FLORIDA AUTOMATED VEHICLES

DEFINING THE FUTURE OF MOBILITY



Florida Department Of Transportation

NICOLA LIQUORI, EXECUTIVE DIRECTOR & CHIEF EXECUTIVE OFFICER, FLORIDA'S TURNPIKE ENTERPRISE

MONUMENTAL TRANSPORTATION INVESTMENTS

\$64.2 Billion: Five-Year Work Program Plan

\$15.2 Billion: FY 23-24 Total Budget

\$13.6 Billion: FY 23-24 Total Work Program

\$4 Billion: Moving Florida Forward Infrastructure Initiative



\$68.2 BILLION TRANSPORTATION INVESTMENTS OVER FIVE YEARS

FLORIDA LEADS THE NATION

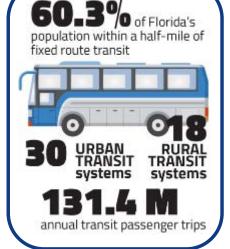


7,152
BRIDGES
MAINTAINED
by FDOT





















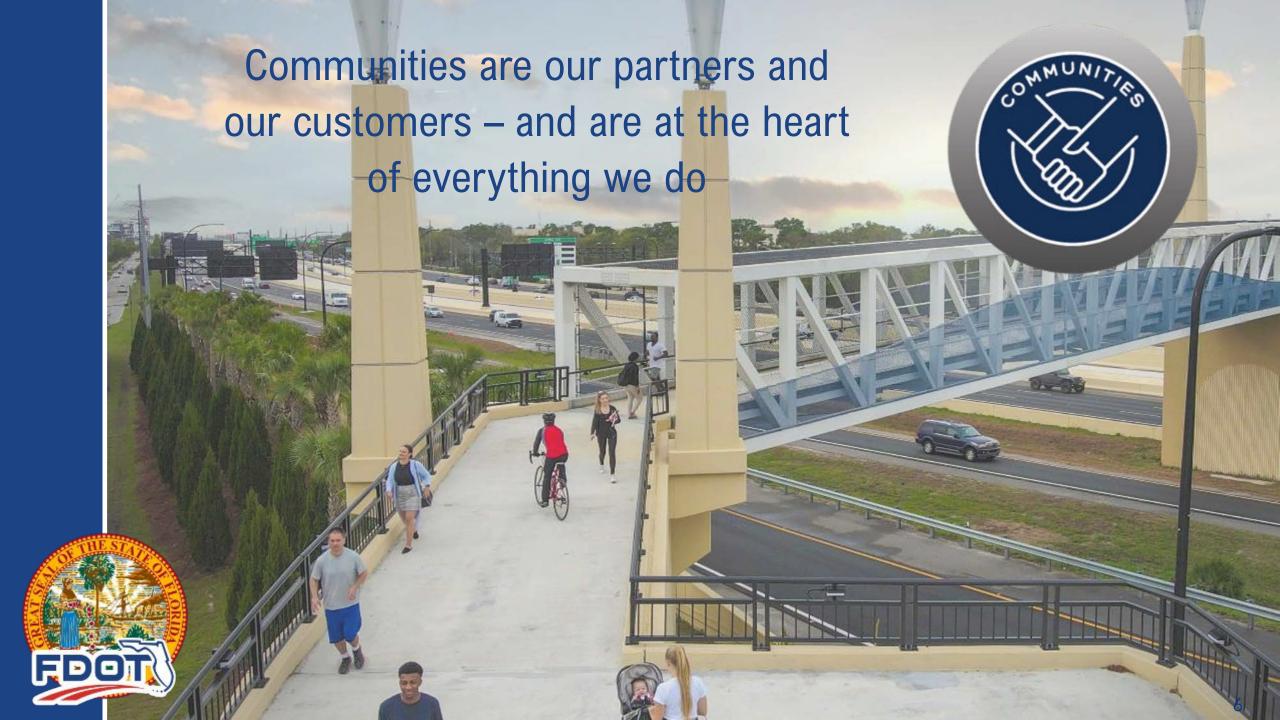
433.653 43.434

123,652

centerline miles of public roads 12,121 centerline miles of State Highway System







Safety is FDOT's Top Priority



Supply Chain = Economic Prosperity





Collaborative
Transportation
Workforce











- Resiliency Action Plan
- Resiliency Improvement Plan

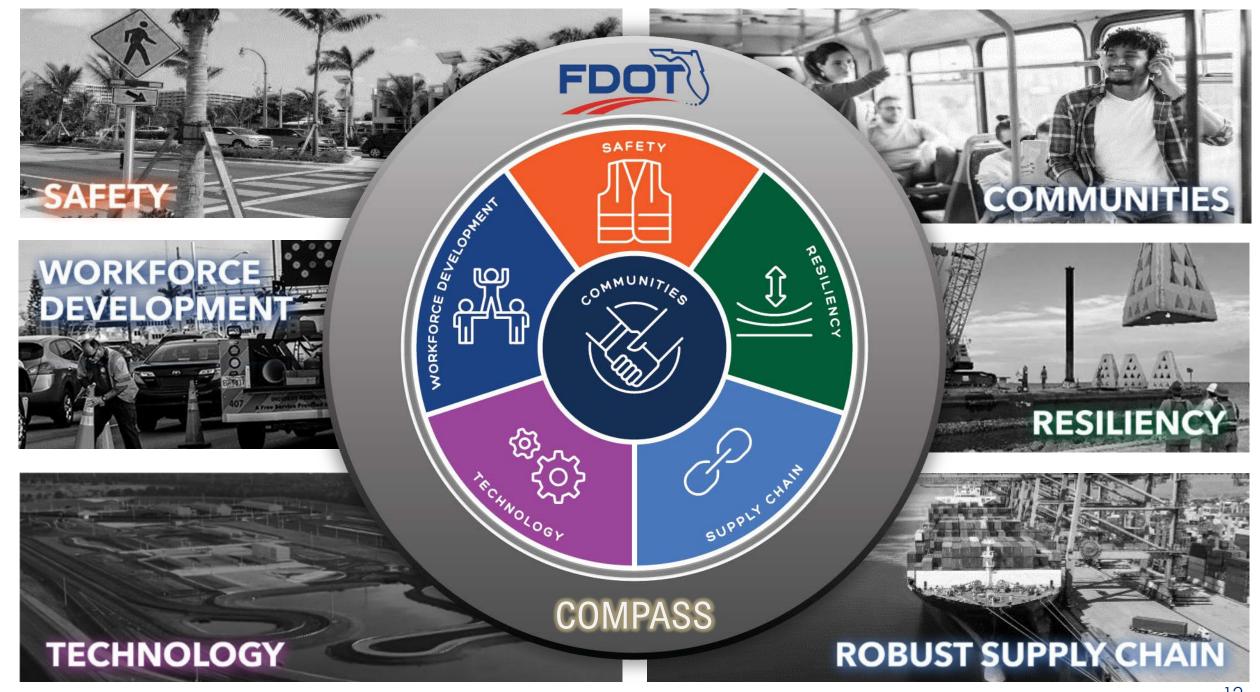


Resiliency is factored into every project and our business plan.



FDOT remains on the forefront of emerging technology





SUNTRAX











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Cooperative Driving Automation (CDA) Program Update

Florida Automated Vehicles Summit

Brian Cronin, Federal Highway Administration (FHWA)

September 7, 2023









