao

I think that's the only way, responsible, non-career policy makers must behave. Because we want what's good for America, and so we want all these guidance documents and guidance to be sustainable, and so you must win the hearts and minds of the career folks because if they don't agree with you they don't agree with you and then it's not sustainable in the long term with obviously then adverse implications for the regulated industry, because the whiplash between one administration to the next would be deleterious, I think, for development in this sector. And all other industries as well.

Jonny Morris

Absolutely.

That actually continues to bring me to my point about expertise which is I'm curious to know how you—or if you can kind of characterize how you approach working with industry. Because we're in this kind of working on this new technology and a lot of the expertise really resides in the private sector, but oftentimes whether it's career or political folks in the Department are asked to be experts on this. I think one of the interesting things that maybe you could talk about is just the general approach to working with industry on these issues.

Elaine Chao

First of all, we didn't think that industry was evil. We believe that industry were—people in the industry were trying to create a better transportation system. I was particularly supportive of AVs from a Secretary of Labor point of view. With 66,000 shortages in the truckers currently being cited, it was really important to be able to keep our supply chain going, keep our economy competitive and to address the shortfall in truckers. Also, just from another point of view, people with disabilities can participate more, and also the elderly as well. This is new technology that would enable greater segments of our population to be involved and also return freedom to a large segment of our population as well.

To engage with industry, we had a lot of—we held conferences. We held listening sessions. We talked actively with the regulated community because the career folks and the noncareer folks within the federal government are by no means experts. I mean, the experts are those in this room. The experts are all of you who deal with this issue on a daily basis in a rapidly changing environment, and your input into the federal government we thought was very, very helpful.

I can't remember all of the conferences we held, but we certainly—there was at least, there were many that were held: listening sessions, conferences, forums, workshops, summits, all with the purpose of eliciting information, relevant, realistic information, up-to-date information from those who are involved in the sector.

Jonny Morris

Your team certainly kept me traveling. There were a number of summits that happened across the country and I was lucky enough to go to most of them. Really, it was a great opportunity to dig in with a lot of—especially the career experts where you're kind of sharing institutional knowledge.

You obviously accomplished a lot, both with autonomous vehicles and beyond in the broader transportation system during your time as Secretary of Transportation. So, you kind of complete your public service and you're thinking about what to do next. I know you had some interest in kind of getting involved in new economy companies. I'm curious to know if you can tell us a little bit about that journey of looking at what else is out there and how you ended up deciding to join Embark on our Board.

Elaine Chao

I was really impressed with the management, and I think people in this room can understand that. There are a number of investment bankers, PE—private equity folks, venture capitalists. I think the most important element in any organization, any entity's success is the people, is the management. I was really impressed with Alex. He's very young. He's very smart. He's very mature, and he knows what he doesn't know and he's not shy, nor hesitant, about asking for help. I think that is really important because Alex is brilliant, he has been involved in this field since probably he was six years old or something. He has a real vision. He loves what he's doing, and yet he also knows his own constraints. So, he goes out and assembles this wonderful team, so Alex and his two partners have assembled this wonderful team.

Then, secondly, I was really impressed with the fact that Alex had enough kind of wisdom to know how important a policy-making process would be to the development of the sector. So, to have right from the get-go a policy person who can engage, who can track all the policy makers, what is happening with developing policies, I thought showed a (inaudible) of maturity and savvy that was very distinctive.

The, thirdly, as I mentioned, I actually hadn't known Embark. I set the policy in conjunction with other senior managers, but I actually don't have very much contact with individual companies, and that's actually much to my chagrin because it would have been so much more fun, but you just don't have time sometimes. So when I was leaving, when I left I heard a great deal about Embark and how highly they were thought of. Again, because they were so forthcoming in helping to educate the career folks in the Department about what the potential of this industry and this sector was, and also what are some of the key aspects in the development of this industry that needed to be addressed from a policy point of view, from other points of view.

Then, I think fourth, I was very touched by the humanitarian concern. I don't know how many—there's so many investment bankers out there, I don't know whether you think—I think it's an important point because I actually had visited Stanford AI labs before I was Secretary of Transportation, and one of the things that I mentioned as being really important was to address the human element in this equation, in this sector. I really liked the fact that there was a policy shop at Embark, but that they had also thought about what does it mean to have an automated driving system? What does that mean for society? What does that mean for labor because labor is going to be—they think—significantly impacted and they are huge players in the development of policy in this sector.

Jonny Morris

Thank you, Secretary.

Elaine Chao

Also, you guys are fun. I like being with you guys.

Jonny Morris

Yes, we have to be serious today but behind all these curtains is all the fun stuff. You just can't tell. I'm joking.

