

DARPA Awards Electric Propulsion Laboratory \$6.7M Contract to develop “air breathing” electric propulsion for Very Low Earth Orbit Operations.

Monument, CO: 28 March 2024: Electric Propulsion Laboratory, Inc. (EPL) a research and development leader in space propulsion technology was awarded a contract valued up to \$6.7M by the Defense Advanced Research Projects Agency (DARPA) to deliver its revolutionary “air breathing” electric propulsion system. This technology will enable “air breathing” electric propulsion technologies to support extended operations at VLEO altitudes (90 to 450 km).

The award is part of DARPA’s Otter program, which aims to develop, demonstrate, and collect on-orbit data for “air breathing” electric propulsion technologies that will harvest ambient low-density air as propellant, enabling extended satellite operations at VLEO altitudes. The Otter program will culminate in a long duration “orbiting wind tunnel” spaceflight demonstration, characterizing the performance of the “air-breathing” EP system in the orbital environment.

To achieve this DARPA Otter program vision, EPL will further mature its Air Breathing ELeCtric (ABEL) engines. Specifically, with a series of staged technology developments, EPL’s proof-of-concept ABEL engines will be optimized to meet the demanding performance metrics specified by DARPA for sustained VLEO mission operations.