

ARCIMS-SeaSense

Underwater Threat Detection



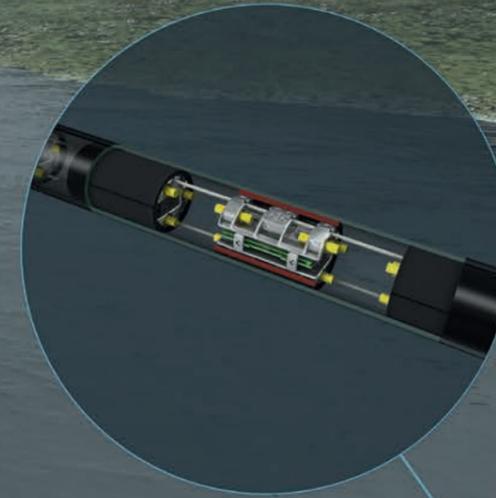
... a sound decision



ATLAS ELEKTRONIK UK

A company of the ATLAS ELEKTRONIK Group

WHAT IS ARCIMS-SeaSense?



ARCIMS-SeaSense OVERVIEW:

The submarine threat is both real and local; the numbers of submarines is increasing and mini-submersibles that operate in shallow, congested waters can threaten infrastructure and shipping, gather intelligence, deliver narcotics, or simply present a strategic threat against neighbouring countries.

ARCIMS-SeaSense is a variable depth sonar deployed from a small uncrewed or crewed surface vessel for area-constrained search and detect operations such as:

- Littoral patrol
- Choke points
- Picket-fence operations
- Military operations
- Security, anti-piracy and drugs interdiction

Capable of operating in challenging environments that may be non-military, open sea lanes with high levels of commercial traffic, and in the littoral zone in shallow waters.

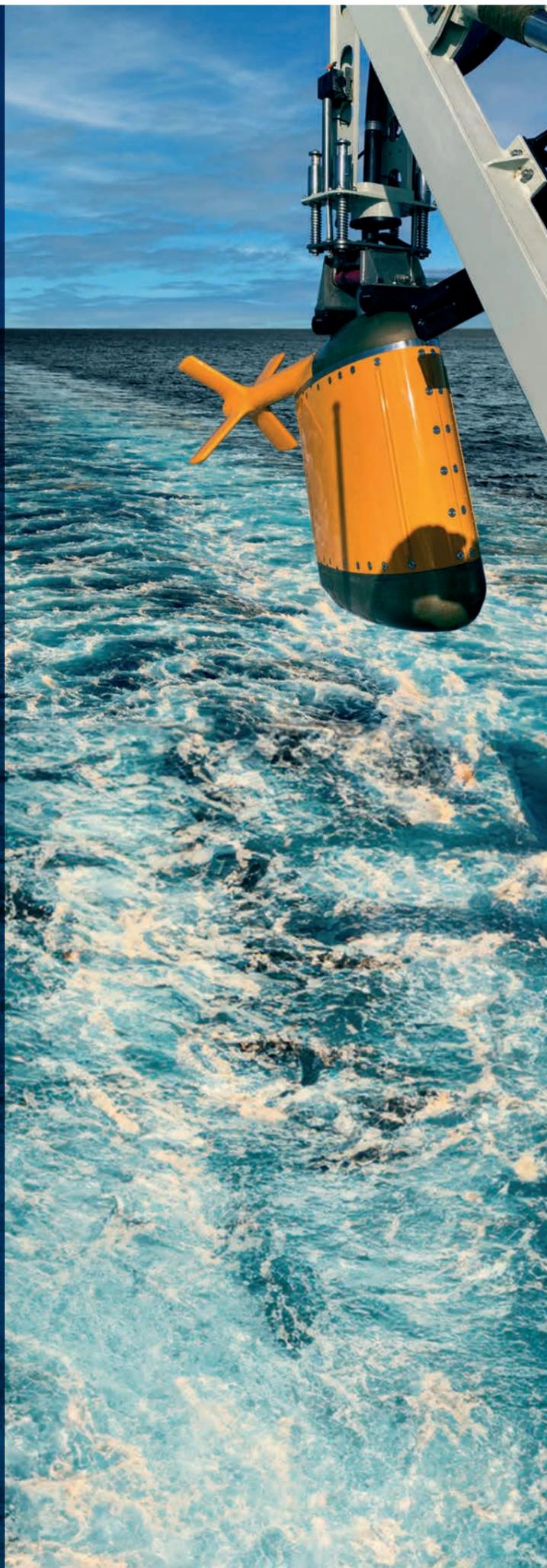
FEATURES AND BENEFITS OF ARCIMS-SeaSense:

- Towed Variable Depth Sonar (VDS) that provides underwater acoustic detection, classification and localisation
- Detection of submerged submarine, mini-submarine and large diver delivery vehicles at sufficient range for a potential attack to be countered
- Solution for harbour protection, security of coastal infrastructure, Task Force protection, and drug interdiction
- Medium frequency sonar optimised for detection performance whilst minimising power and size/tow load impact of the sonar
- Lightweight compact design that can be deployed from 11m uncrewed platforms through to small combatant ships
- Affordable, low impact solution with minimal manning, compared to traditional ship-borne or helicopter-deployed sensor systems

SeaSense VARIABLE DEPTH SONAR

An active sonar that is capable of detecting submerged submarines, mini-submarines and large diver delivery vehicles at sufficient range for a potential attack to be countered.

