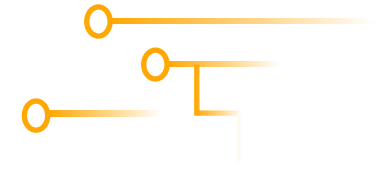


Cooperative Automated Transportation:
The Next Generation of Mobility

Robotic Research
DRIVEN

August 24, 2020

Edward Mottern,
Executive Vice President



Meeting **Agenda**



Eddie Mottern

Executive Vice President

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Company Overview



Development History



Proactive Planning



Preparing for a new generation
of mobility.

**Please feel free to ask
questions at any time.**



About Us

Robotic Research has integrated autonomy on over **40** different commercial and military vehicles for air, ground, and sea applications.

Since its founding in 2002, **Robotic Research** has been involved in most of the Army's major autonomous vehicle programs and currently is the Autonomy Kit Prime Contractor for the largest Army autonomous vehicle projects, AGR, and ExLF.

ABOUT US

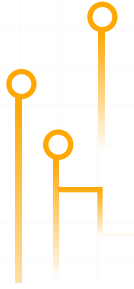
Autonomy before it was cool.

Robotic Research founders Alberto Lacaze and Karl Murphy have been involved in nearly all the U.S. Army's ground autonomy programs on record.



**Expertise Across Various
Domains, Sizes, and Types.**





WHO WE ARE

We are a Robotics company with over 20 years of experience in unmanned systems.

Robotic Research is leveraging its military technology for autonomous commercial transportation by forming strategic partnerships with a combination of household names and industry disruptors.

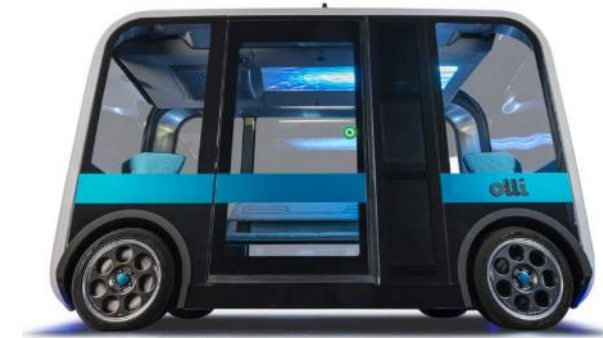


01 New Flyer

North America's largest bus manufacturer. Robotic Research is New Flyer's exclusive autonomy provider.

02 Local Motors

The world's first and only digital vehicle manufacturer. Robotic Research powers the Autonomy for Local Motors globally-deployed shuttles.

