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HeliSAR Day/Night Optical Radar

World's first autonomous wide area Helicopter Search and Rescue(SAR) System

Finding small objects at sea remains a challenge for maritime search helicopter.

Radar is traditionally size, weight and power dependant. The smaller the object of interest, the larger the radar required to find it. The size and cost is often prohibitive.

In challenging sea states searches for small targets are still conducted visually. If you are lost at sea at night, the chance of being found drops significantly due to the reliance on a narrow field of view EO/IR sensor.

The IAS airborne Day/Night Optical Radar provides a transformative capability for small object search from helicopters.

Easily installed, and a fraction of the size weight and power of a traditional radar, the IAS Optical Radar uses a specially configured array of day and night optical sensors that continuously observe the ocean either side of the helicopter.

Everything on the ocean's surface is autonomously detected in under a second, presenting aircraft operators with a small image of each object found alongside its location coordinate on a map.

Detection to identification is completed in seconds.

HeliSAR is installed through a replacement of the lower cockpit windows either side of the aircraft with replacement windows installed with the HeliSAR array.

HeliSAR's small form factor and innovative design ensure that visual obstruction is minimal and unobtrusive.

Core capabilities:

- Day/Night operations
- 30x faster search
- Finds SAR objects of interest, including people in the water
- Finds non-reflective, non-transmitting objects
- No modifcation to exterior helicopter shape required
- Operates in harsh conditions such as: snow, hail and rain

Detection

Autonomous detection of objects on the surface of the ocean – including people in the water.

Classification

Autonomous classification of objects of interest.

Tracking

Persistent Tracking over time of each target found.

Cross Cue

Location information provided to connected systems for mapping or cross cue of aircrafts inspection sensor.

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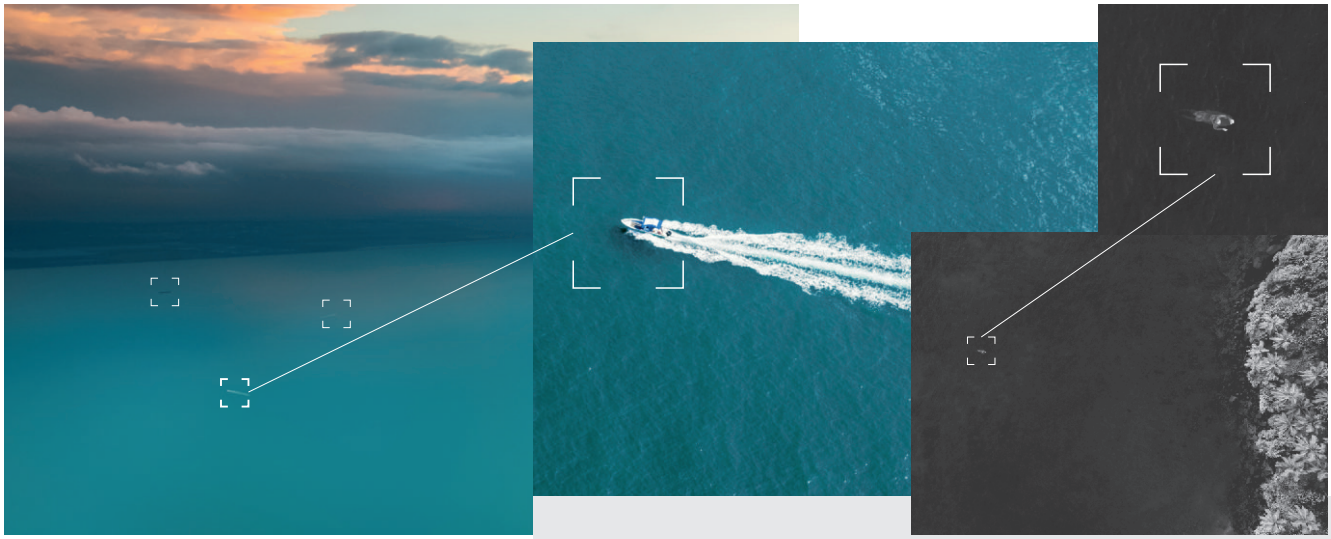


IAS HeliSAR WINDOW REPLACEMENT

Components

- EO Cameras
- IR Cameras
- Replacement lower vertical cockpit window with configured HeliSAR array
- Designed to meet the operational requirements of the helicopter

Power

- 18-36 VDC
- 20 W

Dimensions (per side)

Width: 200 mm

Length: 200 mm

Depth: 200 mm

Weight

1.7 kg
(per side)

IAS PROCESSOR

Components

- NVIDIA Xavier Pocessor Modules
- Tablet user interface

Power

- 18-36 VDC
- 130 W

Format

ARINC 6000 format LRU

Weight

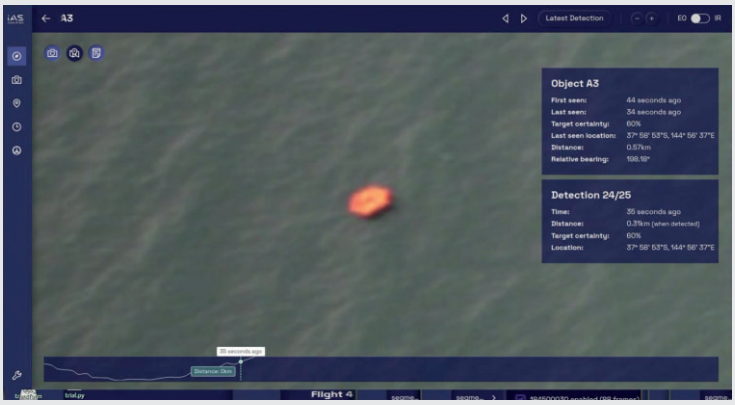
9 kg

QUALIFICATIONS

- Small form factor hardware configured for use in a Helicopter conducting maritime SAR operations
- No changes to aircraft shape, minimal certification change

SEARCH AND RESCUE (SAR)

- Specifically configured for Helicopter SAR operations
- Autonomous detection and classification of Search and Rescue (SAR) objects of interest



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