



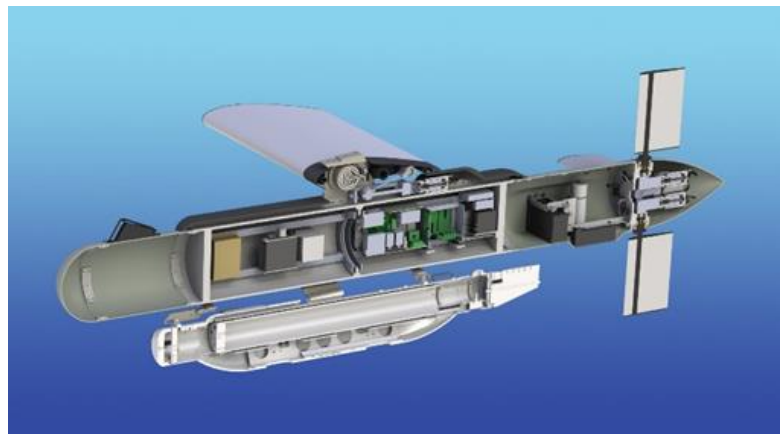
The ISE Aurora is an actively stabilized towfish built with a modular design, allowing the hull to accommodate wet and dry payloads of varying sizes. As a towfish, Aurora has been designed with a large, actively-controlled main wing to control depth. The large downforce created by the wing reduces the cable scope and layback, particularly with unfaired cables, enhancing the positional accuracy of the towfish. Active tail planes control towfish attitude and stability. A mounting rail for sonar arrays is fitted to the bottom of the towfish making it possible to accommodate a broad number of sonars.

## APPLICATIONS

- Mine-hunting
- Surveillance
- Submarine and torpedo detection
- Marine life monitoring
- Pipeline and sub-sea cable monitoring

## INDUSTRIES

- Military
- Defence (Surveillance)
- Scientific Research
- Environmental Monitoring



## PAYLOADS

The Aurora Towfish is equipped with a Navigation suite that includes a PHIN, DVL, and depth sensor. The payload suite can support a variety of underwater sensors and sonars including:

- Sonar Towed Arrays
- Sub-Bottom Profiler (SBP)
- Multi-beam Echosounder
- Synthetic Aperture Sonar (SAS)
- Side-scan Sonar (SSS)
- Laser Scanners

# FEATURES & CAPABILITIES

These are key features that are built into the Aurora to ensure our customers achieve great results:



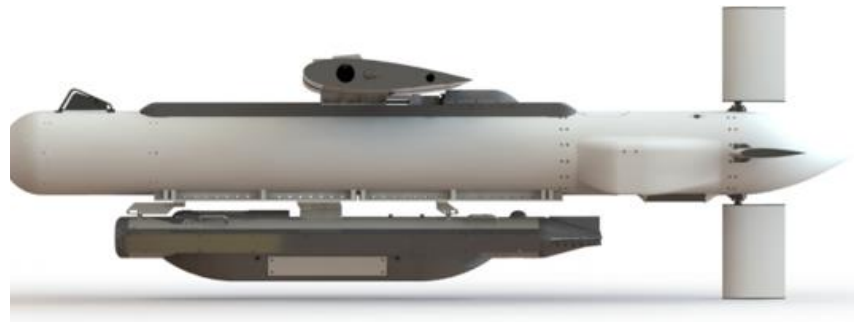
**Autonomous Depth Keeping Capabilities.**

**SWAPPABLE:**

Modular, upgradable payload section.



- **Modular, Versatile and Configurable:** Swap out payload and hull sections to suit your mission needs. Additional hull sections can be added to allow for increased payload capacity.
- **Autonomous Depth Control:** An onboard control system utilizes Aurora's large wing and independent rear control surfaces to maintain desired positioning.
- **Unlimited Range:** The powered umbilical used for towing provides Aurora with the ability to perform long jobs without needing to be recovered.



## SPECIFICATION

### TOWFISH PERFORMANCE

- Depth Rating: 200m
- Crush Depth: 420m
- Range: Unlimited
- Speed: 5-12 knots towing
- Max yaw rate: 2.7 deg/s
- Max pitch rate: 2.7 deg/s
- Depth keeping: +/- 1.5m (at sea state 4)

### WEIGHT AND DIMENSIONS

- Length: 3.3 – 4.2m (Configurable)
- Diameter: 0.406m
- Overall Height: 1.235m
- Wingspan: 2.43m
- Weight: 380-560kg

### POWER REQUIREMENTS

- Propulsion: Surface tow
- Power supplied from PDU through tow cable: 380VDC OR 460VAC (Configurable)

### STANDARD NAVIGATION AND COMMUNICATION EQUIPMENT

- INS: Watson Industries gyro or iXSea PHINS
- DVL: Teledyne RDI
- AHRS: Watson Industries AHRS-E304
- Depth Sensor: Paroscientific Technologies
- USBL: ORE BATS Positioning Responder with 4325D Transducer
- Emergency Equipment: Surfacing protocol is engaged following loss of TCC Watchdog monitoring system.

### SOFTWARE AND COMPUTERS

- ISE Automated Control Engine (ACE) modular, upgradable, field proven, multiplatform software.

### PAYLOADS

Common sensors integrated on the Aurora:

- L3 Klein 5900 (Multi-beam SSS + Swath Bathymetry)
- R2SONIC 2024 (Multi-beam Echosounder)
- Up to an additional 150kg of wet payload capacity is available to be mounted to Aurora's bottom rails.