

## Advantages:

- **Capable:** aircraft tracking with or without radio transceivers, including link loss management
- **Applicable:** broad-area Arctic and maritime unmanned aerial surveillance
- **Safe:** end-to-end safety management for flight operations with checklists
- **Turn-key:** crew training, airspace clearance, weather detection and flight management solutions
- **Versatile:** over-land, littoral, offshore, ship-based and airborne installations
- **Profitable:** enables revenue-generating missions beyond visual-range
- **Timely:** expedites entry into a growing unmanned aircraft market



## Our Company:

Seamatica Aerospace Limited was established in St. John's, Newfoundland to enable a safer, integrated, cooperative airspace utilizing FAA NextGen ADS-B radio transceivers. We are currently extending our capabilities to track weather and aircraft without transceivers using ground-based radar.

With over a decade of experience in unmanned aircraft operations in the harsh environment of Newfoundland and Labrador, the Seamatica team is committed to provide leading-edge cost-effective solutions to foster revenue-generating unmanned aircraft missions.

## Contact us:

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## GuardianEye

### UAV Safety Management System

Our goal is to develop ground-based and airborne sense-and-avoid (SAA) capabilities to support unmanned aircraft operations beyond visual range.

### Features:

- Fused sensors: ADS-B and radar for detecting intruder aircraft
- Tracking antenna and camera for increased situational awareness
- Detection of weather and visual meteorological conditions (VMC)
- Custom unmanned aircraft for crew training
- Integrated trailer to house operating crew

## GuardianEye Components



### Zeus Coherent Radar System

The Zeus Radar System provides situational awareness for non-participating aircraft entering the operational airspace. Zeus is vital for ensuring safety and control of specified location.

#### Features:

- Fully Coherent, solid state X-band pulsed radar
- Capable of 3D sector scanning
- Lightweight and portable (10lbs)
- Multimode capability (surveillance, weather, SAR)
- Supports air and surface target detection as well as field weather detection



### Apollo Air Traffic Monitoring System

The Apollo Air Traffic Monitoring System is designed to enhance air traffic situational awareness. Equipped with a state-of-the-art ADS-B receiver to monitor the presence of commercial and general aviation aircraft, the Apollo system displays air traffic using the FalconView® mapping application. Applications for the Apollo is particularly valuable when conducting UAV operations.

#### Features:

- ADS-B air traffic display
- Own UAV display
- Built-in map server
- Lightweight and portable
- Battery powered for remote operation