U.S. Department of Transportation (USDOT) CDA Program⁽¹⁾



VISION

Enable a cooperative, safe, efficient, and sustainable surface transportation system for all users.

MISSION

Lead research, development, and standardization to demonstrate the benefits of cooperative driving automation (CDA) technologies and to accelerate industry deployment.

GOALS

Demonstrate the capability of CDA to reduce fatalities and serious injuries within the transportation system.

SAFETY

MOBILITY

Demonstrate the capability of CDA to improve traffic flow.

EQUITY

Develop and support open-source CDA research tools to decrease barriers to entry and promote workforce development.

CLIMATE AND SUSTAINABILITY

Demonstrate the capability of CDA to reduce energy use and emissions.







Program Facts and Benefits





Photo source: FHWA.

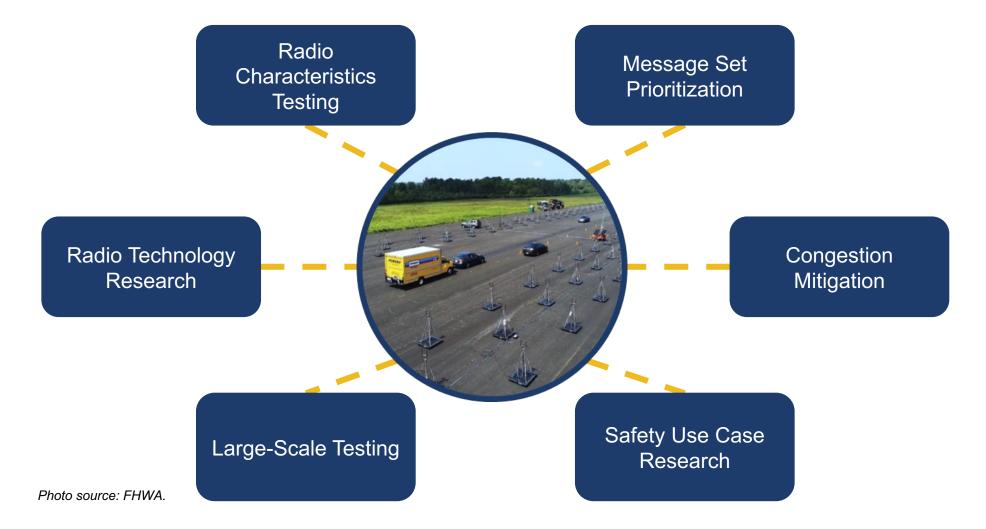






Interoperable Connectivity









Tools to Help You



CAV (CONNECTED AND AUTOMATED VEHICLE)⁽³⁾



CAV COLLABORATION TEST TOOL(4)



VEHICLE-TO-EVERYTHING (V2X) HUB⁽⁵⁾



CDA COSIMULATION⁽⁶⁾







OmniAir Plugfest⁽⁷⁾ at SunTrax



- CARMA⁽¹⁾ tools enable manufacturers to test CDA applications with their hardware.
- ► CARMA⁽¹⁾ tools reduce the development effort of commercial applications to improve transportation.

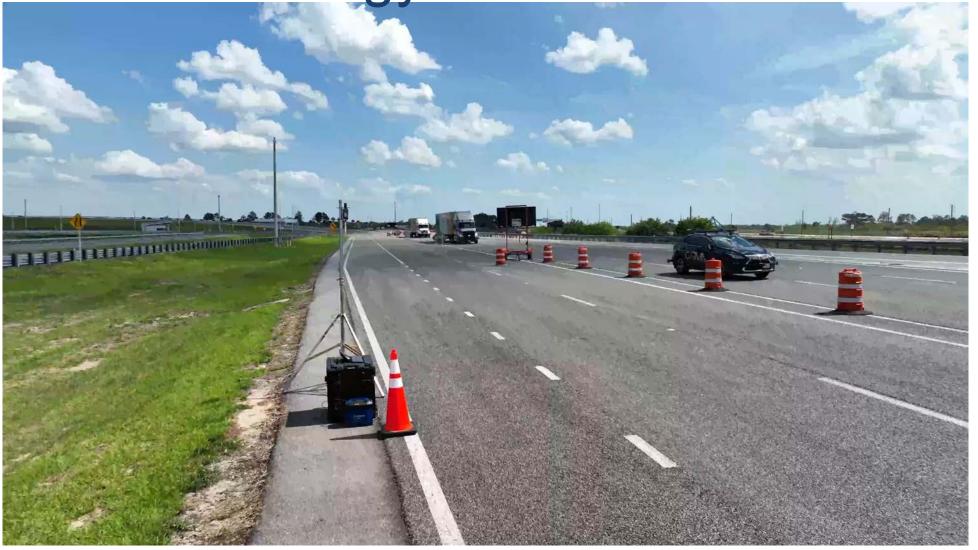


Source: FHWA.