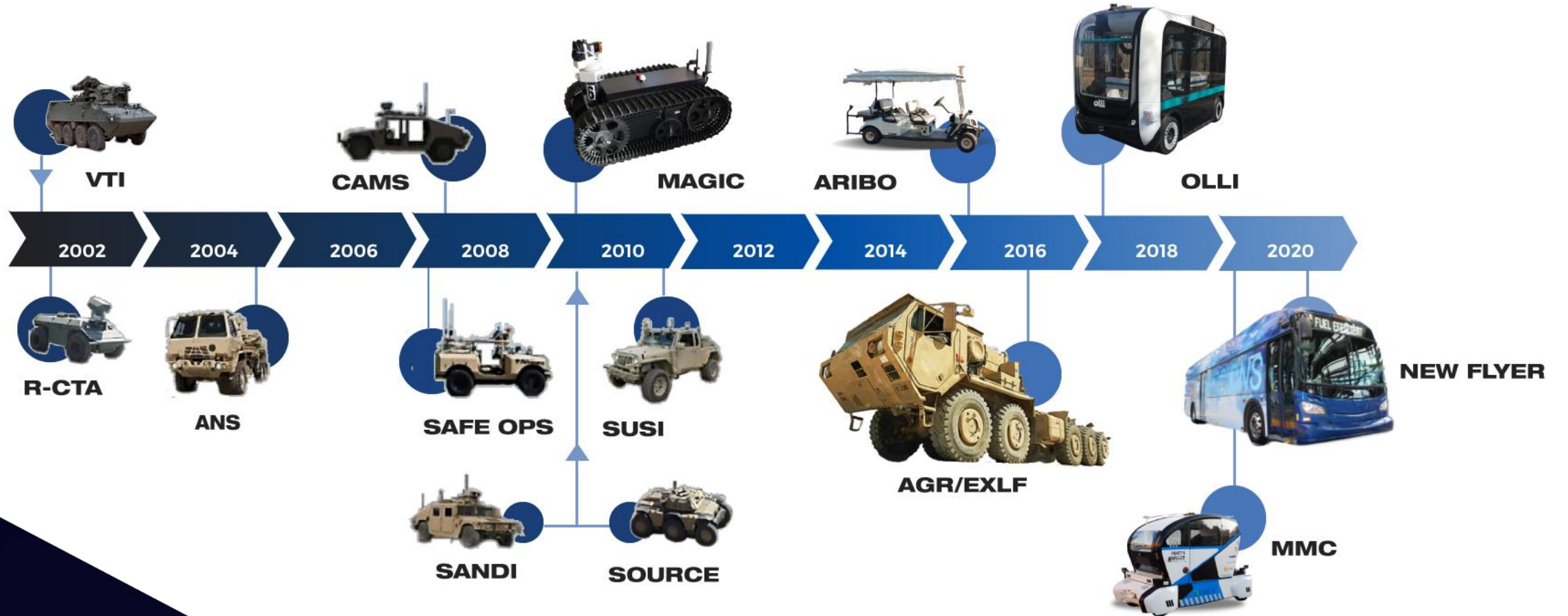


03 Beep

A Florida-Based Autonomous Mobility as a Service (MaaS) Provider. Beep leverages Robotic Research's Platform-Agnostic Autonomy to expand their autonomous fleet.



Our Timeline



Robotic Research's Commercial Focus

Multi-Modal Transportation



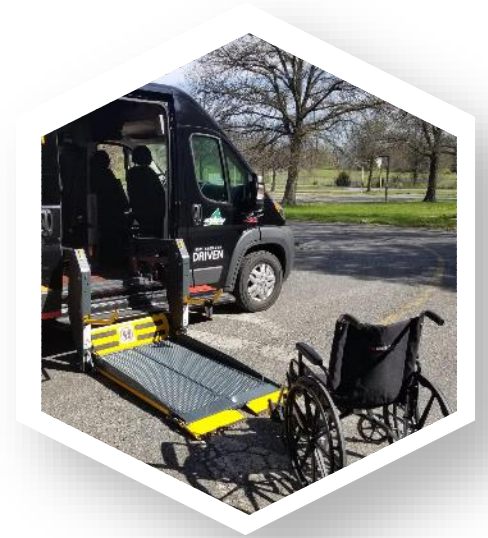
**Mass
Transit**



**Heavy-Duty
Trucking**



**First-Last
Mile**



**Accessible
Transit**

A New Generation of Mobility

The future of transit is now.



How to prepare your organization to harness the benefits of Cooperative Automated Transportation?

Cooperative Automated Transportation

Proactive Planning

Maximizing the strengths of Autonomous Vehicles



Our current infrastructure system is designed with human drivers in mind.

AVs and Human Drivers have Different Strengths.

To reach transportations true potential, you need to leverage the strengths of both.

Exclusive Bus Lane (XBL)

Driver **Enhanced** Autonomy

Automated Steering/Braking

V2V

V2I

Platooning

Increases Throughput

Maintains Headway

Reduces Delays



Current Stats

70,000
Passengers/Day

650
Buses/Hour

5.5s
Average Headway

10 min
Delay

XBL Goals

80,000
Passengers/Day

840
Buses/Hour

4.3s
Average Headway

0 min
Delay

CT fastrak

Connected & Autonomous

Automated Steering/Braking

Platooning

V2V

V2I

Precision Docking

Infrastructure & ODD maximize capability.

Connectivity

Efficiency

Accessibility



First Automated Bus
Rapid Transit



First Automated Bus
in Revenue Service



First Automated
Precision Docking



First Automated
Platooning Buses

First-Last Mile **Shuttles**

Nimble & Autonomous

Mixed Traffic

Academic/Corporate

Campuses

Boardwalks

Shuttles fill current transportation gaps.

Accessible

Versatile

Environmental



Platooning Trucks

Connected & Autonomous

Rugged & Paved Environments

Automated Steering/Braking

Platooning

V2V

Fatality, injuries, and property damage resulting from large truck crashes have risen in each category

