

EDWARD

- Ground Validation of Distributed Electric Propulsion (DEP) High-Lift System

- Flight Testing of Baseline Tecnam P2006T

- GOALS:

- Establish Baseline Tecnam Performance
- Pilot Familiarity

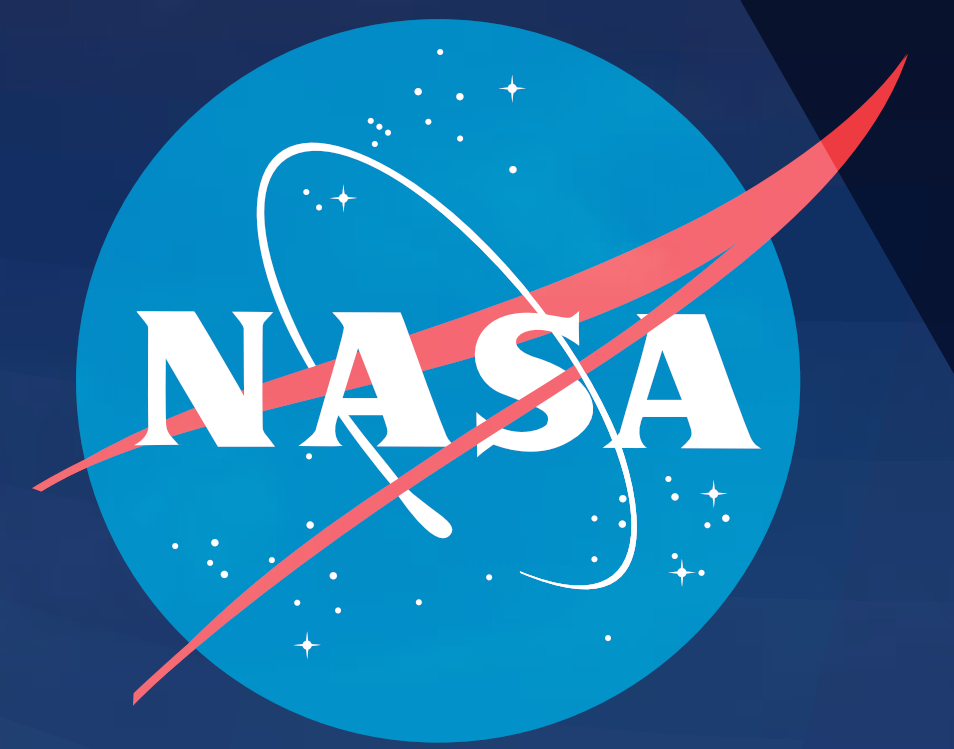
- Retrofit of a Baseline General Aviation Aircraft with an Electric Propulsion System

- Ground and Flight Test Validation of Electric Motors, Batteries, and Instrumentation

- GOALS:

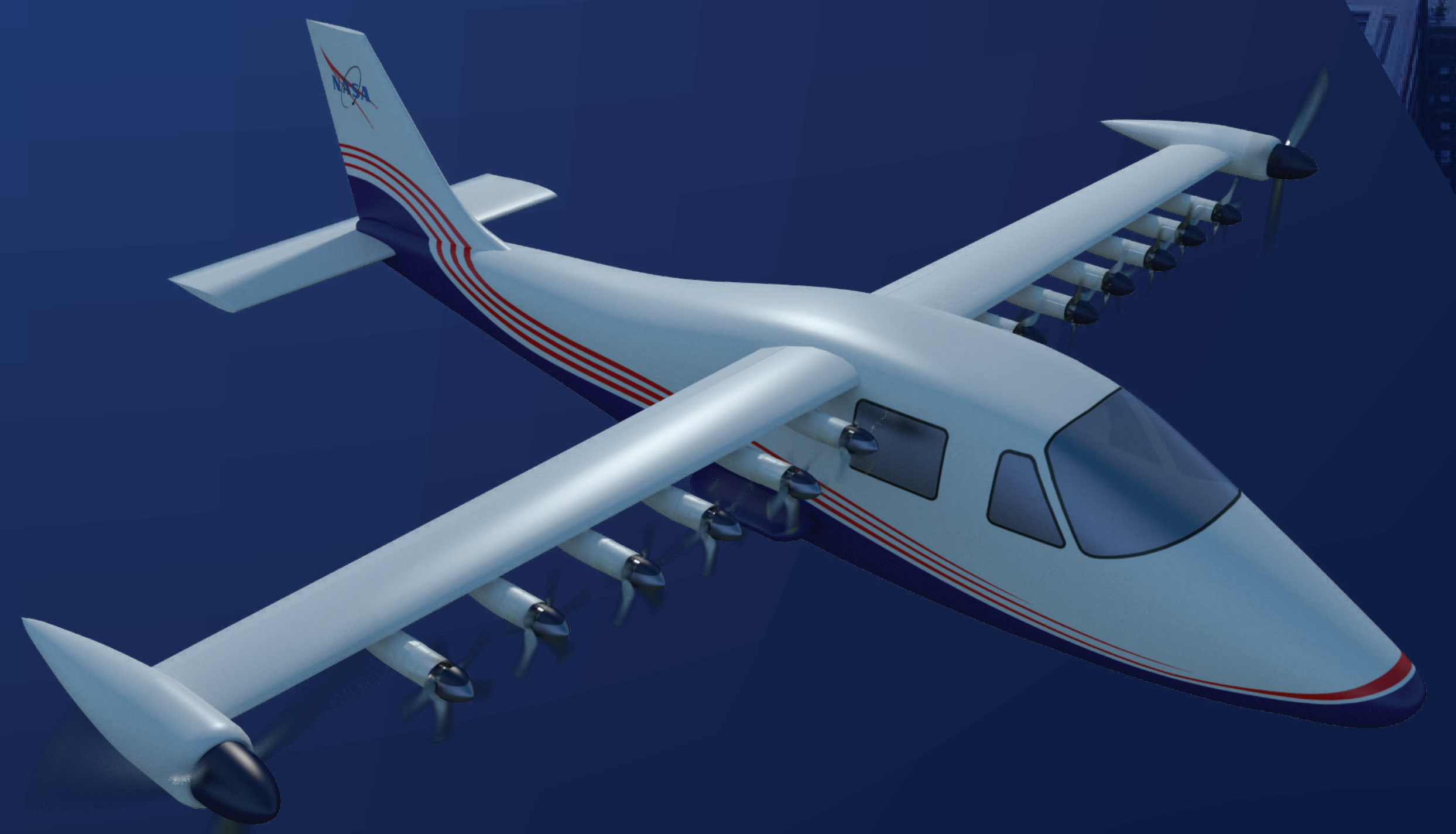
- Establish Electric Power System Flight Safety
- Establish Electric Tecnam Retrofit Baseline.
- Optimize design for 3.3x lower energy use at high speed