CDA Technology in Action: Work Zone

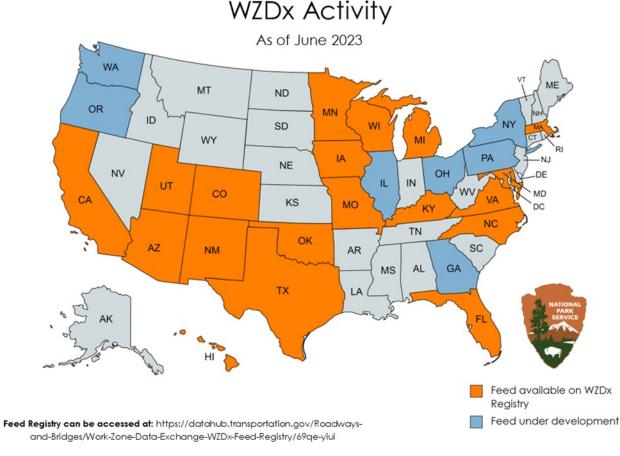




Work Zone Data Exchange (WZDx) and Initiative⁽⁸⁾



- WZDx deployment continues—Active feeds in 19 states + National Park Service.
- Version 4.2 is the final version of the WZDx specification to be released by the Work Zone Data Working Group. The WZDx specification is transitioning into a formal standard by the FHWA and ITS JPO under ITE (with partners AASHTO and NEMA) and SAE stewardship.
- "Coast-to-coast" and "border-to-border"— Continue focus on corridor linkage.
- 5-year goal: Orange Map!



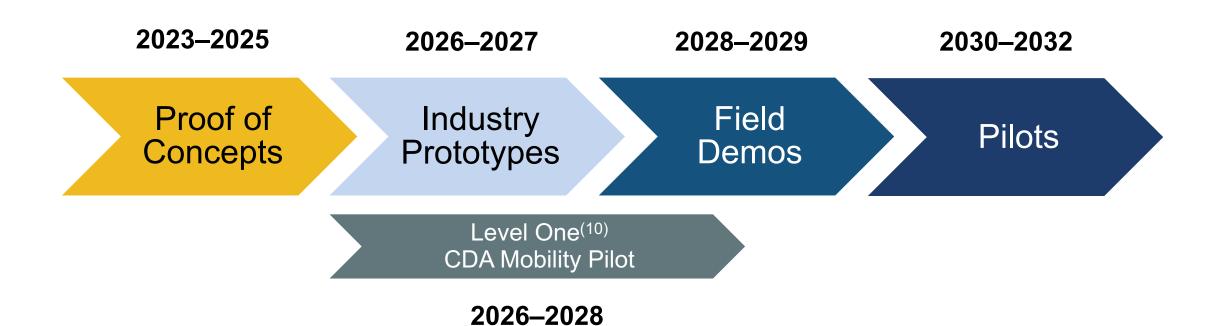
Source: USDOT





CDA Roadmap











Learn More About Our CDA Program



USDOT Initiatives in ITS4US(10) and **Cooperative Driving Automation**

- Date: Friday, September 8, 2023.
- ► Time: 11–12:30 p.m.
- Room: Salon H.
- Join us to learn about FHWA's open-source tools for CDA.



Our open-source community: https://www.cdaprogram.org(11)





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- OmniAir Plugfest at SunTrax. May 1-5, 2023. Auburndale, FL. https://omniair.org/florida plugfest.
- USDOT Intelligent Transportation Systems (ITS) Joint Program Office (JPO). 2020. "Work Zone Data Exchange (WZDx) Feed Registry". Provided by ITS DataHub through <u>data.transportation.gov</u>, last accessed August 22, 2023.
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Brian Cronin

