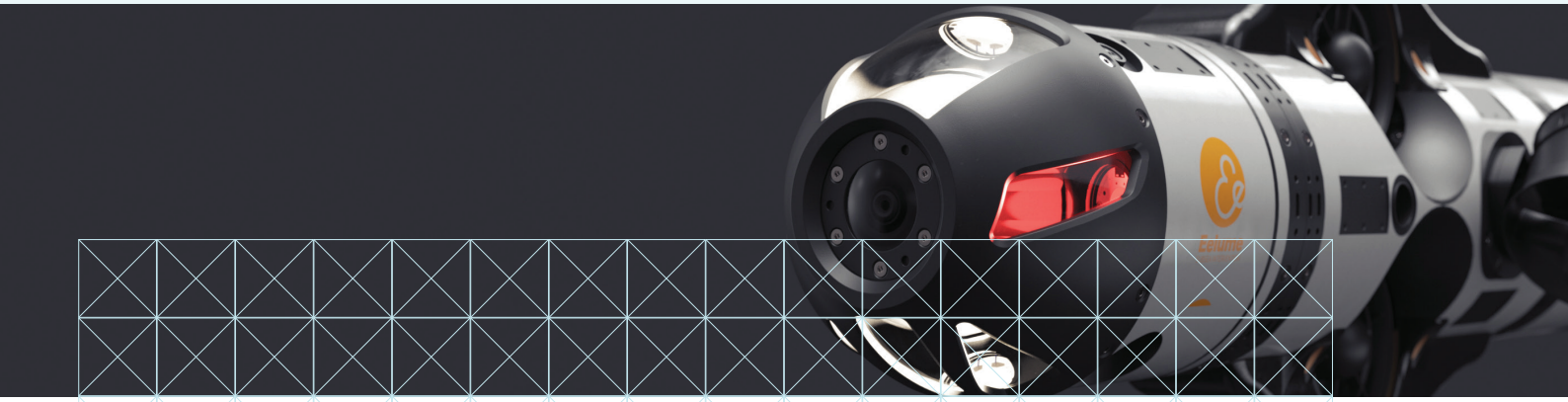
EELUME

KONGSBERG



EELY500 - Articulated Underwater Robot

EELY500 is a small, articulated underwater IMR robot designed for inspection and intervention tasks to be carried out in restricted or confined spaces and difficult-to-access locations.

The standard robot configuration includes two High Definition video inspection modules – one forward looking on the flexible articulated viewing head, the other mounted in the central body section allowing downward, sideways or full 360° radial inspection using the agility of the thruster control system. The EELY500 has the ability to operate in all attitudes – horizontally, vertically and at all angles in between, with full body rotational and attitude control. Rated for 500m depth operation, the EELY500 is upgradeable and multi-task configurable for different inspection and intervention tasks by using additional articulated joint modules, sensor modules and selectable intervention tools.

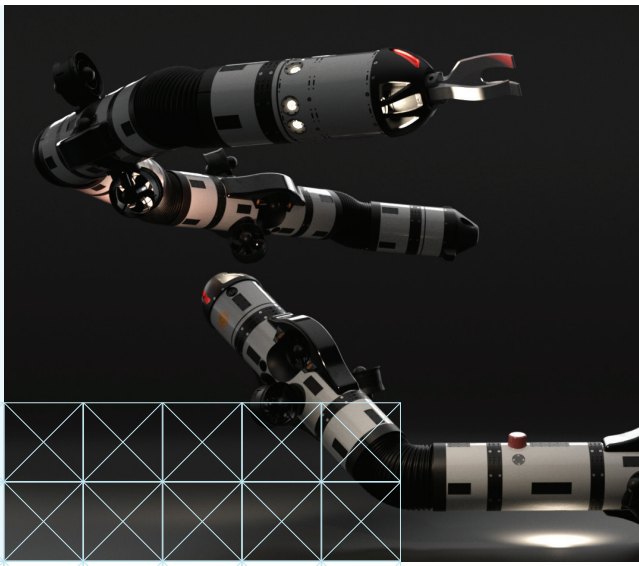
At the heart of the Eelume robot dexterity and flexibility is the custom-designed articulated joint module. This powered joint unit provides two degrees of freedom, with ±80° of independently controlled movement in both yaw/pan and pitch/tilt axes.

Multiple joint modules can be incorporated into the Eelume robot body configuration, allowing a wide range of special inspection and intervention tasks to be performed.

This unique articulated robot technology has been developed from a decade of research on snake robotics carried out at the Norwegian University of Science and Technology (NTNU) in collaboration with the SINTEF industrial research organisation. Strategic technology partnerships with both Equinor/Statoil and Kongsberg Maritime ensure that the development of Eelume is closely aligned with real world offshore energy industry IMR applications, and will take advantage of the latest in autonomous subsea robotics technology advances.

FEATURES

- Confined space and restricted access inspections
- Slim articulated viewing head (ø20cm)
- Highly agile / manoeuvrable (6 degrees of freedom)
- All attitude operation (horizontal, vertical, rotational)
- Integral attitude, heading, depth and altitude sensors
- 2 x Independent HD video camera inspection capability:
  - 1 x forward looking HD inspection camera on articulated viewing head (2 x DoF with ±80° movement on each axis)
  - 1 x mid-body HD inspection camera (downward, sideways or full 360° rotational inspection capability)
- Local or distance remote control over Ethernet link
- Easy to deploy and operate
- Launch and recovery options available
- Task configurable / reconfigurable / upgradeable
- Optional sensor and tooling modules



TECHNICAL SPECIFICATIONS

UNDERWATER ROBOT

Main body diameter	20cm
Maximum diameter (inc thrusters)	49cm
Length	~2.5m
Weight in air	~70Kg
Weight in water	Neutrally buoyant
Maximum operating depth	500m
Maximum speed	Up to 4 knots
Robot manoeuvrability	6 x Degrees of Freedom
Articulated viewing head	2 x DoF (±80° in yaw/pan and pitch/tilt axes)
Integral sensors	Attitude; Heading; Depth; Altitude

TOPSIDE EQUIPMENT

Interface console dimensions	0.65m x 0.65m x 0.6m
Weight	20Kg
Input voltage / power	220V-240V AC / 50Hz or 60Hz / 1.5KW
Tether cable voltage	300V DC
Video recording	4 x 480GB Solid State Hard Drive (optional capacity)
Tether cable communications	WiFi (rotating) or Ethernet (fixed)
Control equipment	Windows 10 Laptop + Eelume Control Software
Control interface	3D Mouse + Joystick

TMS AND TETHER

Tether cable length	500m
Tether cable weight in water	Neutrally buoyant
TMS cable management	Manual tether cable spooling
TMS dimensions	1.0m x 1.0m x 0.9m
TMS weight (inc 500m cable)	~50Kg

CONTACT

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