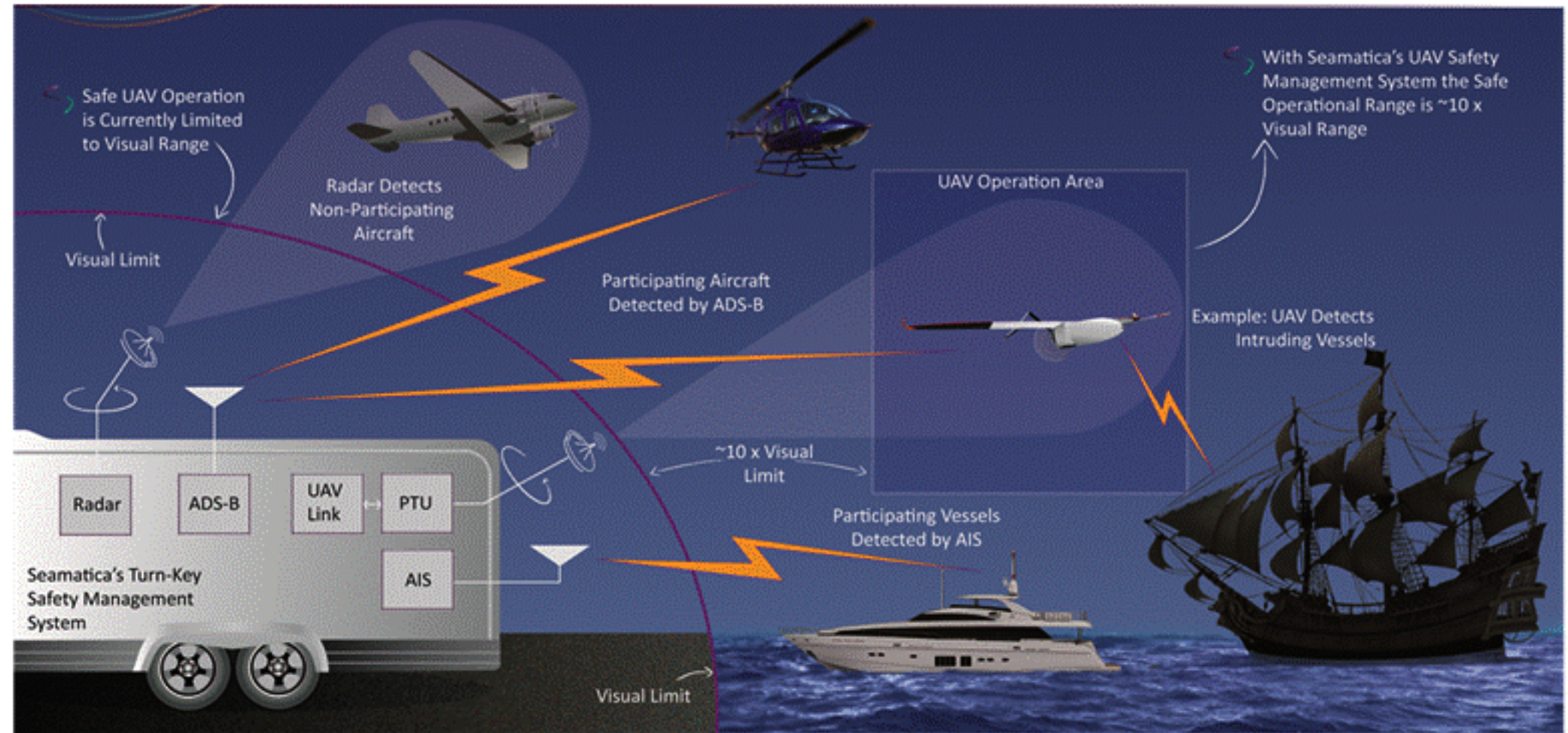
### Hermes Tracking Antenna (Pan and Tilt Unit)

The Hermes Tracking Antenna unit seamlessly interfaces with unmanned aircraft telemetry, FAA NextGen ADS-B transceivers and the ground radar system.

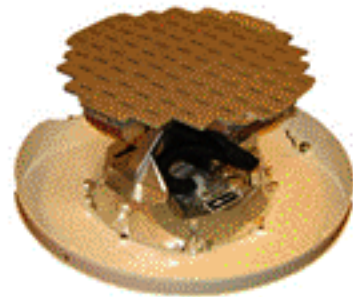
The tracking antenna and camera increase mid-air situational awareness of unmanned aircraft operations.



- Mobile 16'x7' trailer with Class 3 hitch
- Zeus Radar tracks 10x10 miles airspace for non-cooperative traffic, expandable in 10x10 miles increments
- Apollo ADS-B tracks up 130 NM for cooperative traffic
- Hermes ADS-B guided PTU for increased bandwidth telemetry
- AIS receiver tracks maritime traffic
- Build-in auto take-off and landing quad-rotor UAS for field training
- Completed with operator consoles, generators, HVAC, washroom and tool kit
- Reconfigurable for air and sea lifts to remote-area



**Zeus Coherent Radar**



- Operates at X-band and is both fully solid state and coherent
- Detects a single-engine aircraft at ranges exceeding 6 nautical miles (11 km)
- Supports air and surface target detection as well as field weather detection

**Apollo ADS-B Transceiver  
(Automatic Dependent Surveillance-Broadcast)**



- Small, light-weight, low-power, and low-cost
- Built-in self-separation and collision-avoidance algorithms
- 1090 MHz in & 978 MHz in/out dual frequency operation
- Capable of autonomous collision-avoidance operation under loss of link

**Hermes Tracking PTU  
(Pan and Tilt Unit)**



- Tracking antenna system seamlessly interfaces with unmanned aircraft telemetry, FAA NextGen ADS-B transceivers and the ground radar system
- Tracking antenna and camera increase mid-air situational awareness of unmanned aircraft operator