Brian.cronin@dot.gov

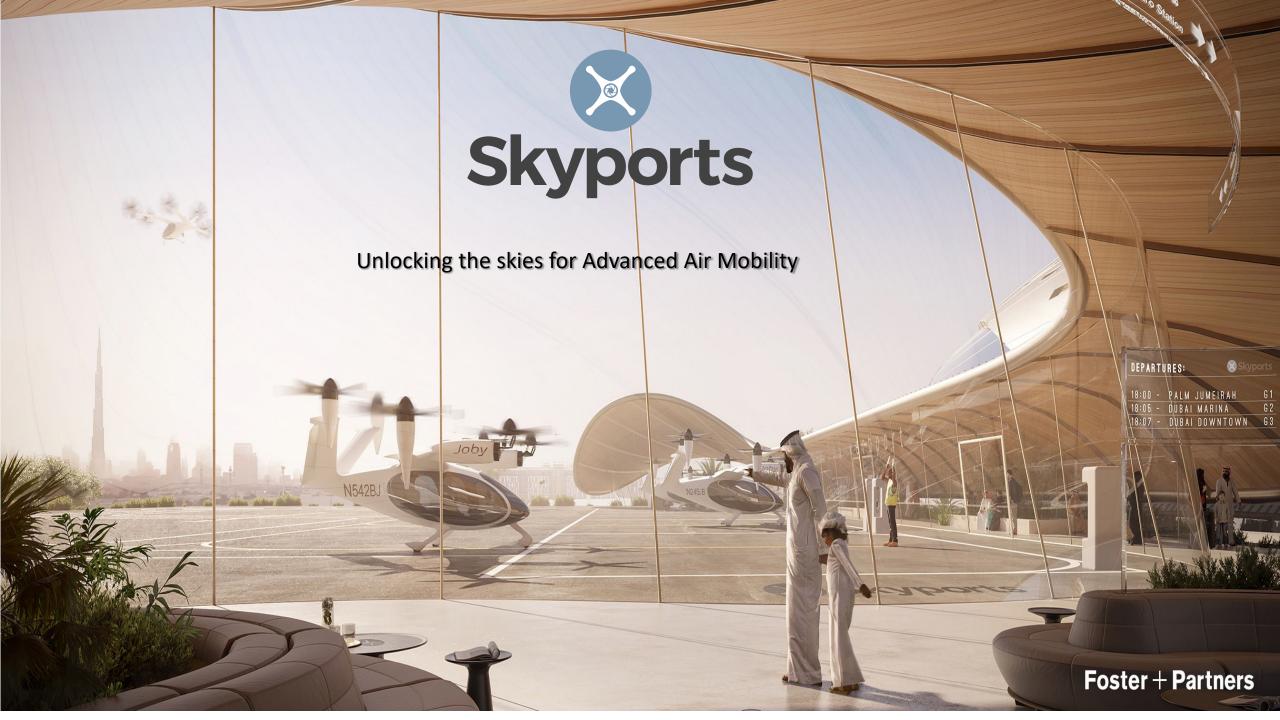


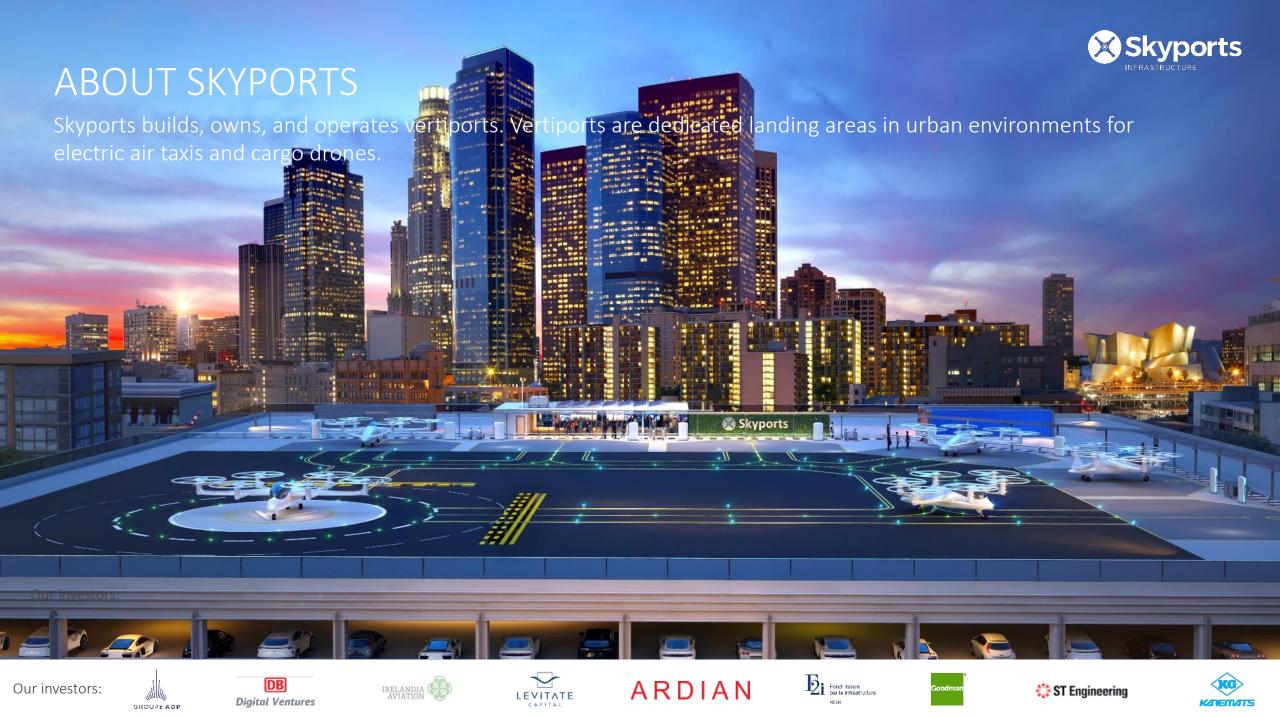




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THE VERTIPORT VALUE CHAIN

Skyports is an end-to-end vertiport solutions developer and operator. We work with market-leading partners, OEMs and AAM operators to deliver and operate efficient and safe AAM infrastructure networks.

Flying vehicles of the future <u>here</u> Video with illustrative vision <u>here</u>

NETWORK & SITE PLANNING

Skyports works with aircraft operators, asset owners, and local stakeholders to establish a transportation network optimized for efficiency and convenience. Our approach considers the needs of the customer and the community, enabling us to identify the best vertiport sites.

NETWORK & SITE PLANNING

Skyports uses its airport planning, airspace, regulatory, and operations expertise to design and build vertiports which capture industry best practices and aircraft performance requirements. Working with authorities and communities, we obtain necessary permits and permissions before deploying each vertiport

VERTIPORT SYSTEMS & OPERATIONS

Skyports implements the processes and procedures that allow vertiports to function safely and efficiently. We process passengers and cargo through the terminal, support aircraft on the ground, and ensure a safe operating environment for landing and takeoff.

SKYPORTS VERTIPORT CAPABILITIES



Dedicated capital

- Funding required to deploy projects at scale across markets
- Investors with strategic relationships and a clear investment thesis

Commercial partnerships

- Design of OEM- and operator-agnostic vertiports
- Active partnerships with Joby, Volocopter, Wisk, Eve, Vertical Aerospace, Virgin Atlantic

Regulations and standards

- Advisory role for FAA and EASA on vertiport design standards
- Leadership of AAM working groups for industry groups and standards bodies globally: EUROCAE, ASTM, NFPA, GAMA



- Standardized designs for vertiport airfields, terminal and terminals, agreed with OEMs
- Aircraft capacity calculations using a proprietary model simulation
- In-house design of site-specific configurations that account for airspace, surface access, and other constraints

Technology

 Software to process passengers, manage resources and scheduling and maintain situational awareness for safe vertiport operation

Operations

 Vertiport and heliport operations that ensure regulatory compliance, operational efficiency and safety







OEM & OPERATOR PARTNERSHIPS

Our unrivalled partnerships with vehicle manufacturers ensures our vertiports are designed and located according to manufacturers' and operators' needs and requirements.

