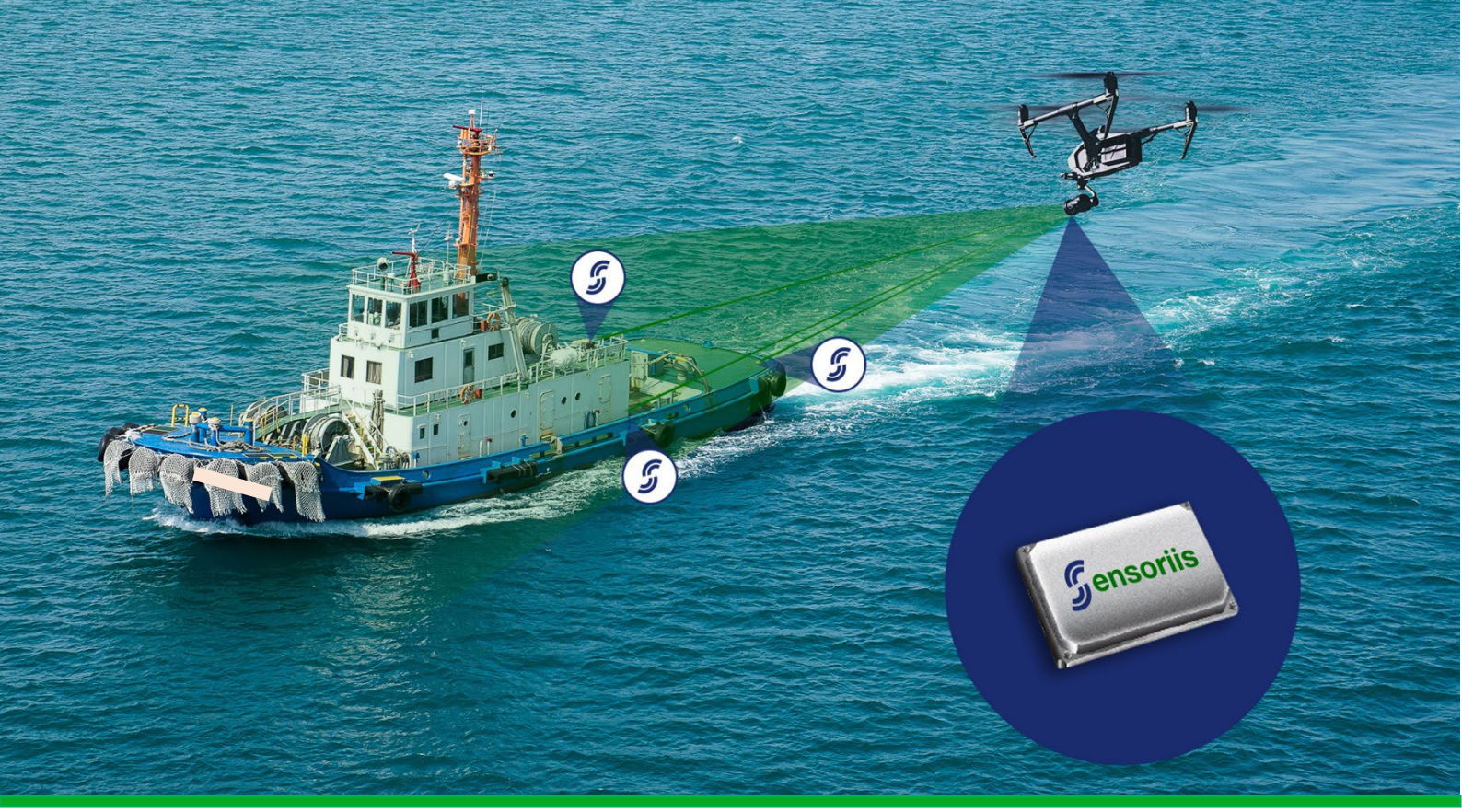

Active Radar Cooperating ARC-Landing™

Resilience. Navigation. Awareness.

Navigation for Unmanned Aerial Systems

Resilient localisation for Unmanned Aerial Systems (UAS) is vital if they are to complete their mission when satellite navigation systems are temporarily unavailable, occluded by buildings, or have been actively blocked.

The ARC60 micro radar from Cambridge Sensoriis provides a localisation capability based upon direct radar range measurement, that is independent of satellites and invulnerable to jamming mechanisms. Radar is also unaffected by poor visibility, lighting, and bad weather, unlike camera-based localisation.

Micro radar on moving vehicles or vessels can support relative positioning during approach and landing phases of UAS flight.

A last mile resupply air (or ground) vehicle can locate the endpoint of a mission within centimetres, without the need for satellite positioning at either end, or inter-communication, if the landing position has a Sensoriis ARC radar.

The ARC-Landing kit includes a Primary micro radar installed onto the UAS, which will report the range, bearing and power to other ARCs on the landing zone whilst ignoring radar reflections from background infrastructure.

Each ARC device is configured with a unique code that is reported over the radar carrier frequency. The kit can support resilient, all-weather multilateration positioning capability, and autonomy for the UAS during the critical landing phase, whether onto a fixed landing pad or onto a moving vessel.

Cambridge Sensoriis Ltd
Cambridge. UK
info@cambsensoriis.com
www.cambsensoriis.com

Sensoriis

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ARC–Landing includes one Primary for installation onto the UAS and four Cooperating radar for the landing area.

KEY FEATURES

Highly visible to compatible radar, and uniquely visible against other objects in the vicinity.

Supports 'Default Silent' technology. ARC remains silent, none transmitting, until interrogated by a compatible radar in a recognised encoded band. Used in military deployments where electronic radio stealth is required.

No moving parts, fully electronically controlled antennas arrays. Small Weight and Power, suitable for battery power.

Compatible with Sensoriis RadarAware™ radar products.

Reports message payload through the Application Programmers Interface or industry standard MAVLink.

SPECIFICATIONS	
Maximum detection distance	60m
Range resolution	0.01 m
Angular Field of view Horizontal	130 deg
Angular Field of View Vertical	>30 deg, or more at short range
Max # ARC radar, per Primary	4
Interface	RS232/422. Sensoriis API or MAVLink
Physical	
Dimensions (w.h.d)	120 x 120 x 45 mm
Weight	≈ 300 grams
Power supply	5Vdc (battery pack options available)
Environmental	
Ingress	IP67
Temperature	-20 to 60 degC

Sensoriis

Cambridge Sensoriis Ltd
Cambridge. UK
info@cambsensoriis.com
www.cambsensoriis.com