

MOBIUS.energy Among Teams Competing in AFWERX Energy Showcase

A consortium of Mobius.energy, EC Power, and Skyworks Aeronautics is competing in the AFWERX Fixed and Mobile Energy Storage Challenge

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AFWERX, the catalyst for fostering innovation within the U.S. Air Force, announced TEAM [MOBIUS](#), a consortium led by Mobius.energy as one of the 179 participating teams selected from across the globe competing to Reimagining Energy for the DoD.



The AFWERX Challenge is centered around six topics - Fixed and Mobile Energy Generation, Energy Transmission and Distribution, Fixed and Mobile Energy Storage, New Warfighting and Operational Equipment, Data Availability for Improved Planning and Decision Making, and Energy Culture, Policy, and Education. The proposals selected to advance represent innovative solutions to allow for more effective warfighting and humanitarian missions less reliant on fossil fuels.

TEAM MOBIUS, a consortium of Mobius.energy ("Mobius"), [EC Power](#), and [Skyworks Aeronautics](#) ("Skyworks"), is competing in the Fixed and Mobile Energy Storage Challenge alongside a diverse group of teams - originating from the vast regions of North America, Europe, Australia, and other allied countries - that represent entrepreneurial startups, small businesses, large enterprises, academic institutions, and research labs all vying to Reimagine Energy for the Department of Defense.

"The AFWERX Reimagining Energy for the DoD Challenge is critical to our mission of increasing collaboration between large businesses and entrepreneurs to accelerate solutions for the Air Force," stated Mark Rowland of AFWERX. "On behalf of AFWERX and the Department of Defense, we congratulate the teams advancing to the next phase. Their contributions are invaluable and have the potential to create game-changing results across the Air Force enterprise."

The Fixed and Mobile Energy Storage Challenge strives to develop leap-ahead operational and warfighting equipment, envision new ways of getting energy to where it is needed, and develop

better storage devices. The Department of Defense (DoD) consumes large amounts of operational and facility energy to provide a combat-credible force. The DoD is one of the largest single consumers of energy globally, and the Air Force is the largest user of fuel energy in the US Government. The way we generate, transmit, store, and use this enormous amount of energy today is both a paramount combat enabler and a potentially crippling vulnerability.

Mobius developed an advanced battery module optimized for electric aircraft. Mobius' module excels in fast cooling and nicely complements fast heating cells from EC Power. EC Power's fast self-heating cells combined with Mobius' rapid cooling module can quickly and efficiently control the temperature enabling cold weather operation, fast charging, and on-demand power boost. Circuit fuse, fast heat dissipation, internal cell temperature sensing, and cell-level battery management will enable early detection and prevention of thermal runaway with multiple safeguards that can satisfy the strict safety requirement of the aviation industry.

This selection comes on the heels of Mobius' recent announcement of a strategic partnership with Skyworks to produce the state-of-the-art electric power system for the eGyro™, electrically powered vertical take-off and landing (eVTOL) aircraft. In support of TEAM MOBIUS, Skyworks will test and evaluate the battery module prototype on the ground and then in-flight using a Skyworks eGyro™ flying testbed.

Jongwon "JP" Park, Chief Strategy Officer and co-founder of Mobius said, "Mobius is building a global aviation battery alliance and our strategic partnership with EC Power and Skyworks marks an important milestone. TEAM MOBIUS will support warfighters by developing a cutting-edge mobile energy storage solution that can improve agility, performance, and combat readiness of electric flying orbs"

ABOUT MOBIUS

Mobius is a startup developing novel battery module architecture. Mobius' battery module provides low total cost of ownership, safe battery operation, high energy density, fast charging (<10 minutes), rapid cooling, and a high cell-to-pack mass ratio of >0.8, all enabled by a novel lightweight super thermal conductor (STC). STC has 25 times better thermal conductivity than copper and is 30-50% lighter than Aluminum. Mobius' battery architecture is welding free and bonding free that allows on-site cell replacement for repair. Mobius' goal is to build battery subscription, maintenance, and salvage service including the second life repurpose and the end-of-life recycling of batteries to enable circular economy and thereby contribute to decarbonization of the aviation industry. Company website: <http://mobius.energy>

ABOUT EC POWER

EC Power is the holder of the "self-heating battery," the first battery with the thermal management system built-in at the cell level during initial manufacturing. This innovative approach has led to numerous advances, including 1) the all-climate battery, which enables electric vehicle cold start, and fast charging, even at ambient temperatures of -50 C, 2) the fast-charging battery, which is the first long cycle-life battery (>2500 cycles) to meet the DOEs

"extreme fast charging" requirements under third party testing, and 3) the power-on-demand battery which allows a tripling of the power density from its nominal value for short energy bursts. Company website: <https://ecpowergroup.com/>

ABOUT SKYWORKS

Skyworks is the world leader in gyroaerodynamics, the study, and design of sustained autorotative flight represented by the company's gyroplane technology. Skyworks has more than 40 patents with several more underway, all obtained in an effort to radically change not only the way gyroplanes are perceived, but also the way they are utilized. From mass personnel transportation, agriculture, defense, and border protection to literally changing the economies of developing nations, Skyworks' goal is to change the nature of the vertical flight. Company website: <https://www.skyworks-aero.com/>

ABOUT AFWERX

Established in 2017, AFWERX is a product of the U.S. Air Force, directly envisioned by former Secretary of the Air Force Heather Wilson. Her vision of AFWERX — to solve some of the toughest challenges that the Air Force faces through innovation and collaboration amongst our nation's top subject matter experts. AFWERX serves as a catalyst to unleash new approaches for the warfighter through a growing ecosystem of innovators. AFWERX and the U.S. Air Force are committed to exploring viable solutions and partnerships to further strengthen the Air Force, which could lead to additional prototyping, R&D, and follow-on production contracts. AFWERX website: <https://afwerxchallenge.com/energy>

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