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# Founder and CEO With Extensive Robotics Experience...

Robotics World Champion Built first selfdriving vehicle in Canada

YCombinator W16

Thiel Fellow

Built 11 Robotics Platforms



### ... And a Powerful Vision for the Future

To build a world where consumers pay less for the things they need, drivers stay closer to the homes they cherish, and roads are safer for the people we love.

## **Today's Presenters**

Alex Rodrigues
Co-Founder and CEO of Embark

Richard Hawwa
CFO of Embark

lan Robertson
Director and CEO of NG II



# Northern Genesis Acquisition Corp. II

#### Equipped to Help Accelerate Embark's Growth

#### Northern Genesis II Overview

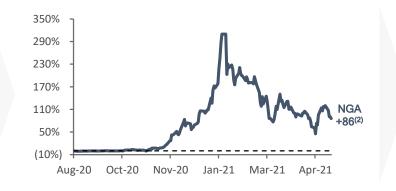
- Northern Genesis Acquisition Corp. II ("NGII") is an NYSE listed SPAC that priced its \$414M IPO on 1/12/2021
- An "operator-backed" SPAC whose management team founded and built Algonquin Power & Utilities Corp to a \$12B NYSE listed renewable energy and utility company included in the TSX60 index
- NGII's management team has significant experience in relevant areas:
  - Energy industry disruption through renewable power generation
  - · Deep understanding of infrastructure and logistics
  - · Participation in the mobility evolution through Lion Electric electric vehicles

#### Northern Genesis II - Embark Transaction

- Industry disrupting cost savings and proven technology combine to make Embark a tangible, executable business proposition
- Embark story brings strong ESG alignment with:
  - Environmental benefits from improved fuel economy
  - Social benefits of safer roads for the travelling public and Improved driver working conditions
- \$414M in trust to be augmented by \$200M PIPE supported by:
  - · Follow-on investments from Sequoia Capital and Tiger Global
  - Participation by Northern Genesis management group
  - Significant commitment from KnightSwift nation's largest trucking carrier

#### The Lion Electric Transaction was Well Received

- Center of truck and bus fleet electrification movement
- √ Six million miles driven by 300 all-electric fleet
- Proprietary technology created from 10 years of R&D



"It's not just a question of price or speed to market, the people you will partner with are essential... When lan called I already knew who he was because of what he had done [with Algonquin]. I was speaking with another entrepreneur who had previously gone public with his company and brought it to a market value of over \$10 billion."



Marc Bedard (Lion Electric CEO)





# **EMBARK** is an AV SaaS Company Focused on Trucking

Embark's Business Model Offers Meaningful Operational Savings and Collaborates Rather than Competes with Carriers

Embark partners with carriers (and private fleets), who pay a per-mile subscription fee for Embark's software

Guardian - Embark's cloud-based dispatch and monitoring solution - provides seamless oversight and integration for carriers

Carriers purchase trucks equipped with compatible hardware directly from truck manufacturers

Platform-agnostic Embark Universal Interface (EUI) technology makes it easy for OEMs to provide compatible hardware as a factory option

Self-driving between highwayadjacent points on Embark coverage map Moving freight today on proof of concept fleet (with safety drivers). Targeting driver-out in 2023 and commercial scale in 2024





# **INDICATE** Is the Longest-Running Self Driving Truck Program<sup>(1)</sup>

2016	Founded	
2017	Coast-to-Coast Industry First Completed the first autonomous truck coast-to-coast drive Execution First to bring shipper and carrier together to execute transfer point operation	
2018	100,000 Miles Industry First  Crossed 100,000 miles  L.A. to Phoenix  Completed first fully autonomous run from L.A. to Phoenix with 0 interventions	DC   Data   Collective
2019	Transfer Point Industry First Opened the world's first transfer point in Los Angeles & Phoenix  Fortune 500 Moving freight for Fortune 500 companies	SEQUOIA LE
2020	Embark Guardian  Built Embark Guardian as an important step towards commercialization	TIGERGLOBAL
Today	Embark Partner Development Program  Launched Partner Program with HP, AB InBev, Werner + 2 more top 25 truckload carriers  Carrier Network Assessments  Conducted network assessment for 8 Fortune 500 companies to plan the conversion of billions in existing freight to autonomous	N <b></b> RTHERN GENESIS II