NON-EXHAUSTIVE









































VEHICLE SPECIFICATIONS

CHARGING/FUEL REQUIREMENTS

SPECIAL CONDITIONS

PASSENGER EXPERIENCE TARGET MARKETS

ROUTING



OUR REGULATORY EXPERTISE - ROLES (US)

Skyports is an active and leading participant, and influencer in the development of international regulatory frameworks for AAM

Market Activity **Organisations**

Infrastructure and Aviation

- Member, General Aviation Manufacturer's Association, Electric Propulsion & Innovation Committee (EPIC) & Chair of the EPIC Infrastructure Sub-Committee
- Member, FAA Advanced Aviation Advisory Committee Task Group 13 (AAM)
- Member, National Association of State Aviation Officials
- World Business Partner, Airports Council International

Fire Protection

- Member, National Fire Protection Association, 418 Vertiport Working Group
- Member, Aircraft Rescue Fire Fighting Working Group, UAM Committee

Security

Member, TSA, Aviation Security Advisory Committee, General Aviation Subcommittee's, **AAM Working Group**

Florida

- Member, FDOT AAM Working Group
- Member, Miami-Dade AAM Working Group
- Member, City of Miami Working Group

























PASSENGER VERTIPORT FEATURES

The main features of a vehicle-agnostic passenger vertiport are landing areas, aircraft stands, recharging and turnaround equipment, passenger terminal, control room and safety and security facilities.



PARTNERSHIP APPROACH

Financial model

Skyports will commit capital for vertiport buildout and cover operating expenses. There are options for how Skyports and our development partners can structure the commercial agreement:

- Skyports pays a flat rent
- Skyports and partner establish a revenue share agreement
- Partner contributes some capital for an equity share of the vertiport

Applications

The potential for AAM exists across all major markets in the US and internationally. Skyports and our partners can collaborate on a variety of property types:

- Retrofit existing partner-owned assets
- Design into new partner developments
- Identify locations without partner affiliation and acquire them, with vertiport development planned in



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First Spin-off from EmbraerX

eVTOL and UATM projects incubated for four years within EmbraerX

Addressing a Massive Global TAM

Pure play focus on a \$0.76T revenue opportunity 2025E – 2040E (1)

NYSE Listed Company (EVEX) on May 10, 2022

2022 capital raise of \$377 million from strategic and financial investors

Clear Revenue Visibility

Largest order pipeline in AAM industry, with customers around the globe in all continents

Strategic Support from Embraer

Leveraging 50+ years of aviation experience and 30+ models certified

VEHICLE DESIGN OPTIMIZED FOR URBAN MOBILITY

Flexible seating capacity

4 passengers at EIS with up to

6 in autonomous configurations

High utilization rate

Designed for **thousands** flight cycles per year with industry-leading reliability

100% Electric Vehicle
ZERO local carbon emissions

Tailored for urban mobility

100 km (60 mile) range at EIS addresses 99% of UAM missions

Unmatched cost efficiency

Over $\mathbf{6X}$ lower cost-per-seat than helicopters and best in class for eVTOLs

Community-friendly

Up to **90%** lower noise footprint compared to equivalent helicopters

Lift + Cruise design

Overhead wings with distributed rotors and rear propeller

Enabling AAM ecosystem by developing product and solutions that offer scalability and support

eVTOL Development

Designing, developing and certifying an electric vertical take-off and landing (eVTOL) vehicle

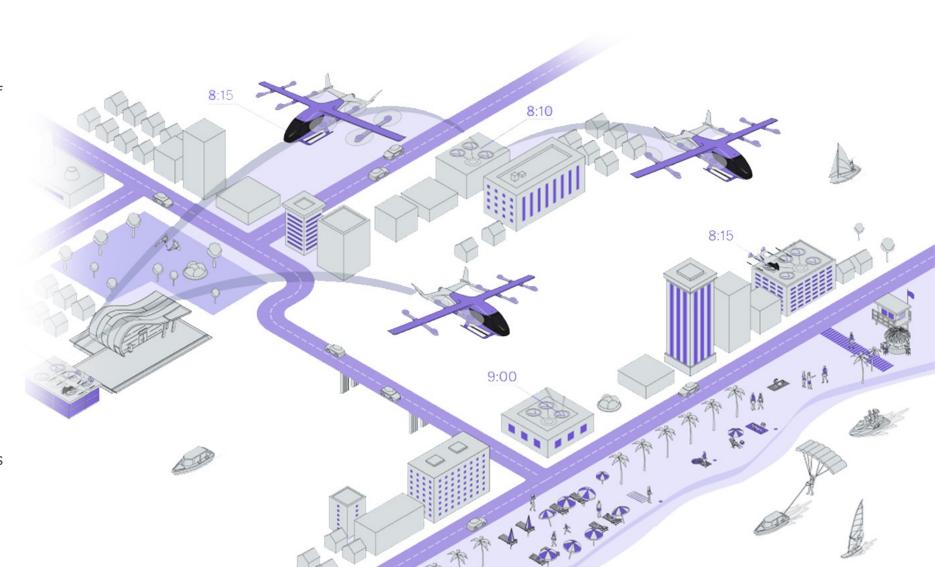
UAM Services

Fleet Operations: Provide UAM capacity on demand through a network of eVTOLs and strategic partners

Services & Support: Provide agnostic maintenance, support and training services to Eve and third-party aircraft

UATM

Developing a next-generation Urban Air Traffic Management that provides shared situational awareness and enables equitable airspace access





