Aviation Reimagined.

For The First Time in 60 Years
Meet the Next Generation

Michigan’s Race Horse in Agility Prime

Range: 1,070 NM
Payload: 500 LBS
Cruise: 185 MPH
Endurance: 355 Min

1. A commercially viable, autonomous, electric, vertical take-off and landing aircraft.
   a. Autonomous aircraft that fits in your backyard, and your budget.
   b. 24/7/365 aerial logistics.
   c. Medevac, search and rescue, aerial mapping.

"Delivery Orbs are taking over last-mile logistics"
Current electric aircraft have **less performance, payload, and range** than piston helicopters, yet still cost more.

**So it begs the question:** What commercial utility do they have?

None:

- **Cruise:** 43MPH
- **Range:** 17NM
- **Payload:** 353LB
- **Cost:** $300k+

- **Cruise:** 130MPH
- **Range:** 400NM
- **Payload:** 600LB
- **Cost:** $300k+

Drone Technology doesn’t scale. **ORB** technology does.
**Transition Vehicle**
Vertical Take-off: Horizontal Flight

**Drag Coefficient**
Cd 0.023: High Efficiency Laminar Flow

**Turbine**
Conventional Turbines can achieve 1,000NM + of range.

**Fuel Cell**
Organic compounds produce 8x the energy density of lithium batteries for approximately 700NM of range.

**Fuel Cell Options**
Novel organic compounds developed by our partners: 8x increase in energy densit

**Hybrid Propulsion**
Turbine-generator powering both vertical and horizontal propulsion.

**Tandem Seating**
Or 13.6M3 Cargo Capacity

**Advanced Avionics**
Sense and avoid,
AR/HUD Cockpit,
Full autonomy.

**Universal Pilotage**
Manned, unmanned, autonomous and remote pilot capabilities.

**Triple Redundant Propulsion**
And a recovery chute for 4X redundancy in safety systems.

**Wing Modularity**
Adapts to every mission profile and use case. Disassembles quickly.

**Fuel Cell: Urea Peroxide uses**
organic inert liquid fuel with
**greater than 8x**
the energy density of Lithium ion batteries and equivalent power denisties.

**Hybrid-Turbine SJX:**
1070NM Range
500lbs Payload
185MPH Cruise

**Fuel Cell SJX:**
300NM Range
500lbs Payload
185MPH Cruise
Single Engine Failure: Full Function
Dual Engine Failure: Horizontal Landing @ Airport
Power System Failure: Horizontal Landing @ Airport
Complete Power System Failure: Emergency Landing / BRS
IMU Failure: Horizontal Landing @ Airport
Structural Failure: Ballistic Recovery Parachute/ Unaffected Flight Mode

Single Engine Failure: Likely Fatal Accident
Dual Engine Failure: Fatal Accident/Loss of Control
Power System Failure: Fatal Accident/Loss of Control
Complete Power System Failure: Fatal Accident/Loss of Control
IMU Failure: Fatal Accident/Loss of Control
Structural Failure: Fatal Accident/Loss of Control
The Department of Defense has identified a capabilities gap in their vertical lift for aerial logistics, personnel transportation, austere operations, search and rescue and reconnaissance. They’ve designated an independent contracting program, Agility Prime, to support the development of Orbs and integrate them across the DoD.

24/7/365 land anywhere, deliver anything, move anyone.

Close Air Support
Strategic Air Lift
FOB Re-Supply
Manned + Unmanned
Silent Operation

Silent Operation
Autonomous Evac
Sensor Compatible
Sense and Avoid
Low/No Radar Profile

Affordable vertical lift rivaling the safety of a truck with the efficiency of an airplane.

Air Drops
Evac
Resupply
Reconnaissance
Silent Power Generator

A parachute, UAV, rescue helicopter, and power generator rolled into one agile unit.
The first Advanced Air Mobility design with Agile Combat Employment in mind, filling a critical capability gap for all branches of the DoD.

- 24/7 Autonomous Logistics, Surveillance, Air Transport.
- Compatible with Existing Infrastructure.
- Risk-Free Rescue Operations
- Forward Operating Base Deployment, Power Generation, and Extraction

NASA's vision for Advanced Air Mobility (AAM) is to help emerging aviation markets to safely develop an air transportation system that moves people and cargo between places previously not served or underserved by aviation – local, regional, intraregional, urban – using revolutionary new aircraft that are only just now becoming possible.

**Infrastructure:**
Facility agnostic, mission agnostic, “land anywhere do anything” versatile and affordable platform.

**Logistics:**
Using existing Turbine/JetA Infrastructure or Urea/Ammonia, an affordable agricultural by-product.

SJX Range

- 25KTS in Cruise → 15KTS on bottom-line stall speed less accommodating for externally mounted payloads.