I mean I think I share—when I started talking with Alex and Brandon and Mike over four years ago and they were kind of this group of about a dozen people in a garage, I also remember thinking these guys are very young, but very smart, and they're smart enough to want to bring on a policy person so early. Alex spent some time earlier today talking about how focused Embark has been specifically on trucking, really being one of the first companies to really invest heavily in that particular solution, and I think that's really benefited the policy side because we were also first really talking about autonomous trucking policy and building the relationships and starting the conversations, and I think that's really been a benefit to the industry broadly, but also to Embark because we've been able to take on some leadership positions within the industry to help guide some of the policy advocacy work.

I'm curious to know, now you're not in government and you're an observer of what's going on, I'm curious if you would share some thoughts with us on the current regulatory landscape and outlook as you see it.

Elaine Chao

I think the new administration will be different and without talking about politics, which is not the intent, they do have a different regulatory approach, and I think you know what that is. There's certainly more oversight and there's certainly an increasing requirement for reporting. I would hope, though, that the general direction of encouraging responsible innovation will continue. I think that's the trend of the future and I don't think anybody can falter that. If anything, we need to be competitive in this space and to that end I also admire Jonny and Alex for reaching out to labor as well. But these are tough changes. Anything new is—especially in this accelerated environment in which we all live and work, it's going to change the way we work, the way we move, and to some quarters it's kind of disconcerting, but I think over time these new changes will actually prove to be job generators. They'll be different, and that was one of my key points that I focused on when I was Secretary of Labor, and that is to say that these changes will bring about different types of jobs and there might be some short-term dislocations which the government and the companies will work—are involved in handling, but that overall history has shown in the long term that the kinds of jobs that will be created will still be created but they'll just be different. They will perhaps require more skills, whatever, but overall, innovation actually begets and creates additional waves of new jobs. I think, again, how we facilitate those, some of those people who may have a hard time adjusting, that's why we have training programs, that's why we have job assistance programs. That's why we have transition programs, and the federal government has many, many training programs to help people transition through these times of change.

Jonny Morris

Secretary, I really appreciate you spending so much time with us today. I have one last question for you, which is now we have Secretary of Transportation Pete Buttigieg, who is a very exciting public figure, someone probably not so different from Alex in that he is very smart but very young. I'm curious to know if you have any advice for Secretary Buttigieg as he kind of oversees the next phase of the autonomous vehicles industry.

Elaine Chao

I think Secretary Buttigieg is doing very well and I'm sure he doesn't need any advice from me. He has plenty of advisors. He's just had two new babies, twins, so I wish he and Chasten, his husband, well. I think, again, now as they go forward and interact with members of this community, they also realize, I'm sure, the importance of the technology that is being developed, the potential that it holds, and though there might be differences in how oversight occurs or how reporting requirements occur, I would hope that they will, again, address legitimate public concerns about safety, security and privacy without hampering innovation, which is such a hallmark of who we are as Americans, and is so much a part of our contribution for the rest of the world.

Jonny Morris

Wonderful. Thank you so much for joining us today, Secretary. I'm sure everyone here appreciated your thoughts.

Elaine Chao

Not at all. I want to thank your audience. I want to thank your audience. Thank you so much for coming and spending such a large portion of your valuable day. I hope you found it useful and your contributions, your analysis, and your monitoring this sector is very important to the future of our country. Thank you.

Jonny Morris

Thank you.