The Largest and Most Diversified Backlog in the Industry



Strong partnership network







EVE'S GLOBAL UAM ECOSYSTEM INITIATIVES



For an agnostic, integrated and equitable UAM ecosystem

Chicago CONOPS & Simulation

Simulating passenger services and operational ecosystem in commuting



UK CAA Regulatory Sandbox

Co-created solutions with ANSP to address regulatory barriers to airspace integration



Japan CONOPS

Understanding ground infrastructure and traffic management systems

Miami UAM CONOPS

Understanding Passenger Experiences and eVTOL User Journeys to prepare for UAM implementation



Indi

India Pilot Project

Supporting pilot project offering passenger services for commuting in Bengaluru



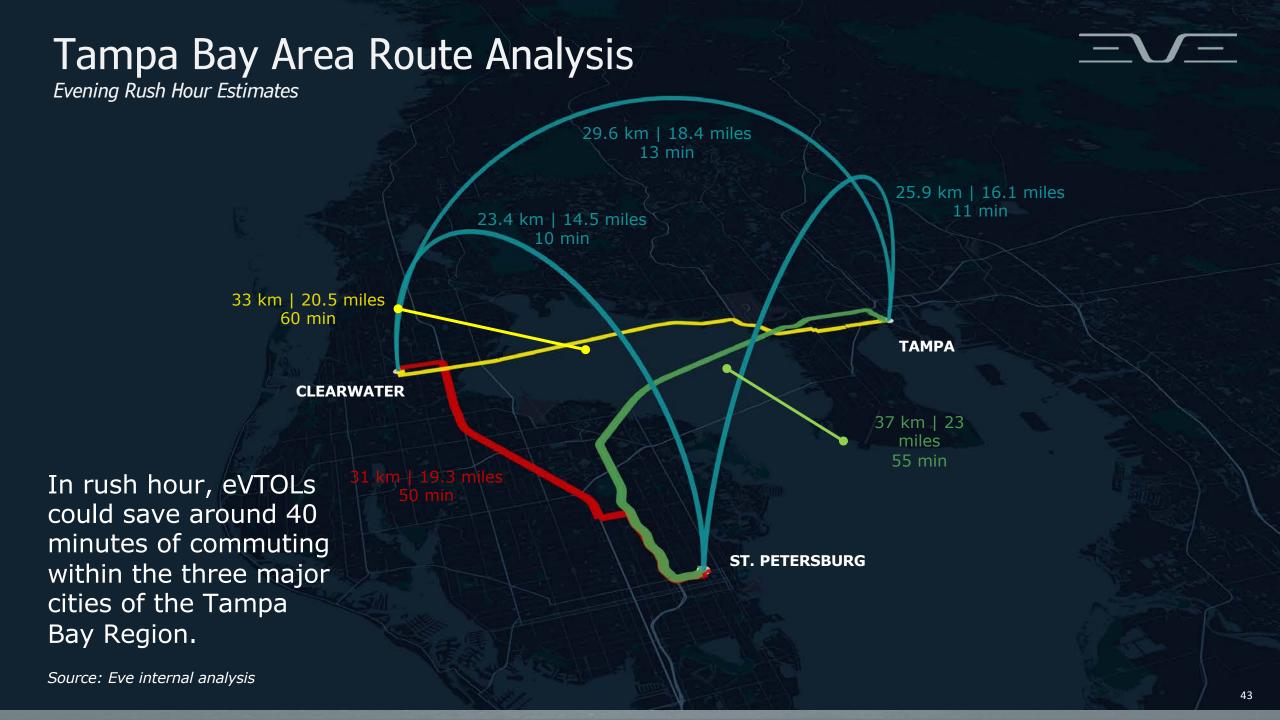
Simulating passenger services and operational ecosystem in airport shuttle



Australia UATM CONOPS

Developed and tested UATM CONOPS for airspace integration with Australia's ANSP





Tampa Bay Area Route Analysis

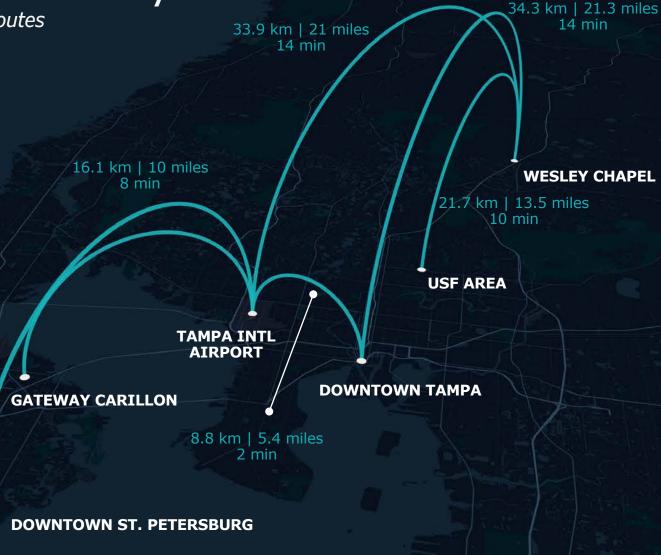
Estimated time and distance of some routes

UAM could:

- Connect cities with intermodal connections and support the current mobility system.
- Provide airport shuttles to key locations around Tampa Bay.

25 km | 15.5 miles 11 min

Source: Eve internal analysis



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TRANSFORMING AIR MOBILITY in the United States

September 2023

We bring urban air mobility to life.

Christian Bauer, CFO/CCO Volocopter GmbH



WE ARE THE GLOBAL FRONTRUNNER FOR AIR TAXIS

CONFIRMED MEGA CITIES

Enables routes not addressable by helicopters

400+

PRE-ORDERS

From airlines, OEMs and other companies

100+ bn

MARKET OPPORTUNITY

For urban & regional air mobility 2030

2027

BREAK-EVEN

Reaching financial milestones and profitability

YEAR AHEAD OF COMPETITIONLaunch of commercial flights in Paris Q3 - 2024

REVENUE PROJECTION 2027

Robust business case



PASSENGER AIRCRAFTS

for the urban and regional mission are our core

VoloCity will be the first fully certified Air Taxi for the urban mission, ready for global operations by 2024.