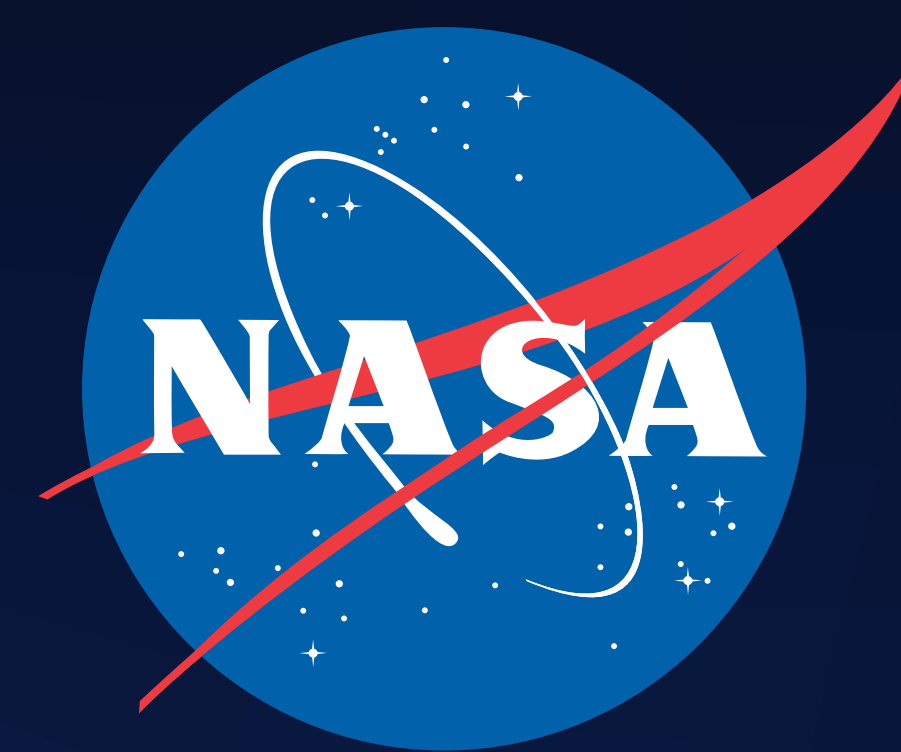




DEP WING DEP

- Modified Configuration with a Cruise-optimized DEP Wing
- Electric Cruise Motors Repositioned to Wingtips
- Installation of High-Lift Nacelles along Wing's Leading Edge
- GOALS:
 - Optimize Design for Additional 1.5x Reduction in Energy Use
 - Reduction of Wing Area to Reduce Friction Drag
- Modified Configuration for Adequate Low-Speed Takeoff
- Ground and Flight Test with Fully-Integrated DEP High-Lift Motors and Folding Propellers
- GOALS:
 - Certification Basis of DEP Technologies
 - DEP Acoustics Testing
 - Low-Speed Control Robustness



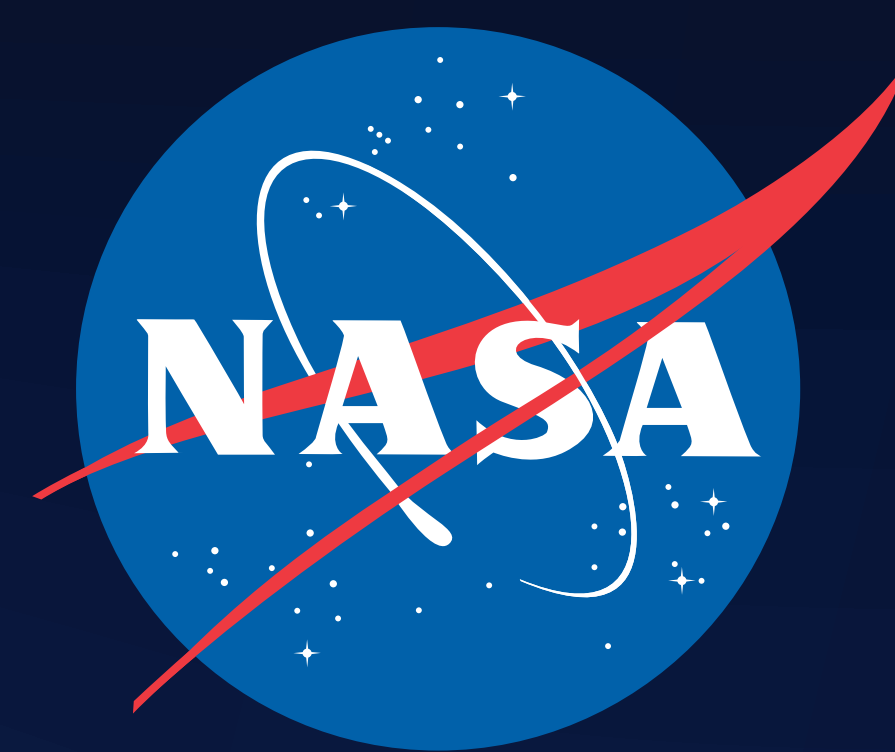


- **HELP** Develop Certification Standards for Electric Aircraft Markets
- **SHARE** X-57 Design and Airworthiness Process with Regulators and Standards Organizations to Further Develop Airworthiness Certification Approaches
- **ADVANCE** the Nation's Science and Industrial Base by Establishing a Reference Platform for Integrated Approaches of DEP Technologies, Including Best Practices and Lessons Learned

DESIGN DRIVERS

- 500% Increase in High-Speed Cruise Efficiency
- Demonstrate Zero In-Flight Carbon Emissions
- Demonstrate Flight that is much Quieter for Communities on the Ground