SJX Overwatch

- 185MPH Cruise with hard mounts for externally and internally mounted standard multi spectral sensor ball integration (Overwatch) Payloads
Ideal For Special Ops’ Stated Missions

- Civil Affairs
- Hostage Rescue and Recovery
- Counterinsurgency
- Military Information Support Operations
- Counterterrorism
- Security Force Assistance
- Countering Weapons of Mass Destruction
- Special Reconnaissance
- Direct Action
- Unconventional Warfare
- Foreign Humanitarian Assistance
- Preparation of the Environment
- Foreign Internal Defense

Unmanned Evac
Rapid Autonomous Infill - Outfill
Overwatch
Mobile Power Generation
Search and Rescue
Austere Operations
Close Air Support
Electronic Warfare
24/7 Aerial Logistics
Personnel Transport
**Cost**

**C-130J**
- Purchase Price: $67.3M
- Operating Cost: $5,520/Hr
- 1,000Hr Cost: $72.8M
- Max Payload: 35,200lbs
- Combat Radius: 900NM

**Bell UH-1N**
- Purchase Price: $26.2M
- Operating Cost: $2,104/Hr
- 1,000Hr Cost: $28.3M
- Max Payload: 2,182lbs
- Combat Radius: 119NM

**CV-22B Osprey**
- Purchase Price: $72.1M
- Operating Cost: $22,434/Hr
- 1,000Hr Cost: $94.5M
- Max Payload: 8,300lbs
- Combat Radius: 428NM

**Turbine SJX**
- Purchase Price: $0.65M
- Operating Cost: $310/Hr
- 1,000Hr Cost: $1.57M
- Max Payload: 500lbs
- Combat Radius: 535NM

**Graph**
- Drag Coefficient
- Radar Cross Section
- Data Link Security
Round trip executive travel between Ramstein in Germany to Lask Poland.

Total Distance: **923 Miles**  
Total Time: **319.9 Min**  
Fuel Burn: **35.3 Gal**  
Payload: **500 lbs**  
Cost to Operate: **$2,094**  
% Fuel Remaining: **13.7%**

SJX delivers 2 officers per aircraft to the Polish air base in Lask for executive meetings and returns.
Alexander Taylor
Founder

Alex is an aircraft designer, engineer, commercial UAV pilot, and serial entrepreneur.

Alex began his life in the mission field. Growing up in Istanbul, Turkey his favorite books were “Do Hard Things”, “Outliers”, and “Complete Encyclopedia of World Aircraft”. At age 12 he began building commercial UAVs, at 14 after returning to the Unites States he founded Wind Craft Quads, at 16 he was the youngest commercial drone pilot in the nation and had built a team researching new solutions for electric aerospace. In 2017 he founded Orb Aerospace with a new and selfless vision for aviation. Together, with his designs and Dr. Rusek’s fuel cells, our technology has incredible potential for improving life on earth.
A group of uniquely intelligent people, dedicated to pushing the limits of aviation and the technology around it, not for the richest among us, but for the benefit of every man.

L. Allen Heneveld  
**CFO/In-House Counsel**  
MBA, JD, former CPA and Certified Growth Curve Specialist. Allen has been working with disruptive businesses for over 35 years. He is an experienced and successful team & infrastructure builder.

Brian Davis  
**Military Development**  
A-10C and F-16C evaluator/instructor pilot, ATP, and Air War College graduate. Command and combat tested leadership experience; Wing Chief of Safety; Global/Multi-National/ Joint Exercise development. Executive MBA.

Prof. Dr. John Rusek  
**Energy Development**  
Practicing Chemical Engineer for 44 years, Distinguished Air War College Graduate, Former Chief Engineer - Energetics at NAWC/China Lake, Adjunct Professor in Aeronautics and Astronautics at Purdue University.

Gavin Vonk  
**Programmer**  
Prodigy programmer with multi disciplinary abilities in software development, prototyping and IT systems.

Luke Wilson  
**R&D Engineer**  
Is an airframe and powerplant technician engineer with broad experience in prototyping and product development.

Levi Vandekamp  
**Electrical Engineer**  
Levi is an electrical engineer with a broad range of experience in many technical disciplines.
Business Development

'17 - '20
Fuel Cell Development/ Swift Partnership
Air Frame Structural Engineering
Planet M Mobility Grant
3rd Scale Minimum Viable Product
Reg CF Close
Transition Flight Testing
Renaissance Ventures Top 50
Red Herring Top 100

2021
AFWERX Phase 1 STTR Contracts
Henderson Phase 2 Contracts
Full Scale Airframe Contracted vs Composite Builders

2022
Full Scale Flight Testing
3rd Airframe Delivery and Integration

2023
Production of Beta - Model Begin
DOE Loan 400M To Ramp up Production

2024 - Jesus is back.
1. Scale Production
2. Continue iterating the Core Technology
3. Expand into new markets.

Adoption and Organic Growth

Capital and Production
Target Commercial Organizations:

Pre-Production
Alpha Prototypes
Three Demo Platforms
Priority: The Technology

Production
3 Uts/yr
Limited Production for Initial Markets
Priority: Execution

900 Units/yr
Serial Production for All Markets
Priority: Scaling Production

4000 Units/yr
Possible Liquidity Event

DOE Loan 400M To Ramp up Production

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Future Plans

**ORB AERO GROUND CREW**
Grown our talented team, add new partners, advisors, and strategic investors.

**AFWERX AGILITY PRIME**
Dual Phase 1 STTRs awarded, Progressing to Phase 2 and Agility Prime Class of 2021.

**Maverick. ORB AERO**
Gen 3 Performance EVTOL

**The Hatch**
World-Class Production and R&D Facility

**ORB PROPULSION LABORATORIES**
Propulsion Commercialization Unit
Performance Oriented

Progressive Development

A Global Impact