

WHO

**SYSCOM:** NAVWAR

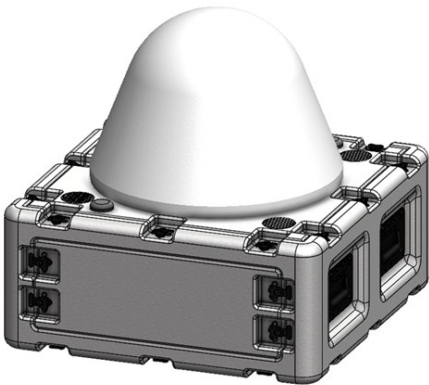
**Sponsoring Program:** PMW/A-170 Communications and GPS Navigation

**Transition Target:** Rapid Defense and Experimentation Reserve (RDER)

**TPOC:** (619) 524-2510

**Other Transition Opportunities:** Pursuing submarine and surface vessel programs within the Navy that need enhanced satcom capability.

**Notes:** ATG has been chosen to move the ATG Luneburg Lens antenna forward through the RDER program. The RDER program is designed to accelerate the development and deployment of technologies like this to fill existing technology gaps across the DoD. ATG is finalizing a contract to participate in the program and the Valient Shield program in 2024. Valient Shield is a joint exercise designed to accelerate the deployment of key technologies for DoD use. It will be held in the Indopacom region in 2024. ATG has been chosen to deploy this antenna to support both Army and Navy activities for Valient Shield.



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WHAT

**Operational Need and Improvement:** The new NGSO (Non-Geostationary Orbit) constellations significantly improve bandwidth, latency, and resiliency over current generation geosynchronous satellites. ATG has developed an antenna to allow access to multiple constellations and frequency bands while meeting DoD requirements for ruggedness, power, and form factor.

**Specifications Required:** The ATG antenna system is designed to be compliant with network requirements for emerging NGSO constellations such as Starlink, OneWeb, and Kuiper while meeting Military requirements such as MIL-STD-810x for ruggedization, MIL-STD-1275x for power, and FCC and ARSTRAT requirements for satellite communications.

**Technology Developed:** ATG has developed a Luneburg Lens-based antenna that allows simultaneous operation on multiple satellites and frequency bands, providing enhanced interference mitigation with low power draw and compact form factor.

**Warfighter Value:** The ATG antenna provides the ability to access multiple satellite constellations simultaneously, reducing the number of antennas needed to execute the mission. Additionally, the antenna meets requirements unique to the military, such as enhanced ruggedization and resilience against jamming and interference.

WHEN

**Contract Number:** N68335-20-C-0620

**Ending on:** Aug 31, 2022

| Milestone           | Risk Level | Measure of Success   | Ending TRL | Date         |
|---------------------|------------|--|------------|--------------|
| RDER Effort Kickoff | Low        | Successful demonstration of baseline capability to the RDER program management team                            | 4          | 4th QTR FY22 |
| RDER PDR            | Low        | Customer acceptance and sign off of PDR documentation  | 4          | 2nd QTR FY23 |
| RDER CDR            | Medium     | Customer acceptance and sign off of CDR documentation and successful demonstration of a fieldable capability   | 5          | 1st QTR FY24 |
| RDER Delivery       | Medium     | Delivery of 3 operational that meets environmental and performance criteria specified in program documentation | 6          | 3rd QTR FY24 |

HOW

**Projected Business Model:** ATG intends to design, develop, and manufacture an antenna. The initial market for this antenna is military customers desiring access to NSGO satcom networks, but it is also applicable to commercial customers needing NSGO satcom capability.

**Company Objectives:** ATG's objective is to be a manufacturer and provider of ruggedized hardware and software solutions for military and commercial satcom applications. ATG will utilize a combination of in-house and contract capabilities to design, manufacture, support and sustain this antenna. ATG has established relationships with small and large prime contractors throughout the satellite industry to help deploy this technology, and several have already expressed interest in doing so. ATG would like to connect directly with both programs directly utilizing SATCOM and Beyond Line of Sight (BLOS) capabilities as well as programs that could benefit from adding BLOS to their system.

**Potential Commercial Applications:** Commercial satcom users such as maritime, railroad, and over-the-road trucking have similar requirements for antenna systems like this, both RF performance and ruggedization. ATG has extensive expertise in this market and intends to sell this product into the commercial sector.