



Air Systems, UAS & Simulators

SENSE TO AVOID PASSIVE ELECTRO-OPTIC MID-AIR COLLISION WARNING SYSTEM

Selex ES has a rich heritage and expertise in airborne surveillance and targeting, delivering leading solutions to customers across the globe. Combining this experience with the latest Electro-Optic technology, the Company has developed Sense to Avoid.

Sense to Avoid provides an unrivalled passive mid-air collision warning capability for Unmanned Air Systems (UAS), manned fixed wing and rotary wing platforms operating in visual flight rules (VFR) conditions.

Utilising passive Electro-Optic technology in a compact configuration, Sense to Avoid can be adapted for multiple platform types to provide the necessary surveillance coverage without compromising flight characteristics and payload capabilities. Its passive operation enables it to be effective against non co-operative threats, with no transponders required.

Advanced detect and track algorithms developed from combat proven technology are deployed on a compact, high-performance processor and audio and visual interface

options are available to tailor the system to meet operator requirements.

Sense to Avoid addresses the challenges of certifying UAS for unrestricted flight operations in commercial airspace and provides a low-cost collision warning capability for manned military and civil aircraft.

KEY BENEFITS

- Warning of potential mid-air collisions
- Traffic awareness
- Wide Field of View
- Vigilant surveillance
- Configurable for multiple platform types
- Passive operation - no transponder required
- Tailorable audio and visual interface
- Low power
- Low cost
- Lightweight
- Compact
- Easy to use.

TECHNICAL SPECIFICATIONS

Sensor

	Visible band cameras
	MEMS INS

TV Camera

Scalable, example	Azimuth +/- 80°
	Elevation +/- Minimum 10° out to 15°

Threat Declaration Performance

The system is capable of giving warnings in the region of 20 seconds to collision. This has been demonstrated in-flight, in reasonable VFR conditions, in scenarios involving small light aircraft on head-on collision course, with typical closing speeds of 240kts.

Weight

Sensor	< 1.0 Kg
Processor	< 7.5 Kg
Ancillary	< 1.0 Kg

Dimensions

Sensor	150 x 100 x 300mm
Processor	380 x 210 x 110mm

Interface

	GPS antenna
	Ethernet
	USB

User Interface

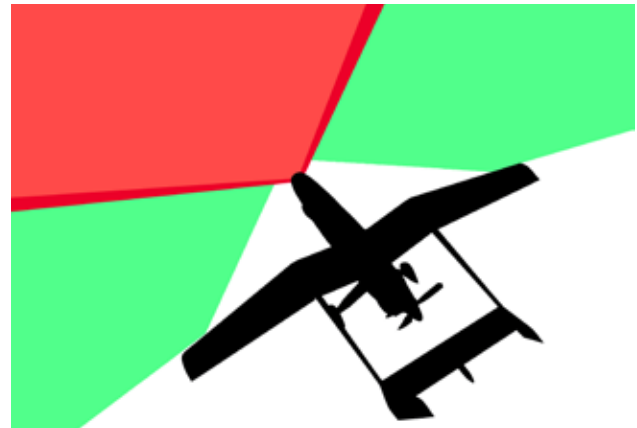
	Compact Display
	Audio Warnings
	LED Indicators.

COLLABORATIVE DEVELOPMENT WITH SCIMITAR

Selex ES has made extensive use of its commercial Operational Test and Evaluation unit, SCIMITAR, to develop Sense to Avoid technology.

SCIMITAR combines pilots with extensive military background with a unique flight test capability. Integrating military aviators with a deep understanding of operational requirements with defence sensor engineering experts has resulted in a worldclass development capability.

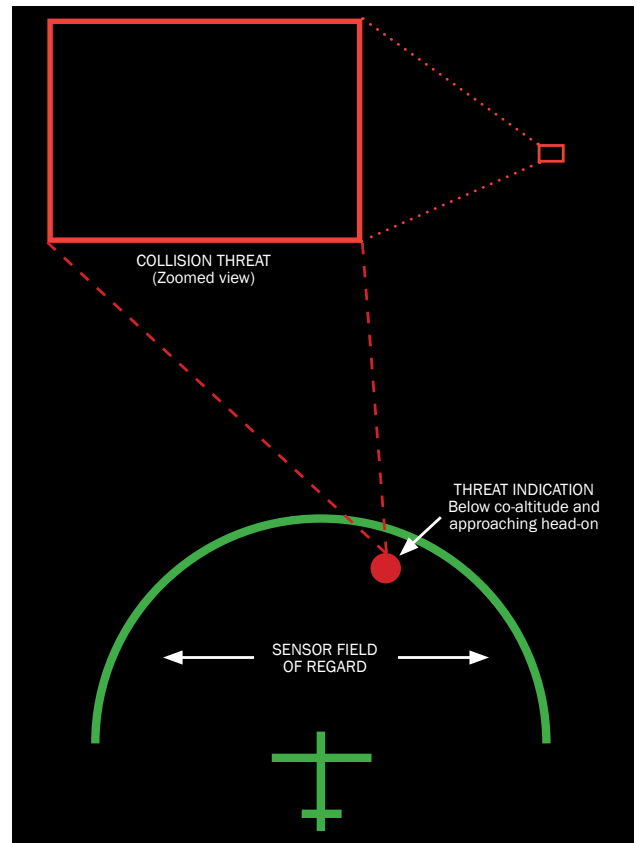
This team combined with an extensive flight test programme, consisting of hundreds of mid-air collision scenarios, has resulted in a highly innovative product.



Clustered sensor configuration in aircraft nose



Sensors federated across nose and wingtips



Entry-level Collision Threat Warning Display

For more information please email infomarketing@selex-es.com

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