



## ELECTRIFIED AIRCRAFT PROPULSION (EAP)

# Flight Demonstrations: Why We Fly

Testing electrified powertrain systems in flight accelerates the transition of new technologies into practical use to benefit the flying public.

## Why are we building flight demonstrators?

NASA, in partnership with U.S. industry and academia, will

- Advance testing and adoption of sustainable flight solutions by providing real-world conditions that expedite technology development.
- Prove that all aspects of integrating multiple systems (e.g., propulsion, power, thermal, and aerodynamics) work.
- Measure performance and environmental benefits.



### X-57 Maxwell

NASA's All-Electric X-Plane

- ✓ Battery powered
- ✓ Distributed propulsion
- ✓ 100-kW power class
- ✓ Low operating costs



### Parallel Electric-Gas Architecture with Synergistic Utilization Scheme (PEGASUS)

PEGASUS is an example of a NASA EAP Vision Vehicle.

## What are the benefits?

EAP research addresses current barriers to the evolution and introduction of efficient electrified aircraft. This includes assuring safe, affordable aircraft operations, accommodating high voltage and power levels two to five times higher than current aircraft, creating new standards and regulations for certification, managing power quality and electromagnetic interference effects, and reducing power system weight and losses.

To learn more, visit [www1.grc.nasa.gov/aeronautics/eap/](http://www1.grc.nasa.gov/aeronautics/eap/).