DESIGN TO BE REVEALED



VOLOCITY



Urban **INNER-CITY** aircraft enabling early launch in Europe in 2024

USD 60bn¹ market potential

VOLOCITY NEXTGEN

NEXT GENERATION aircraft expanding our urban mission profile

40% expected market share

VOLOREGION



Our **REGIONAL AIRCRAFT** optimized via lift & cruise technology

USD 45bn² 30% expected market potential market share

I. Internal market study for global addressable market 2030 (2023) 2. Internal market study ordered from Oliver Wyman, based on Deloitte, Morgan Stanley and Roland Berger research (2021)







2,000+ GLOBAL EVTOL FLIGHTS ALL AROUND THE GLOBE

Public test flights fully approved by regulatory bodies worldwide

Helsinki

Las Vegas

VC200



Oshkosh

Hamburg

Seoul

Pontoise

ROME

NEOM

Paris

Singapore

Stuttgart

Dubai

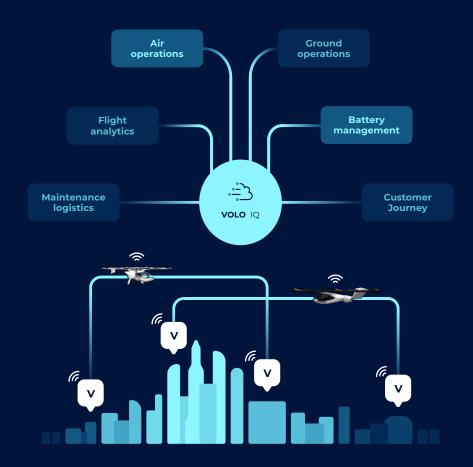
VC200

Bruchsal

VC200

Paris

VOLOIQThe digital backbone





We will be the **FIRST TO GO LIVE COMMERCIALLY** through launch partnerships

Paris 2024

- Commercial launch **]**st industry-wide
 - First routes selected for launch
 - Vertiports planned for Launch Phase



WE ARE LOOKING FOR A PARTNERSHIP MODEL BASED ON DIFFERENT COLLABORATION DIMENSIONS

Financial

Series E equity investment



Key Financial institutions, strategic partners

BlackRock Micronintel Honeywell

Operational

Ongoing certification in US



Public entities, aircraft manufacturers

G-1 Issue Paper by FAA received

Strategic partners



Aircraft manufacturers, and Co-developers

Customers & aircraft operations



Airlines, aircraft operators, airports

To be disclosed today



Join us to make Florida the Frontrunner of UAM in the US!



SAFEST.

Our "highest safety, lowest complexity" design beats other concepts

Multicopter and Lift & Cruise designs are as safe as traditional aircraft and 100x safer than tilt-rotor designs

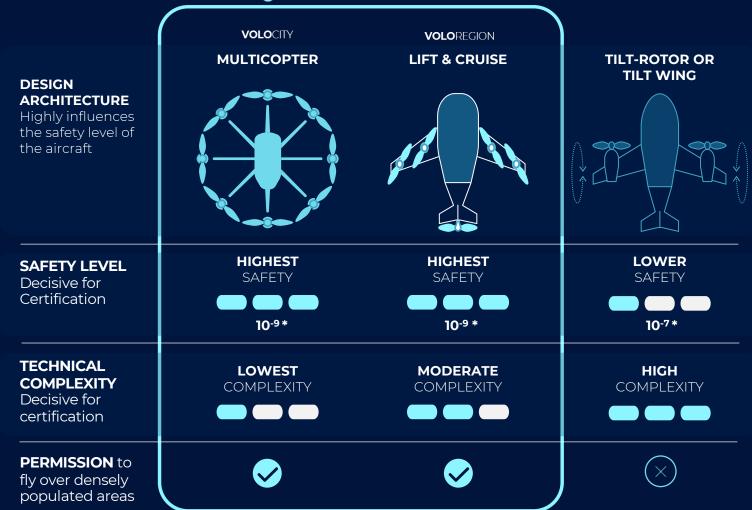
Multicopters are least complex and easiest to certify – followed by lift & cruise

Multicopters are the most efficient electric aircraft design for urban use cases, lift & cruise for regional use cases

♥ VOLOCOPTER

KEY SUCCESS FACTORS for Certification and Entry into Service

VOLOCOPTER



^{1.} US national weather services 2. Current requirements * 10-9: One catastrophic failure in one billion flight hour, 10-7: one hundred catastrophic failures in one billion flight hours

QUIETEST.

VoloCity achieves the ideal noise signature for the city

Our multicopter design architecture allows for the **quietest take-off and landing noise levels** that cannot be achieved by our competitors. This is essential for operating in densely populated areas.