# **IN EMBARK**'s Deep Team Has Industry Leading Experience

#### **Business Leaders**



Alex Rodrigues Co-Founder & CEO



Richard Hawwa CFO



Mike Reid COO



**Brandon Moak** Co-Founder & CTO



Somudro Gupta Head of Autonomous Vehicle Engineering



**Engineering Leaders** 

Ajith Dasari Head of Hardware Platform Engineering



Gilbran Alvarez Machine Learning and Perception



Mark Liu Behavior Planning



Sid Venkatesan CLO



Payal Maheshwari People



**Jonny Morris** Public Policy



**Grady Williams** Vision Map Fusion



Erik Ward Motion Planning and Prediction



Kamil Saigol Trajectory Generation



**David Devore** Mechanical Engineering



Hing Wong Systems Engineering





























#### **Guided by World-Class Team of Directors**



Matthew Ocko Co-Managing Partner





Patrick Grady Partner, Head of U.S. Growth Investing



Elaine Chao Former Secretary of Transportation Former Secretary of Labor

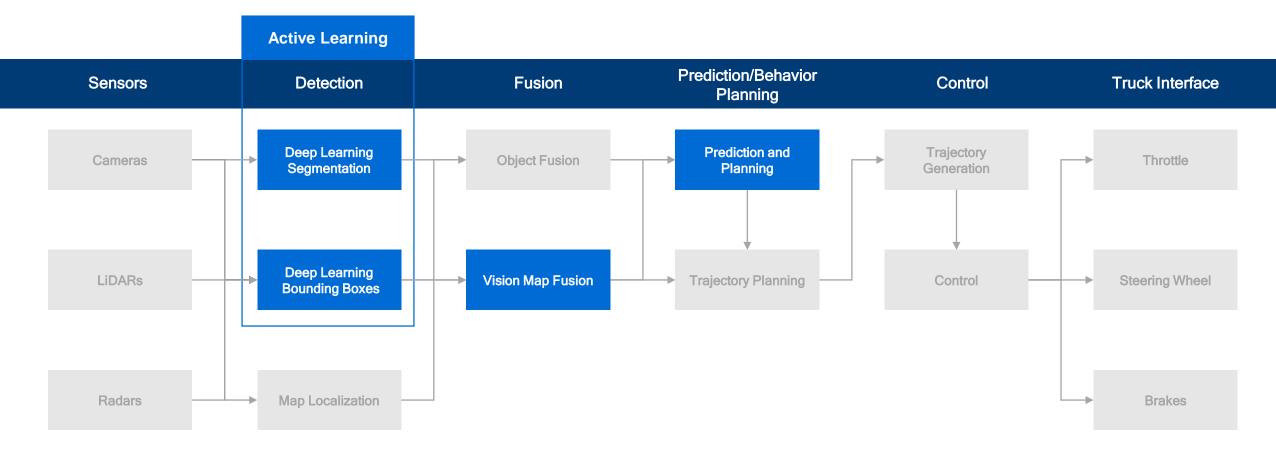


**U.S. Department** of Transportation



# **EMBARK** is Focused on Building the Best Self-Driving Software

**High-Level Architecture** 

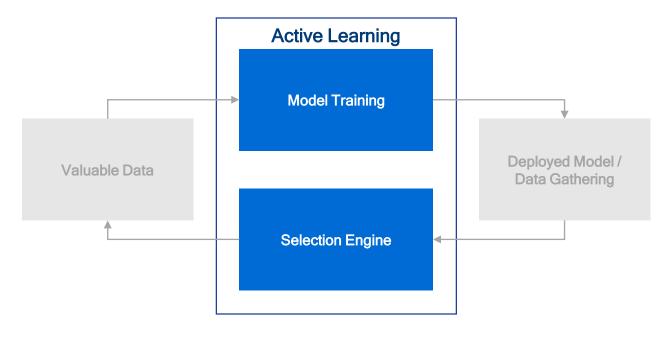




## Proprietary Active Learning System Drives Rapid Improvements

#### Using Real World Situations To Rapidly Improve Performance

# Edge Cases Irregular Objects University (1974) U



- Finding and solving edge cases is critical to the deployment of safe self-driving
- Our Active Learning pipeline is fed by uploading fleet data to our cloud-based selection engine
- The selection engine identifies edge cases by uniformly sampling and analyzing detection uncertainty for object existence, class and position across multiple permutations of the deployed model, culminating with a rank order of relative data value
- With the most valuable data automatically identified, we can focus our labeling and training efforts to provide the quickest, most effective feedback loop for the Embark Driver - resulting in constantly improving performance



# Vision Map Fusion & Scene Understanding Enable Robustness

Moving Beyond Brittle, Map-Centric Approaches

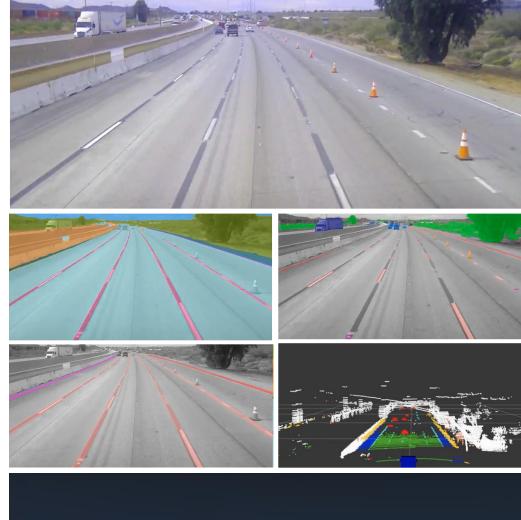
#### **Vision Map Fusion**

- Using proprietary techniques, Vision Map Fusion uses a non-linear optimization approach to fuse local vehicle poses with global map geometry in real-time, enabling on-the-fly map corrections
- Making map corrections in real-time allows for dramatically improved accuracy and robustness of near-field lane geometry estimation, while also unifying the corrected near-field topology with the farfield map to create a static scene used in downstream operations
- Our approach is designed to be less map reliant and more capable of handling the constantly changing road environment
- By correcting map errors on the fly, Vision Map Fusion can facilitate safer, more scalable, and more
  efficient operations compared to alternative map-centric approaches



#### **Grady Williams**

- PhD Robotics from Georgia Tech
- Creator of MPPI (Model Predictive Path Integral) algorithm
- Widely cited in vehicle control, robotics and other research





## Interactive Planning with Data **Driven Predictions**

60 Second, Interaction-Aware Prediction Horizon Unlocks Optimal Behavior in Challenging Driving Scenarios

#### **Intelligent Adaptive Prediction**

- Data driven modeling enables the Embark Driver to predict the actions of other road users
- Each new observation of a road user improves the system's ability to predict that road user's intent
- Allowing the Embark Driver to understand if a vehicle intends to yield the right-of-way or close an identified gap

#### Simulating Up To 1200 Scenarios Each Second

- Each scenario simulates the actions and interactions of the truck and other relevant vehicles in the environment
- Based on the observed and predicted actions of the other road users The Embark Driver generates a 60 second planning horizon, analyzing relevant actors and available trajectories
- The plan best fitting multiple criteria including safety, comfort, and route preference is selected and is intended to match a human driver under challenging circumstances