Forward-Looking Statements

This press release includes “forward-looking statements” within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. Embark’s and Northern Genesis 2’s actual results may differ from their expectations, estimates and projections and consequently, you should not rely on these forward-looking statements as predictions of future events. Words such as “expect,” “estimate,” “project,” “budget,” “forecast,” “anticipate,” “intend,” “plan,” “may,” “will,” “could,” “should,” “believes,” “predicts,” “potential,” “continue,” and similar expressions are intended to identify such forward-looking statements. These forward-looking statements include, without limitation, Embark’s and Northern Genesis 2’s expectations with respect to future performance. These forward-looking statements also involve significant risks and uncertainties that could cause the actual results to differ materially from the expected results. Factors that may cause such differences include, but are not limited to: (1) the outcome of any legal proceedings that may be instituted in connection with any proposed business combination; (2) the inability to complete any proposed business combination in a timely manner or at all; (3) delays in obtaining, adverse conditions contained in, or the inability to obtain necessary regulatory approvals or complete regulatory reviews required to complete any proposed business combination; (4) the risk that the business combination may not be completed by Northern Genesis 2 business combination deadline and the potential failure to obtain an extension of the business combination deadline if sought; (5) the failure to satisfy the conditions to the consummation of the transaction, including the adoption of the agreement and plan of merger by the stockholders of Northern Genesis 2 and Embark and the satisfaction of the minimum trust account amount following redemptions by Northern Genesis 2’s public stockholders; (6) the lack of a third party valuation in determining whether or not to pursue the proposed business combination; (7) the risk that any proposed business combination disrupts current plans and operations and/or the impact that the announcement of the proposed business combination may have on Embark’s business relationships; (8) the inability to recognize the anticipated benefits of any proposed business combination, which may be affected by, among other things, competition, the ability of the combined company to grow and manage growth profitably, maintain relationships with customers and suppliers and retain key employees; (9) costs related to the any proposed business combination; (10) changes in the applicable laws or regulations; (11) volatility in the price of Northern Genesis 2’s securities due to a variety of factors, including changes in the competitive and highly regulated industries in which Embark plans to operate, variations in performance across competitors, changes in laws and regulations affecting Embark’s business and changes in the combined capital structure; (12) the possibility that Embark or Northern Genesis 2 may be adversely affected by other economic, business, and/or competitive factors; (13) the impact of the global COVID-19 pandemic; and (14) other risks and uncertainties separately provided to you and indicated from time to time described in filings and potential filings by Embark and Northern Genesis 2 with the U.S. Securities and Exchange Commission (the “SEC”), including those discussed in Northern Genesis 2’s Annual Report Form 10-K for the fiscal year ended December 31, 2020 (“Form 10-K”) and Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 and those that are expected to be included in the registration statement on Form S-4 and proxy statement/prospectus discussed below and other documents filed by Northern Genesis 2 from time to time. These filings identify and address other important risks and uncertainties that could cause actual events and results to differ materially from those contained in the forward-looking statements. Embark and Northern Genesis 2 caution that the foregoing list of factors is not exhaustive and not to place undue reliance upon any forward-looking statements, including projections, which speak only as of the date made. Embark and Northern Genesis 2 undertake no obligation to and accepts no obligation to release publicly any updates or revisions to any forward-looking statements to reflect any change in its expectations or any change in events, conditions or circumstances on which any such statement is based.

Additional Information About the Proposed Transactions and Where to Find It

The proposed transactions will be submitted to stockholders of Northern Genesis 2 for their consideration. Northern Genesis 2 has filed a registration statement on Form S-4 (the "Registration Statement") with the SEC which includes a preliminary proxy statement to be distributed to Northern Genesis 2's stockholders in connection with Northern Genesis 2's solicitation for proxies for the vote by Northern Genesis 2's stockholders in connection with the proposed transactions and other matters as described in the Registration Statement, as well as the preliminary prospectus relating to the offer of the securities to be issued to Embark's shareholders in connection with the completion of the proposed merger. After the Registration Statement has been declared effective, Northern Genesis 2 will mail a definitive proxy statement and other relevant documents to its stockholders as of the record date established for voting on the proposed transactions. Northern Genesis 2's stockholders and other interested persons are advised to read the preliminary proxy statement/prospectus and any amendments thereto and, once available, the definitive proxy statement/prospectus, in connection with Northern Genesis 2's solicitation of proxies for its special meeting of stockholders to be held to approve, among other things, the proposed business combination, because these documents will contain important information about Northern Genesis 2, Embark and the proposed business combination. Stockholders may also obtain a copy of the preliminary or definitive proxy statement, once available, as well as other documents filed with the SEC regarding the proposed transactions and other documents filed with the SEC by Northern Genesis 2, without charge, at the SEC's website located at www.sec.gov or by directing a request to Northern Genesis 2.

INVESTMENT IN ANY SECURITIES DESCRIBED HEREIN HAS NOT BEEN APPROVED OR DISAPPROVED BY THE SEC OR ANY OTHER REGULATORY AUTHORITY NOR HAS ANY AUTHORITY PASSED UPON OR ENDORSED THE MERITS OF THE OFFERING OR THE ACCURACY OR ADEQUACY OF THE INFORMATION CONTAINED HEREIN. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

Participants in the Solicitation

Northern Genesis 2, Embark and certain of their respective directors, executive officers and other members of management and employees may, under SEC rules, be deemed to be participants in the solicitations of proxies from Northern Genesis 2's stockholders in connection with the proposed transactions. Information regarding the persons who may, under SEC rules, be deemed participants in the solicitation of Northern Genesis 2's stockholders in connection with the proposed transactions will be set forth in Northern Genesis 2's proxy statement/prospectus when it is filed with the SEC. You can find more information about Northern Genesis 2's directors and executive officers in Northern Genesis 2's Form 10-K and Forms 10-Q filed with the SEC. Additional information regarding the participants in the proxy solicitation and a description of their direct and indirect interests will be included in the proxy statement/prospectus when it becomes available. Stockholders, potential investors and other interested persons should read the proxy statement/prospectus carefully when it becomes available before making any voting or investment decisions. You may obtain free copies of these documents from the sources indicated above.

No Offer or Solicitation

This communication does not constitute an offer to sell or the solicitation of an offer to buy any securities, or a solicitation of any vote or approval, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.