Source: Volocopter noise measurements taken in test campaign with EASA $\,$



Key Noise Factors





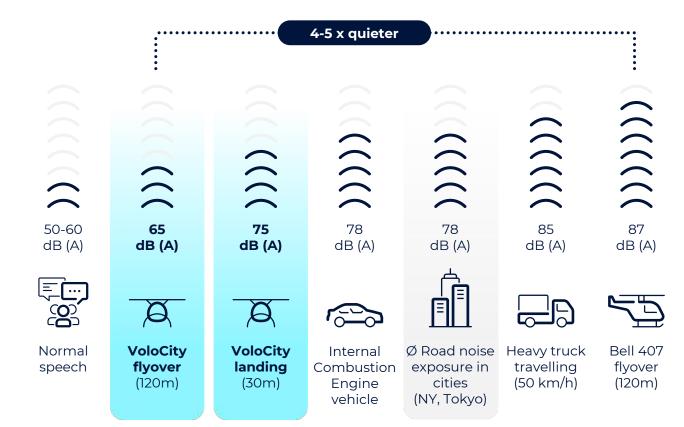


Rotor Tip Speed



Noise Frequency

VoloCity Noise Levels







partners





Become part of the GLOBAL AIR MOBILITY REVOLUTION

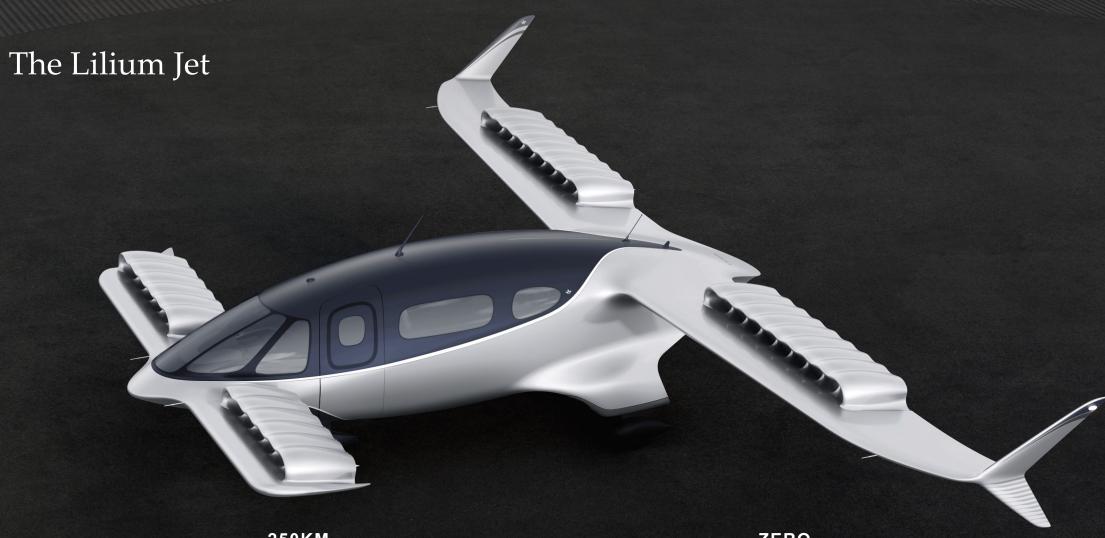




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HIGH-SPEED

250KM PHYSICAL RANGE¹

LOW NOISE

ZERO **OPERATING EMISSIONS**

HIGHEST SAFETY

250 KM/H1

175 KM OPERATING RANGE^{1.2}

68 dBA at 100 M¹

FULLY ELECTRIC¹

10⁻⁹ SAFETY LEVEL³



Versatile design can serve multiple business segments



4 PASSENGER CLUB CABIN

6 PASSENGER SHUTTLE CABIN

FLEXIBLE CARGO CABIN: 6 m³ volume

SCALABLE PLATFORM

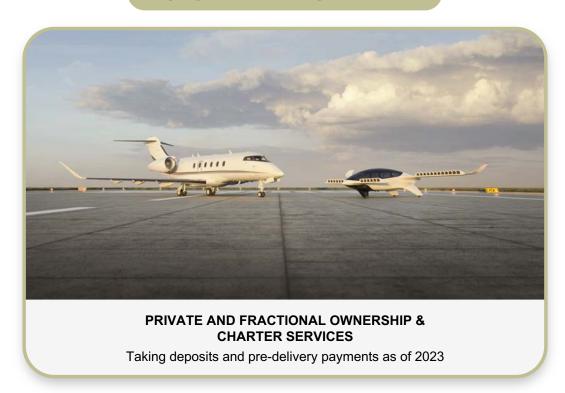


Larger form factors on same technologies in the future



Plan to launch in premium, scale with OEM sales – first Pre-Delivery Payments (PDPs) received

LAUNCH IN PREMIUM MARKET



Aim to sell aircraft and aftermarket services to early adopters _______
in General and Business Aviation

SCALING IN MASS MARKET



Aim to sell aircraft to commercial airlines, corporates, and governments



Order pipeline of 745 aircraft

First pre-delivery payments received

eVOLARE

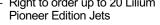
- Right to order up to 20 Lilium
- demand in UK market

GLBEAIR

- Right to order up to

12 Lilium Jets - Premium demand in French Riviera and Italy





Premium sustainable



- Right to order up to 40 Lilium Jets
- Sustainable Scandinavian air mobility



- Right to order up to 6 Lilium Jets
- Premium demand in Benelux



- Right to order up to 5 Lilium Jets
- Premium demand in Switzerland and Italy

NETJETS

- Right to order up to 150 Lilium Jets for fractional program
- Support for Lilium Jet sales to private individuals



- Premium demand in Southern Spain



- Right to order up to 100 Lilium Jets
- Network across Saudi Arabia



- Right to order up to 5 Lilium Jets



- VIP helicopter and private jet operator
- Sustainable high-speed travel between Greek islands



- Right to order up to 50 Lilium Jets
- One of the largest helicopter operators in the world
- Potential Part 145 partner in the United States



- Right to order up to 220 Lilium Jets
- One of the world's leading helicopter and Business aviation market



- Right to order up to 100 Lilium Jets
- Able to serve >85m people in the Greater Bay Area
- MoU with Bao'an District of Shenzen municipality to launch eVTOL service in China



Source: Company information and public press releases. Final commercial terms are still being negotiated and remain subject to definitive documentation.



Ducted Electric Vectored Thrust (DEVT) differentiates Lilium jet from all open-rotor competitors

- 95% of all global airplanes use jet engines, which are preferred by customers for their high safety, low vibrations, and low noise
- We have developed our own electric version, with an electric motor replacing the gas turbine allowing for a much simpler, smaller, and lighter engine design
- The small engines provide redundancy and are integrated into the wings





TIER 1 SUPPLIERS FOR E-MOTOR AND JET FLAP







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