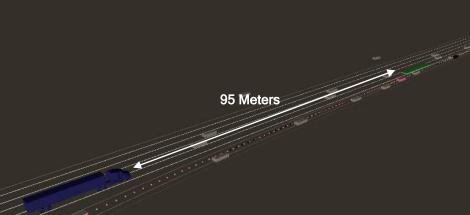


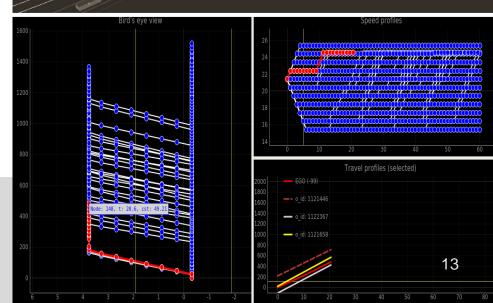


#### **Erik Ward**

- PhD Research on Interaction Aware Planning for Self-Driving
- KTH Royal Institute of Technology
- Scania Self-Driving Truck Research









## **Our Emphasis on Safety**

Embark Has Driven More Miles Without a DOT Reportable Incident Than Any Other Self-Driving Truck Player<sup>(1)</sup>

#### Hardware

- · Truck-centric hazard analysis
- Exhaustive benchtop and integrated on-road testing

#### Software

- ODD driven requirements development
- · Comprehensive testing
  - Unit tests
  - · Scenario-based simulation
  - · Closed-course
  - · Monitored on-road

Over 1 million real-world miles driven without a DOT reportable safety incident

#### **Operational**

- Highly trained team performing all testing
- Continuous fleet monitoring
- Strict field safety incident response protocols

# **EMBARK**'s Technology is Expected to Drive Significant Value for Carriers

#### Three Factors Driving Carrier Adoption

# 1 Expected to Provide Compelling Economics for Carriers<sup>(1)</sup>

Illustrative AV Adoption	0%	20%	50%
Revenue	\$179M	\$285M	\$442M
Operating Margin	10%	14%	19%
Operating Profit	\$18M	\$39M	\$85M
		117%	375%



Up to 2x Carrier Profit Margin on AV miles



~3x Annual Revenue Per Truck via 24/7 operation



**GENESIS II** 

Increase Truck Utilization, Decrease Payback Period

#### ② Expected to Improve Competitiveness for Shippers

- Improved Sustainability: Up to a 10% increase in fuel efficiency per mile, driving a reduction in carbon emissions due to better speed management, supporting Carrier and Shipper sustainability objectives
- Increased Delivery Speed: Doubling of daily range from 500 to 1,000 miles, reducing delivery time by 40%<sup>(2)</sup>
- Improved Safety: Autonomous driving directly addresses the 5K deaths, 151K injuries and the enormous value of damaged cargo attributable to human error<sup>(3)</sup>

#### ③ Expected to Alleviate Driver Shortage

- Current driver shortage is 60K and expected to rise to 160K by 2028, leaving 1,000s of trucks "against the fences" at large carriers
- Expected to improve quality of life for drivers by being home every night

Source: ATA

<sup>(1)</sup> Calculations assume a 1000 truck fleet converts a percentage of manual trucks to Embark autonomous trucks, capturing the improved utilization and margins provided by Embark trucks. Calculations also assume direct to customer operating model using ATRI per-mile economics

<sup>(2)</sup> Calculation based on assumption of 22 hour driving day vs. 10 hour human driver day

<sup>3)</sup> Estimates based on data from May 2006 Presentation by US DOT FMCSA from its Large Truck Causation Study

## Partners are investing to prepare their businesses to scale Embark autonomous trucks

## Top Shippers and Carriers are Partnering with **Embark**

**ABInBev** 













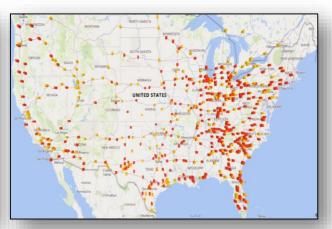
Embark is working with shippers and carriers to analyze their nationwide freight networks at a lane level and develop detailed rollout plans for converting portions of these networks to autonomous

Embark is hauling with carriers and shippers to refine operations today, paving the way for partners to quickly, safely and effectively scale autonomous trucking

Embark is working closely with carriers today to define business model details such as dispatching, monitoring, maintenance, liability and transfer hub availability, resulting in a clear path to scale





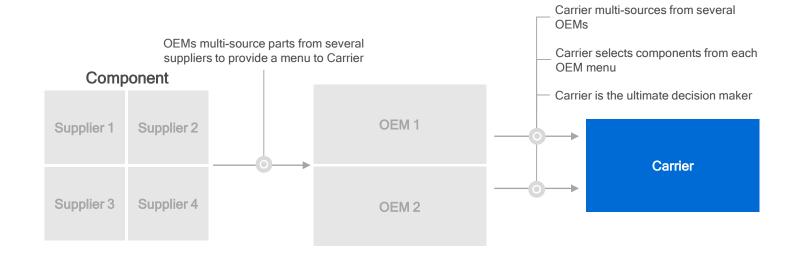




## **Market Dynamics**

#### Why We Think Being Platform-Agnostic is Important

- Aligned with the reality that most major carriers run mixed fleets
  - Nearly 90% of top 25 carriers run 2+ OEMs and ~50% run 3+ OEMs
- Carriers are the ultimate decision makers on component selection





We currently purchase trucks from multiple OEMs and plan to continue this strategy to optimize the experience for our drivers and meet our Total Cost of Ownership objectives. Embark's investment to integrate its autonomous driving system with the major OEMs will allow us to test and deploy autonomous trucking capabilities without introducing a new OEM into our fleet for that sole purpose.

