



The Team of Invocon, Inc., KT Engineering Corporation, and Troy 7, Inc. has been awarded a Prototype Project Award by the U.S. Air Force Space and Missile Systems Center (SMC) for the **Aerospike Rocket Integration and Suborbital Experiment (ARISE)**. Awarded through the Space Enterprise Consortium® (SpEC) and managed by the Air Force Research Labs (AFRL) Rocket Lab at Edwards AFB, California, the project will demonstrate flight in a sub-orbital flight test of a launch vehicle utilizing a single rocket engine with an annular aerospike nozzle, modular thrust cells, and modular turbomachinery.

The primary objective of the flight test is obtaining flight performance data for the modular aerospike engine over a range of operation representative of a launch vehicle trajectory, including open wake regime, wake transition, and closed wake regime. To achieve this objective, the Team will produce a highly instrumented modular aerospike engine and launch vehicle and perform integration activities, execute range coordination, and conduct launch operations on a sub-orbital flight, the first of which is scheduled for 2022.

KT Engineering (KTE) is a small business specializing in the research, design, analysis and testing of aerospace systems, subsystems and components. KTE has demonstrated expertise in the research and development of low-cost chemical rocket engines, high-performance pressurization systems, and light-weight metallic tanks and structures, and 18 years of experience in the design, analysis and testing of aerospike and plug cluster rocket engines.

Troy7 is a woman-owned small business with core competencies in guidance and control, telemetry, vehicle design, and launch operations. Troy7 is a highly technical small business with a legacy of support to more than 350 DoD and NASA flight test missions. Troy7 currently supports MDA, the National Aeronautics and Space Administration (NASA), PEO Missiles and Space, the US Army Space and Missile Defense Command (SMDC), and commercial companies.

Invocon is a veteran-owned small business that provides turnkey instrumentation and control solutions for demanding applications in extreme environments for the sensing and data acquisition communities. For the ARISE project, Invocon is responsible for engine instrumentation, PCM telemetry encoders and transmitters, vehicle battery power and control, and flight termination system. As a SpEC Consortium member, Invocon will serve as prime contractor for the project.

About AFRL:

The Air Force Research Laboratory (AFRL) is the primary scientific research and development center for the United States Air Force. AFRL plays an integral role in leading the discovery, development and integration of affordable warfighting technologies for our air, space, and cyberspace force. With a workforce of more than 11,000 across nine technology areas and 40 other operations across the globe, AFRL provides a diverse portfolio of science and technology ranging from fundamental to advanced research and technology development. For more information, visit: [www.afresearchlab.com](http://www.afresearchlab.com).

