

TERRESTRIAL SENSOR CAPABILITIES

Areté is an advanced science and engineering Employee-Owned Small Business that provides innovative sensing solutions — from scientific discovery through prototyping to production. Areté's smart systems include active and passive sensors, real-time processing, software, and complex algorithms that operate from seafloor to space.



Areté
DISCOVER. DEVELOP. DELIVER.



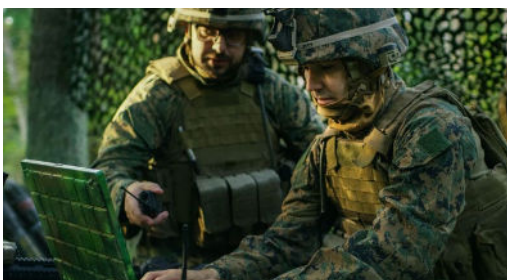
LiSA – LIDAR for Situational Awareness

- **TRL:** 9
- **Discriminators:** Low Size, Weight & Power, long range (2Km).
- **SWaP:** 10"x 29.5"x 12", 30lbs, 250W max, normal operation 120W.
- **Status:** Full Rate production, capable of higher rate.
- **Operations:** Currently deployed to Europe on MEDEVAC UH-60s and SOCOM MH-47s and MH-60 Blackhawks.
- **Description:** LiSA is a state-of-the-art LIDAR delivering unparalleled levels of real-time situational awareness, especially in Degraded Visual Environments. LiSA also provides wire-strike/obstacle avoidance, and Landing Zone Assessments, reducing pilot cognitive burden.



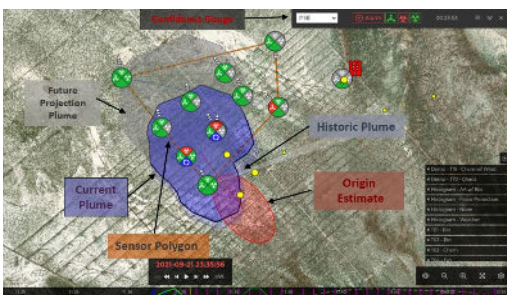
AIRTRAC-LD – Laser Designator

- **TRL:** 9
- **Production:** Low Rate, Full Rate production starting January 2023.
- **Discriminators:** Low Size, Weight, and Power. Customizable deployment.
- **SWaP:** 2.72" x 1.94" x 1.25", 250 g w/ electronics.
- **Status:** Component of the USMC NGHTS designator system, multiple versions for different use cases.
- **Description:** Areté's AIRTRAC-LD Laser Designator is a ruggedized, high-shock laser with >50 mJ pulse energy. Full NATO STANAG 3733 capability. The athermal design provides high laser pulse energy over the full MILSPEC temperature range with low beam divergence and a full system weighing less than 1 lb.



TANDOM – Sensor Fusion

- **TRL:** 9
- **Production:** Full Rate.
- **Discriminators:** Sensor Agnostic, Real-Time multi-int sensor fusion for CWMD and Environmental threat mission spaces via standard I/O protocols.
- **SWaP:** TANDOM operates on a range of platforms from low swap processors to cloud installations.
- **Status:** Currently deployed on nine OCONUS locations.
- **Description:** TANDOM is a real-time, tactical software toolkit for enhancing actionable decision making. Providing input agnostic processing, TANDOM captures inputs from sensors, video, and environmental feeds and converts them to context-based information streams.





AIMS – Automated Image-Based Medical Sensing

- **TRL:** 7
- **Production:** Prototyping, integrated into Ascent's Spirit Drone.
- **Discriminators:** Real-time, remote triage, documents injuries from point-of-injury to point-of-care.
- **SWaP:** Software packages on a chip, integrated into any camera – UAV, UAS, fixed site.
- **Status:** SBIR Phase III with U.S. Army TATRC.
- **Description:** Integrated software employing a Deep Neural Network and Computer Vision to remotely locate, characterize, and monitor combat casualties.



FogViewer

- **TRL:** 6
- **Discriminators:** Passive sensor that remotely classifies fog levels and provides visibility reports out to 10 miles away.
- **SWaP:** Camera(s) with processor.
- **Status:** SBIR Phase II with NOAA.
- **Description:** Deep Learning Software mated to commercial cameras, excellent for remote or hazardous locations.



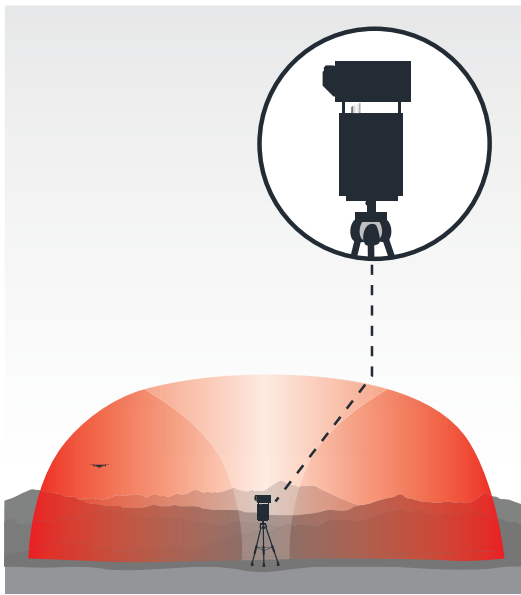
Basilisk – CUAS Detector

- **TRL:** 6/7
- **Discriminators:** Totally passive, low false alarm rate, identifies sUAS swarms at 1KM, larger UAVs at >2KM, one-man carry/emplacement, battery or solar powered.
- **SWaP:** 9.7" x 7.3" x 6.2" ~10lbs, 200W.
- **Status:** SBIR Phase II with SMDC.
- **Description:** A low SWaP-C UAS Detection and Tracking System for force protection applications. Single units provide 180-degree coverage, 2 units = 360 degrees.



Crosswind – Air Direction Measurement Ballistic Calculator

- **TRL:** 7
- **Discriminators:** Low SWAP down-range crosswinds measurements to 800 meters.
- **SWaP:** 9" x 8" x 3.5", 5.2 lbs, four C123 lithium batteries (12V total).
- **Status:** Phase II SBIR completed, three prototypes delivered to PEO Soldier.
- **Description:** A low-SWAP downrange crosswinds sensor with build-in ballistics calculator enhancing sniper precision at long ranges.



WATD – Wide-Area Threat Detector

- **TRL:** 5
- **Discriminators:** Hemispheric warning of UAS.
- **SWaP:** Vehicle mounted, 20W optical Power, 532 Nanometer.
- **Status:** SBIR Phase II with ONR.
- **Description:** Provides 3D day/night tracking capability of UAVs and rapid detection of chem-bio dispersal plumes. Eyesafe.