- Trevor Fridfinnson
Chief Operating Officer at
Bison Transport

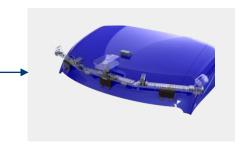


## **Embark Universal Interface (EUI)**

#### Specs / Module Designs

#### **Component Package**

 Standardized sensor and compute systems determined through thousands of hours of design, testing and analysis





# APIs Interface Package

Custom flexible physical, electrical and software interfaces enable platform-agnostic integration to any drive-by-wire actuators, chassis, power and HVAC

#### **EUI Production Plan**



#### 2018-2021

- Embark has engaged with all 4 major US OEMs for many years tracking as they each progress towards offering proprietary redundant drive-by-wire platforms.
- In parallel, Embark has developed our Embark Universal Interface with flexible interfaces are easily configured to integrate with any drive-bywire.



#### **Near Future**

- We anticipate OEMs will ship their first production trucks with redundant drive-by-wire in the near future.
- Embark is in active dialogue with OEMs as they plan which sensor and compute options to offer to carriers on top of redundant drive-by-wire.



#### **Expected Equilibrium State**

- Truck OEMs expected to offer multiple AV options to carriers
  - Multiple non-exclusive integrations
  - In line with how OEMs currently provide factory options for multiple major engine, brake and telematics solutions today
- Carriers make the ultimate decision on which AV system to spec based on price, coverage map and ability to be used across their fleet





# **EMBARK** Brings Compelling Benefits Across The

**Entire Network** 

**Carriers** 

Improved economics, alleviate driver shortage

#### **Truck Stops and Depots**

Leverage existing real estate to expand the transfer points



Enhances the Freight
Ecosystem and Benefits all
Participants

#### **Shippers**

Increased efficiency, improved reliability, sustainability and safety

#### **Tier 1 Suppliers**

Additional demand for autonomous-related components

#### **OEMs**

Embark Universal Interface, new revenue streams



## Choosing the Right Strategy in AV Trucking

#### Recent Public Transactions

	Software-as-a-Service	Fleet	Retrofit
Company	)) EMBARK	tu simple	→ Plus
Major Investors <sup>(1)</sup>	SEQUOIA * TIGERGLOBAL*  DC   Data * Combinator   Combinator   Company   Comp	SUN <b>ラブロン (COMPOSITE</b> COMPOSITE CO	## Alliance GSR Ventures © 國泰君安國際 Investments III Limited
U.S. Shipper Partnerships	ABInBev (m)	MCLANE.	
U.S. Carrier Partnerships	KNIGHT SUFT* WERNER ALLEY FRANSPORTATION  **  **  **  **  **  **  **  **  **	WERNER SCHNEIDER U.S. XPRESS	
OEM Strategy	Embark Universal Interface	Custom Navistar Truck (Navistar is 11% of Market) <sup>(2)</sup>	Retrofit
Initial Go-to- Market	Driver Out Partner with Carriers	Driver Out Carrier owned Trucks TuSimple owned Trucks	Driver In
Market	100% USA	~70% USA / ~28% China / ~3% Europe <sup>(3)</sup>	15% USA / 85% China <sup>(4)</sup>
Offices	Exclusively USA   USA  San Francisco  Los Angeles	ChinaUSA• Beijing• San Diego• Shanghai• Tucson• Forth Worth	China USA  Beijing Shanghai Suzhou

<sup>\*</sup> PIPE commitment

Source: Company filings, Transport Topics, Top 100 For-Hire carrier data from Transport Topics

- (1) Embark and TuSimple select investors represent investors with 5%+ ownership. Plus.ai includes Board Investors due to lack publicly available shareholder ownership information
- (2) Traton and Navistar are in the process of completing a merger. Navistar's International is the brand of the two that operates in the US and has 11% of market based on public data
- (3) Based on testing and commercial deployment (trucks in fleet)
- Based on 2025E revenue breakdown



# Trucking Market Represents Significant Opportunity

\$700 billion truck freight market represents a significant opportunity<sup>(1)</sup>

Clear and present problem with driver shortage

Delivers potential value to not only carriers, but the entire ecosystem

Demand for freight continues to grow

Fragmentation of various constituents unique to the trucking industry

**GENESIS II** 

Infrastructure is in place today to enable rapid commercialization and scale within the freight ecosystem



# How | EMBARK Expects to Commercialize Its Business

#### **Two Phase Rollout**

#### Phase 1: Sunbelt 2024+ TRANSFER POINT Dravage "last mile Phase 2: Lower 48 2026+ **Customer Facilities** ~210 Billion Incremental Semi-Truck Miles Drayage "first Seament Transfer Point **DIRECT TO CUSTOMER Customer Facilities** ~90 Billion Semi-Truck Miles Autonomous Driving **Human Driver**

**Two Route Models** 

- Embark shares a percentage of the savings with a carrier as a result of utilizing Embark's software solution
- Implies a \$ / mile subscription fee, which will be variable depending on the distance of the load
- Embark offers a drayage rebate for last-mile transfers to align incentives on the total cost of the load
- Transfer Point only economical for carriers on lanes >300 miles
- Direct to Customer economical on lanes >100 miles, when shipper facility within Embark coverage map

