



Contract  
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# ARGOS

**Aeronautical Regional Geospatial Observer System**

*Stratospheric Based Monitoring Long Duration Flight Platform*

*Contact:*

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*Customer:*

USSF AFRL Geospace Environment Impacts and Applications Branch

**The Problem** Real time observation as events unfold on Earth is increasingly vital to humans and the ecosystem at large. High Altitude Long Endurance (HALE) UAVs allow active and passive instruments to observe the environment on land, at sea, in the atmosphere, and coming from space. Existing and developing platforms are expensive and must generate on average \$20k per day to achieve financial viability.

**The Opportunity** ARGOS is a lightweight UAV designed to fly autonomously for up to a year at 20km altitude. ARGOS will open a new market for lightweight payloads ( $\leq 5\text{kg}$ ) by dramatically reducing the cost for access to the stratosphere. We are conducting a feasibility study (Phase I) to deploy a fleet for the Air Force and DoD as well as commercial payloads (Phase II).

ARGOS prototype design  
without landing struts



**The Method** Above the clouds, sunlight is unobstructed and abundant. Collected energy will power flight during the day while storing excess for the night. We are building a low-cost prototype for a series of test flights from December 2021 to increasingly higher altitudes targeting June 2022 for the first HALE attempt.

**The Foundation** ARGOS will include instrumentation embedded within the avionics to expand Automated Radiation Measurements for Aerospace Safety (ARMAS) operations. SET began ARMAS operations in 2012. Over the past decade we have designed, built, and flown a series of instruments to measure atmospheric and space radiation on 780+ flights.