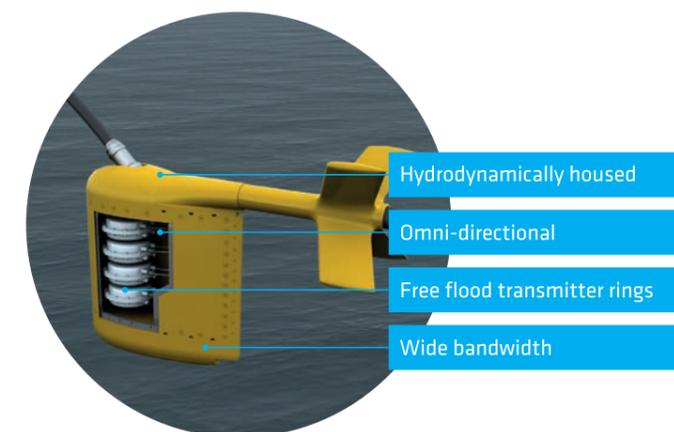
The mission module is designed for installation on small surface vehicles, such as the ARCIMS 11m Uncrewed Surface Vessel, operated from on-board, or from a remote command station on-shore, or on a mother ship.



Active Transmit Sonar

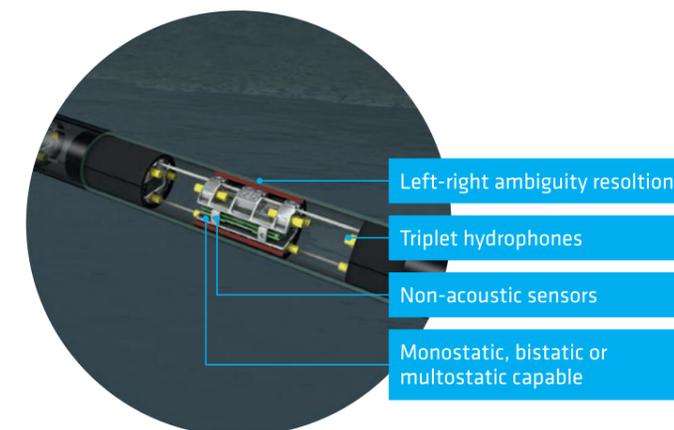
The active sonar is housed in a hydrodynamically optimised towed body for the deployment of a vertical array of medium frequency transmitter rings at variable depth up to 200m stationary and 50m when patrolling. A wide bandwidth pattern has been selected to provide detection of smaller target vehicles in congested noisy waters, typically experienced in the littoral zone and around harbour infrastructures.

The omni-directional projector gives 360° coverage from a single transmission with the vertical array focusing the sound for maximum detection range.



Receive Array

Highly sensitive Towed Receive Array with left-right ambiguity resolution can be used for monostatic, bistatic or multistatic operations. Rapid resolution of directional ambiguity using the nested triplet hydrophones avoids time consuming manoeuvres in order to perform target motion analysis. The array utilizes non-acoustic sensor information such as heading, temperature, and depth to refine the performance of the receive sensor.



ARCIMS UNCREWED SURFACE VEHICLE (USV)

The market-leading 11m ARCIMS USV is a capable and flexible platform that offers the benefits of payload capacity and transportability to enable effective ASW search and detection, security, patrol and MCM operations.

In-service with navies worldwide since 2012, ARCIMS has all the features needed for military use as a maritime mission system:

- Proven hull technology
- Shallow water operation
- Spacious deck area
- High speed load carrying
- IMO II/EPA 3 compliant
- MARPOL compliant
- IMO compliant navigation suite
- Modular design supporting re-rolling of payloads

Configured as an 11m ARCIMS USV, additional features include:

- Atlas remote control system
- Sense and avoid package
- Autonomy for mission behaviours and collision avoidance
- Shore/mother ship remote operation centre

For a crew of two persons, the 11m ARCIMS can be equipped with:

- Enclosed wheel house with climate control
- Mission module operator station
- Shock mitigation seating
- Galley and toilet

ARCIMS as an Uncrewed Surface Vessel or crewed platform can be configured in lengths of 13.8m or 15m, bringing the following additional features:

- Increased payload capacity
- Greater mission endurance and range
- Berthing and seating for four crew
- Additional on-board mission operator stations

Atlas remote control system

Sense and avoid technology

Autonomy mission behaviours

ARCIMS Platform

Length: 11m

Beam: 3.4m

Max speed: 25kts

Mission speed: 4-8kts

Mission duration: 18hrs

Weight: 6,000kg

Payload capacity: 4,000kg

Twin engine + water jets

SeaSense

Rapid deployment in minutes

Variable deployment in 200m





TOW HANDLING SYSTEM (THS)

The semi-automatic Tow Handling System, designed to deploy and recover the VDS, is scaled to fit on platforms down to 11m in length. The THS can be operated on-board or from the remote control station once the towed array is connected.

This bespoke system uses a cradle to safely release and capture the transmit body underwater in conditions up to sea state 3/4. The receive array is affixed to the body at shore or on the mother ship, and remains streamed behind the vessel during transit.

The handling system and sonar are robust for a worldwide range of operating environments, including solar loading, dust, ice and hail, and with personnel safety catered for at all times.

IN SERVICE SUPPORT

To complement the ARCIMS-SeaSense, the Services and Support team at ATLAS ELEKTRONIK UK work with customers to deliver tailored support solutions, designed to be flexible and adaptable to meet change – ultimately ensuring the operational readiness of all craft and systems.

The AEUK Services and Support team is made up of three capabilities, comprising of experienced technical and support staff:

- Integrated Logistics Support (ILS)
- Customer Support and Field Service Engineering
- In Service Support Management

The integrated team is able to provide dynamic, coordinated through-life support. A single point of contact is offered for all support-related matters.

CONTACT

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