**EMBARK** intends to partner throughout the ecosystem and participate with existing players, not compete against them

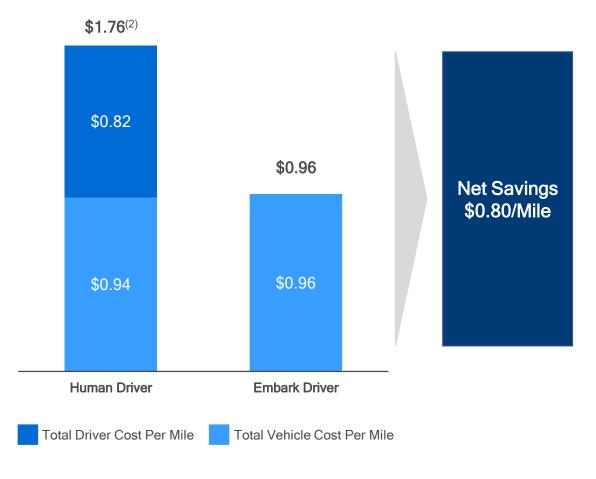


### Embark / Northern Genesis II Financial Model Framework

#### Autonomous Truck Miles Driven(1)

### Total Addressable Market of ~300 Billion Miles Annually Today **Transfer Point Direct to Customer** >300 Miles >100 Miles 86% of Miles are in Autonomous **Economic Freight Lanes** Embark ODD **Expected Embark Penetration as a % of Serviceable Miles** 2024E 2025E 1.1% 3.3%

#### Human Driver vs. Embark Driver





# Compelling Unit Economics for Both the Carrier and **DEMBARK**

#### **Embark Autonomous Revenue Per Mile**

**Gross Revenue** 

\$0.44/Mile

Last Mile Reimbursement

500 Miles: Net Revenue \$0.31/Mile

1000 Miles: Net Revenue \$0.38/Mile

#### **Embark COGS Per Mile**

Cost of Goods Sold (1)

\$0.12/Mile

#### **Guardian System**

#### Includes:

- Monitor Bandwidth Cost
- Update Bandwidth Cost
- Update Subscription Cost

#### Guardian Employee

#### Includes:

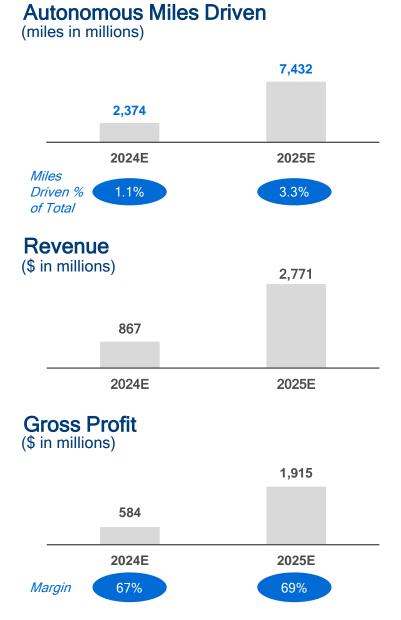
- Salaries
- Benefits
- Overhead Costs

Gross Profit<sup>(1)</sup> \$0.26/Mile Gross Margin<sup>(1)</sup>  $\sim$ 69%





# Financial Projections





~236 Billion+



Long-Term Gross Margin Target ~74%

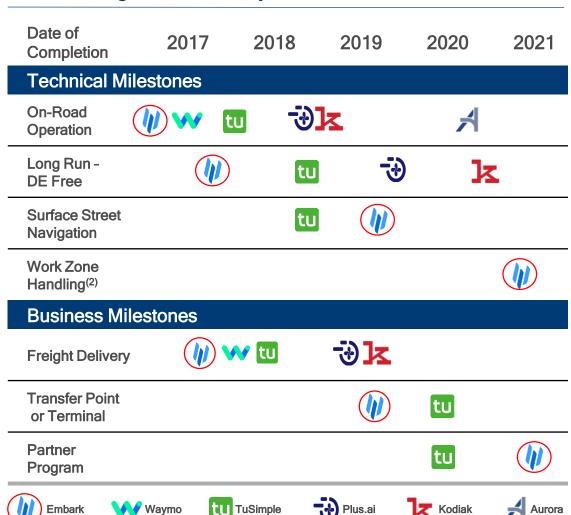
Long-Term EBITDA Margin Target 30%+



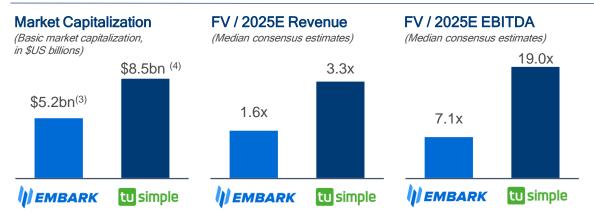


## Embark Leads the Industry in Key Milestones<sup>(1)</sup>

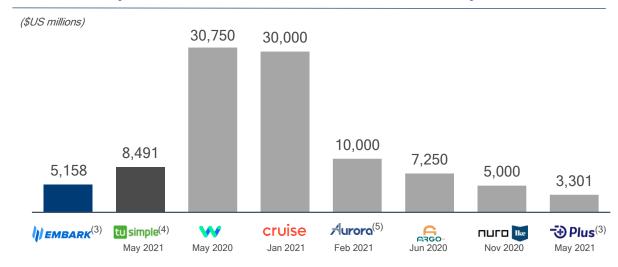
#### Self-Driving Truck Industry Public Milestone



#### Attractively Priced Relative to TuSimple Public Comp



#### Attractively Priced Relative to Broader AV Ecosystem



Source: Company Presentations, Pitchbook, Bank of America, Piper Sandler, Cowen, RBC Capital Markets, Baird and Morgan Stanley Equity Research Reports

(3) Represents post-money equity value

N**⊎**RTHERN

**GENESIS II** 

(1) Milestone data is based on publicly available information; Logo exclusion indicates no publicly available data Note: All dates based on the first public record of the respective company achieving the milestone on a US Class 8 Truck

(2) Work Zone handling refers to an AV truck detecting and responding to a previously unmapped Work Zone

<sup>(4)</sup> TuSimple market capitalization based on offer price at IPO of \$40 per share and shares outstanding of 212,263,328 per company filing (5) In February 2021, Uber sold it's self-driving unit to Aurora in exchange for a 26% interest in the combined entity at a \$10B valuation