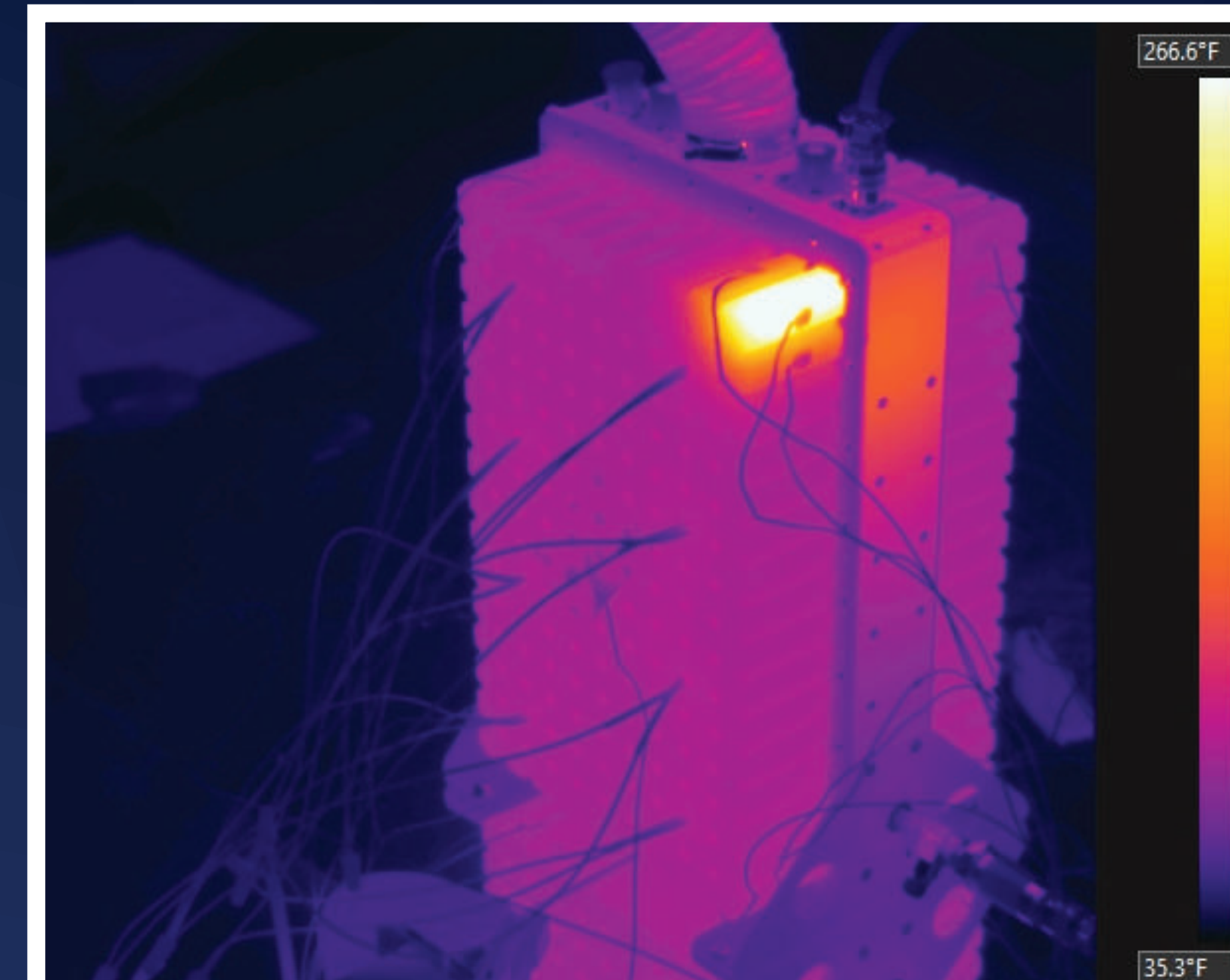




KEY TECHNOLOGIES

LITHIUM ION BATTERIES

- X-57 is Powered by 860lbs of Lithium Ion Batteries, Specially Redesigned to Isolate Potential Overheating Issues
- The Batteries Feature 69.1kw hours Energy Usage, with 47kw hours usable



HIGH-ASPECT RATIO WINGS

- Starting in Mod III, X-57 will feature a skinnier, High-Aspect Ratio Wing, featuring a large Reduction in Area, with Wing Loading Increasing from 17 lbs/sqft to 45 lbs/sqft



CRUISE MOTORS & PROPELLERS

- X-57's Electric Cruise Motors are Inboard on Mod II, and Repositioning to the Wingtips for Mods III & IV
- These Air-Cooled, Out-Runner Cruise motors feature 60kW of Power each, and 5ft Diameter Propellers



HIGH-LIFT MOTORS & PROPELLERS

- In Mod IV, X-57 will feature smaller High-Lift Motors and Propellers along the Wing's Leading Edge, featuring 10.5kW of Power
- These Motors and 1.9ft diameter Propellers are Powered to Generate Lift for X-57 to Take off and will fold to reduce Cruise Drag