Safe

Efficient

Rugged



Preparation & Adaptation

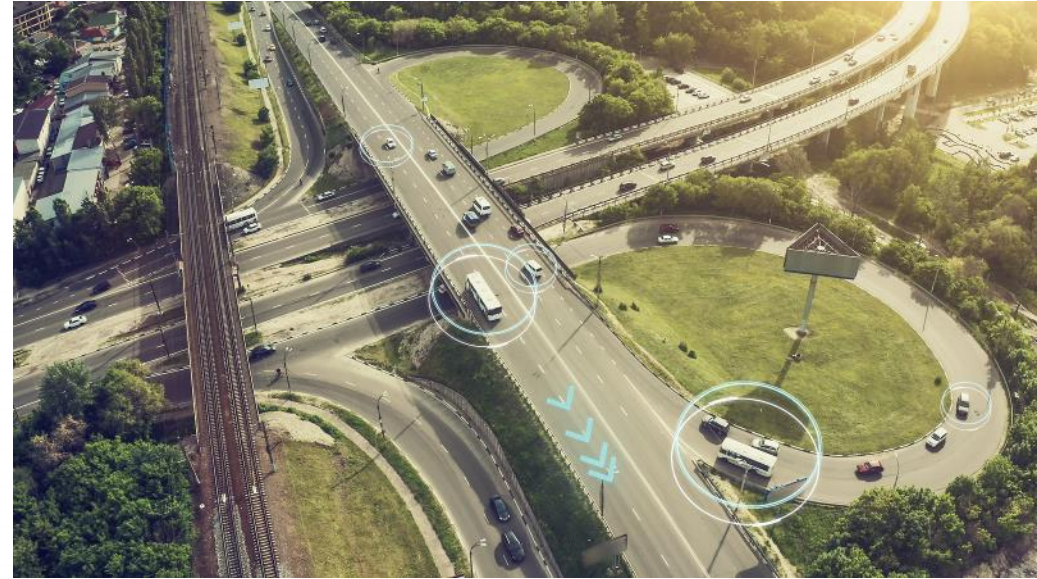
Data-Driven Decision Making

Maximizing and Leveraging ADAS Collected Data

Data Collection

Data Analysis

Vehicle Health



Accelerating R&D for Transit

Transit agencies will need to understand benefits & advocate for federal, state, and local assistance to sponsor R&D.

Safety

A Transit Insurance Pool study showed that 65% of \$53 million in bus claims could have been avoided using Autonomous Collision Avoidance and Autonomous Emergency Braking systems.

Accessibility

In 2014, the average per trip cost for passenger trips was \$3.68, 39% of which was covered by fares. The average cost of a paratransit trip was \$34.43, of which only 8% was covered by fares.

Efficiency

Co-operative Adaptive Cruise Control could increase capacity on the contra-flow XBL by 480 buses/hour utilizing existing infrastructure.

Limited OEM-Funded R&D

Small Market - Annual sales of between 4,000 & 4,500 30ft+ buses.

20 Class-8 Trucks & 2,000 Light-Duty vehicles for every one bus sold.

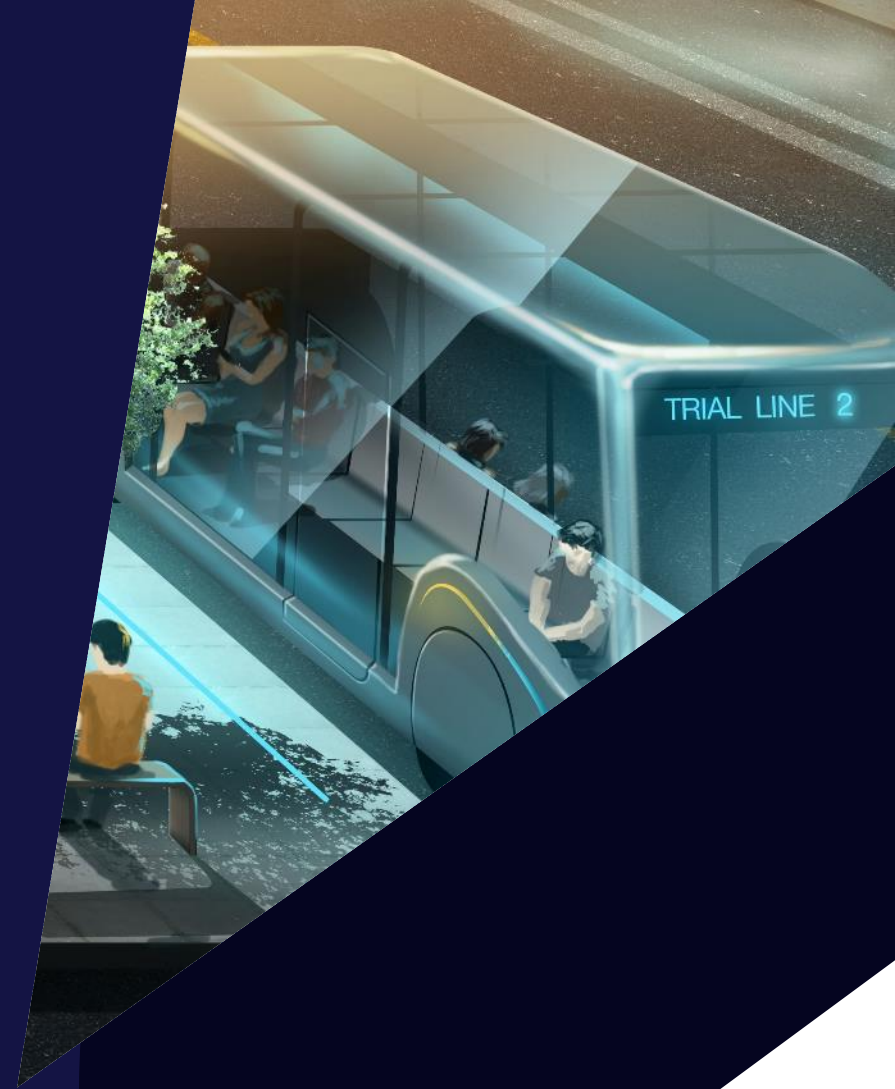
Creates scalability issue.

Lack of Transit Agency interest to OEMs.

FTA Transit Bus Automation Market Assessment, 2020



Questions?



Get In Touch



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