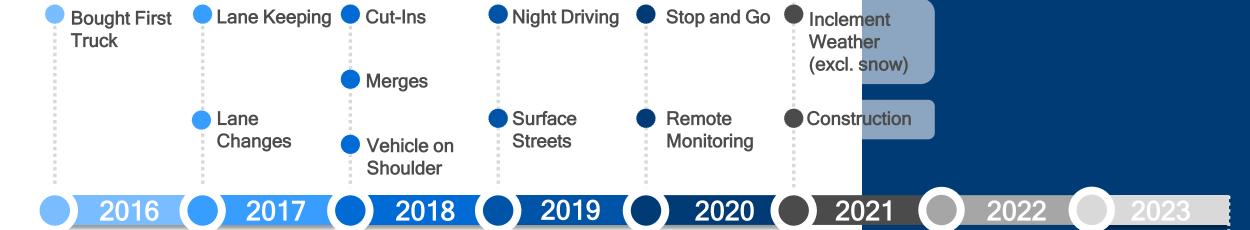


Appendix - Technology Roadmap

# Our Technology Achievements and Roadmap to Driver Out

Past Technology Milestones and Accomplishments

Future Technology Milestones to Accomplish



- Pull Over to Safety
- Emergency Vehicle Interactions
- Evasive & Emergency Maneuvers
- Inspections
- Blown Tires & Other Mechanical Failures

Driver Out



# Embark is in advanced discussions that will further support the technology advancement and commercialization timeline

# Major Initiatives Expected To Be Announced Over the Next 12 Months

Partner Development Program Reservations

Manufacturing Partners to enable Embark Universal Interface (EUI) as an Option

**Coverage Map Expansion** 

Volume commitments from carrier partners for their fleets upon commercialization

Enable shippers and carriers to order EUI-compatible trucks

Formalize relationships with leading real estate holders to provide established transfer point footprint for carrier partners coast-to-coast

#### **Technology Milestones**

Continue to execute and publicly demonstrate industry-first capabilities from Embark's technology roadmap

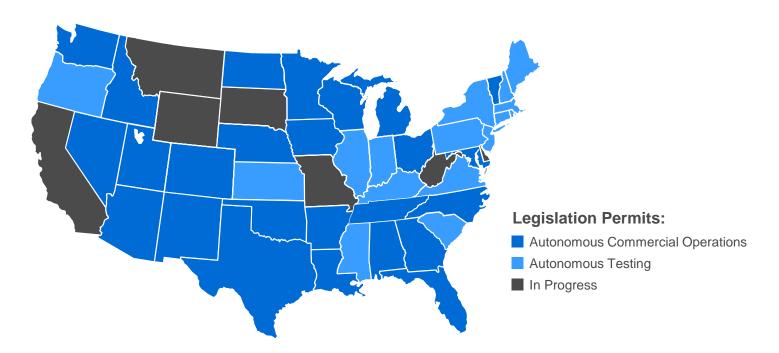




## Regulatory Tailwinds

#### **Current State Regulatory Environment**

- Current regulatory environment is favorable for autonomous trucking
- Today, 43 states allow autonomous truck testing, and 24 states allow autonomous truck commercial deployment
- No vehicle design changes and FMCSA pre-emption clear regulatory path





US DOT 4.0 AV Regulations have been released to further support a future cohesive 50-state AV operations framework



US NHTSA regulations have been amended to clarify Federal Motor Vehicle Safety Standards for automated vehicles not equipped with manual driver controls (i.e. steering wheels and seating positions)

 AVs not designed to carry humans are exempt from the crashworthiness standards that conventional vehicles need in order to deploy



# **Policy** Is Leading the Way on

#### **Longest Tenured AV Truck Member on Critical Industry Groups**

- U.S. Chamber (leading US business lobby)
- SVLG (leading CA business lobby)
- American Trucking Association (leading US trucking industry group)

#### **Active Leadership Roles in the Industry**

- Co-chair of US Chamber AV Working Group (along with Intel)
- Co-chair of SVLG AV Working Group (along with General Motors)
- Founding member of Trucking group @ Self-Driving Coalition (leading AV industry group)
- Only truck-specific board member on the Self-Driving Coalition for Safer Streets

#### **Industry Lobbying Results**

- Successfully advocated for USDOT to clarify the ability for L4 trucks to operate under existing regulation and without constraint from human-centric regulations (hours of service, drug testing), codified in USDOT's "AV 3.0" guidance issued in Oct 2018.
- Won inclusion and exclusion of autonomous trucks in various federal and state legislation to benefit Embark's deployment model as well balance what we believe to be the right regulatory framework for all constituents





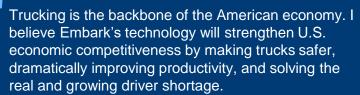






#### Elaine Chao

- U.S. Secretary of Transportation (2017-2021)
  - Oversaw development of first-ever regulatory guidance on autonomous trucking
- U.S. Secretary of Labor (2001-2009)
- Past board positions at Dole Foods,
   Wells Fargo Bank, Harvard Kennedy
   School



— Elaine Chao



#### **Jonny Morris**

- Joined Embark in June 2017
- 8-year veteran of autonomous vehicle policy issues in automotive, trucking, and insurance industries
- Served as technology and policy adviser in the Obama White House, U.S. Department of Defense, and U.S. Department of State

Early on at Embark, we knew we had to lead on autonomous trucking policy. Helping shape the regulatory framework is the right thing for our company and will ensure the safety and efficiency benefits of Embark's technology are not delayed.

— Jonny Morris

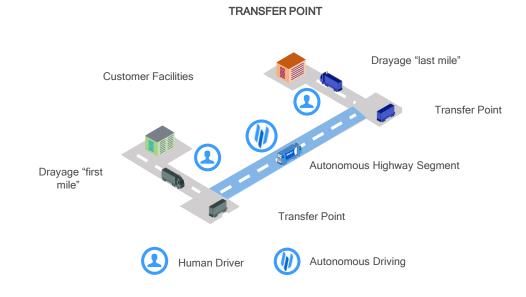


# **EMBARK** Coverage Map Supercharges Scale-Up

Carriers operate self-driving trucks between highway-adjacent locations on Embark coverage map

Number of start/stop locations expands rapidly by adding ecosystem real-estate to the coverage map:

- Current truck stops act as ideal transfer points that can be used by all carriers
- Highway-adjacent shipper locations can be added directly to coverage map, boosting efficiency and stickiness



Highways are the ideal first application for self-driving

Vision Map Fusion simplifies adding locations to coverage map

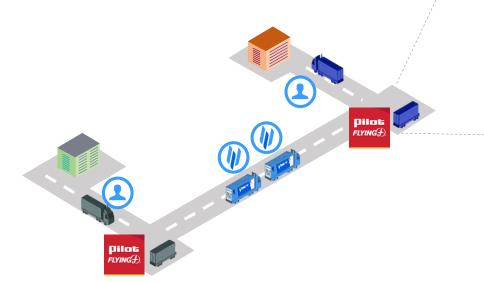


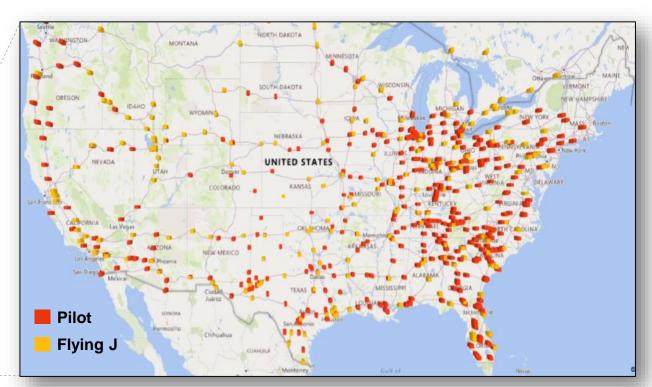
## Real Estate Partners Accelerate Expansion

Leveraging the Strengths of Potential Real Estate and Retail Players, including PFJ, will Dramatically Decrease Time to Market

#### **Example: PFJ's Network**

- 800+ highway adjacent sites located near freight areas
- Purpose built for class-8 truck traffic
- On site fuel and ancillary services including tire, maintenance, and dispatch support









## Supplemental Financial Projections Detail

#### Mile Detail<sup>(1)</sup>

Service Miles Driven	1.1%	3.3%
Embark Wilds Differi		
Embark Miles Driven		
100 - 300 Mile Routes <sup>(2)</sup>	6,461	8,562
300+ Mile Routes	157,603	160,519
Total Serviceable Miles	164,064	169,081
Total Freight Miles	218,008	221,496
Phase 2	2024E	2025E
Embark Miles Driven	2,374	7,432
100 - 300 Mile Routes <sup>(2)</sup>	4,550	6,029
300+ Mile Routes	52,421	53,425
Total Serviceable Miles	56,970	59,455
Total Freight Miles	96,677	98,224
Phase 1	2024E	2025E
(miles in millions)		

#### **Pricing Detail**

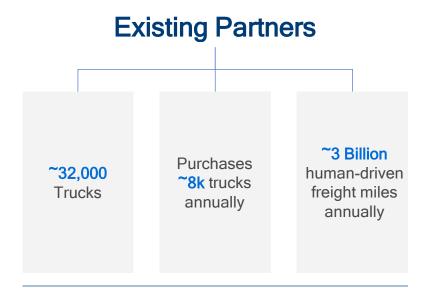
Total Cost Per Mile	Human Driver	Embark Driver
Driver-Based		
Driver Wages	\$0.56	
Driver Benefits	0.17	
Driver Overhead Costs	0.09	
Total Driver Costs	0.82	
Vehicle-Based		
Total Vehicle Costs	0.94	0.96
Total Costs	\$1.76 <sup>(3)</sup>	\$0.96

#### **Detail P&L**

(\$ in millions)		
	2024E	2025E
Revenue	\$867	\$2,771
Gross Profit	584	1,915
EBITDA	(4)	640
CapEx	8	10
EBITDA - Capex	(11)	629

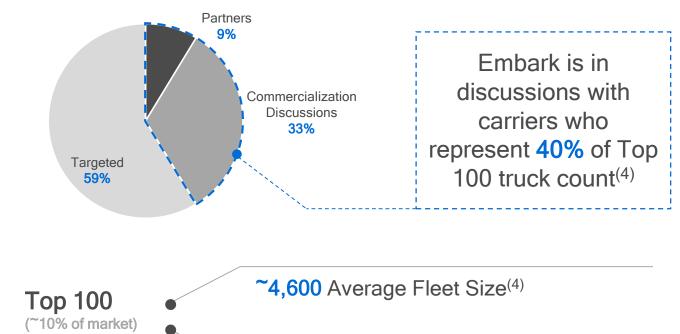


## Supported By Existing Partners and Pipeline



Our partners currently run ~89% of the trucks required to meet our 2024 target<sup>(1)(2)(3)</sup>

#### Embark is Currently Partnered With High Quality Carriers But Has a Robust Customer / Carrier Pipeline to Rapidly Grow



~30 Billion Human Driven Freight Miles<sup>(5)</sup>



Assumes our partner routes are the same distribution as all routes, as determined by the Freight Analysis Framework, or ~18% of our partner trucks are in phase 1 addressable lanes in 2024 Assumes each autonomous truck can run 360K miles per year

Forecast requires ~6,500 autonomous trucks to meet 2024 mileage targets and estimates that the 5 existing partners have ~5,900 trucks on lanes deployed in 2024

Based on Top 100 For-Hire carrier data from Transport Topics

Calculated based on top 100 total tractor count of \$\frac{1}{2}342K(Transport Topics)\$ and \$\frac{1}{2}4K\$ annual miles per truck (Trucking Research)

# EMBARK has completed hundreds of hauls with many major companies and has incorporated that expertise into its partnerships with carriers and shippers

# **EMBARK**'s Business Model is Validated by Partners

**ABInBev** 







7 7







#### **ABInBev**

At AB InBev, we have a longstanding history of working with our carrier network to introduce new innovations that better their business, our business and enhance workers lives and careers. By partnering with Embark, we will enable our carrier partners to adopt and quickly scale autonomous trucking technology throughout the truck freight logistics ecosystem resulting in a more sustainable and safer supply chain network for AB InBev.

- Angie Slaughter VP, Sustainability, Logistics & Capabilities Procurement at Anheuser-Busch InBev



Mesilla Valley Transportation has a demonstrated history of identifying, testing and deploying new and innovative technology to maintain an edge in our competitive industry. With the Embark Partner Development Program, we see an opportunity to utilize this expertise to deploy and scale autonomous trucks within our network, unlocking top-line growth through improved utilization and bottom-line growth through superior economics.

- Royal Jones
CEO at Mesilla Valley
Transportation



### SaaS Business Model

Carrier/Shipper Partners Enable Embark to Scale Efficiently by Integrating Into the Current Freight Ecosystem

# Scale up rapidly by leveraging significant investments by carriers in trucks and real estate

- Carrier investment massively outpaces the resources of any single AV player
- Top 100 carriers average more than \$100M each on new trucks annually<sup>(1)</sup>

# Carriers bring expertise in running a complex operations intensive business

 Embark can focus on what we do best: making state-of-the art software

# Compelling software-as-a-service economics

- High margins
- Recurring revenue
- Economies of Scale

Selling to carriers and shippers allows **I) EMBARK** to focus on software development



## **Expected Use of Proceeds**



Headcount

70%



**On-Road Testing** 

13%



**OEM Co-Development** 

12%



**Expanding Coverage Map** 

5%



**Proceeds From the Proposed Transaction Are Expected to Fund the Business Plan Through** Commercialization in 2024 45

# Transaction Overview

- After giving effect to the transaction<sup>(1)</sup>, Combined Co. will have \$613mm of cash<sup>(3)</sup> to pursue its go-to-market strategy and consolidate its market leadership position
- \$4.25bn pre-money valuation supporting \$5.2bn pro forma equity value
- 1.6x of 2025E Revenue
- Proceeds raised are expected to fully fund capital expenditures through 2024 and are 100% primary
- The transaction is expected to close Q3 2021

#### **Illustrative Transaction Sources and Uses**

Total Sources	(\$mm)
Northern Genesis II Cash in Trust <sup>(1)</sup>	\$414
PIPE (2)	200
Northern Genesis II Founder Shares <sup>(4)</sup>	100
Stock Consideration to Existing Embark SH	4,250
Total Sources	\$4,964

Total Uses	(\$mm)
Cash to Balance Sheet	\$531
Northern Genesis II Founder Shares <sup>(4)</sup>	100
Stock Consideration to Existing Embark SH	4,250
Estimated Fees and Expenses	83
Total Uses	\$4,964

#### **Pro Forma Valuation**

	(\$mm)
Pro Forma Shares Outstanding	515.8
Illustrative Share Price	\$10.00
Pro Forma Equity Value	\$5,158
(-) Pro Forma Cash <sup>(3)</sup>	(613)
Pro Forma Enterprise Value	\$4,545

2025E Revenue	\$2,771
EV / 2025E Revenue	1.6x

- (1) Assumes no redemptions by SPAC shareholders.
- (2) Includes \$40mm of FPA subscriptions.
- (3) Includes \$82mm of existing balance sheet cash, including proceeds from a convertible note.
- (4) Excludes 0.4mm Founder Shares forfeited due to FPA subscription to PIPE.
- (5) Excludes PSU awards to Alex Rodrigues and Brandon Moak that will collectively represent an aggregate amount of up to 10% of the fully-diluted shares outstanding immediately following closing and that are anticipated to vest at escalating thresholds starting at approximately \$20/share up to a maximum of approximately \$100/share. Excludes the impact of up to 2.9mm existing Embark shares underlying equity awards that can be issued prior to closing. Excludes the new, to be established, equity incentive plan (10% of FD shares outstanding immediately following closing + 1% evergreen).
- (6) Embark currently has 149.1mm diluted shares outstanding that will be fully converted into NG shares at close, of which 141.2mm are fully vested. This Includes 5.9mm existing Embark shares underlying options and warrants, 3.9mm existing Embark shares underlying granted options, 2.8mm existing Embark shares promised but not yet granted shares to new employees and 1.2mm Embark shares issuable upon conversion of an outstanding convertible note immediately prior to close.
- (7) Founders Alex Rodrigues and Brandon Moak, who collectively own approximately 25% of the Company on an as-converted basis pre-closing, will receive shares of Class B Common Stock of NGAB in the transaction, which shares of Class B Common Stock carry 10 votes per share (relative to one vote per share of Class A Common Stock of NGAB).

#### Pro Forma Ownership<sup>(1)(5)</sup> @ \$10.00 per Share

Pro Forma Ownership	Shares (mm)	% O/S
NGAB Shareholders	41.4	8.0%
PIPE Investors <sup>(2)</sup>	20.0	3.9
Founder Shares <sup>(4)</sup>	10.0	1.9
Existing Embark SH <sup>(5)(6)(7)</sup>	444.5	86.2
Total Shares	515.8	100.0%

