

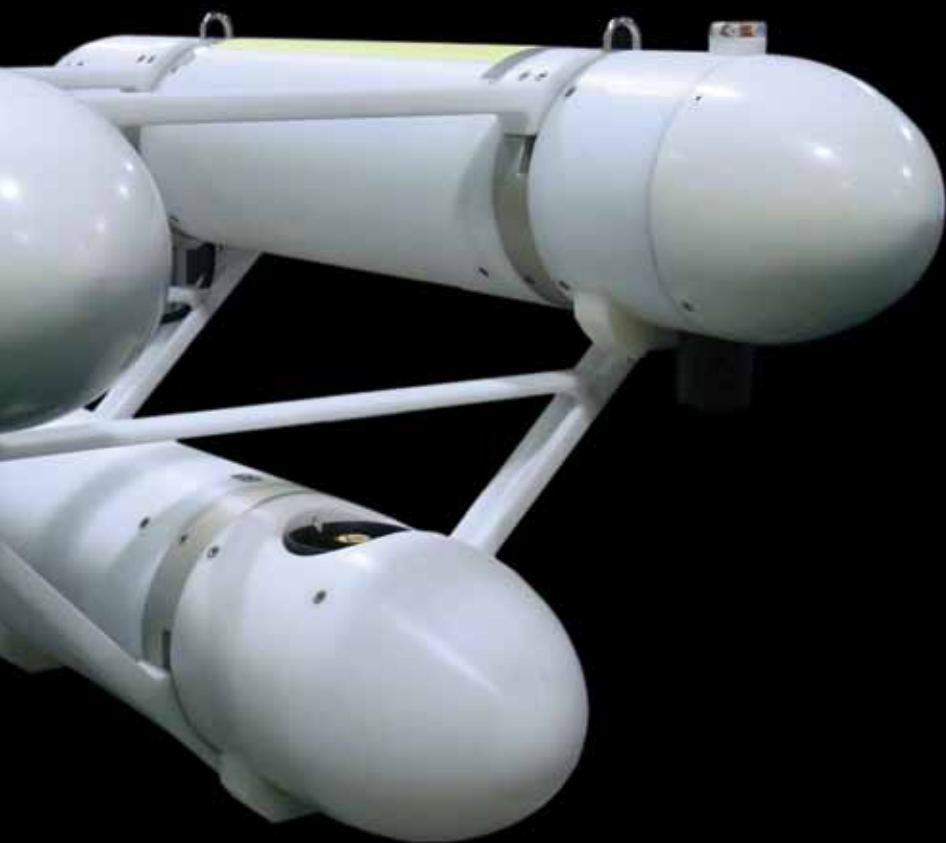


TriMARES

AUTONOMOUS
UNDERWATER
VEHICLE



INESC TEC
TECHNOLOGY & SCIENCE



TriMARES

AUTONOMOUS UNDERWATER VEHICLE

TriMARES is an underwater vehicle designed for autonomous inspection, bathymetry, mapping and data collection. TriMARES' modular structure is based on the underwater vehicle MARES (OceanSys) and allows different sensor package configurations. Its increased capacity to transport sensors allows it to carry an on-board high resolution video camera, as well as different types of sonar equipment. It can move smoothly in the water, increasing the quality and georeferencing of the collected data. TriMARES was developed in 6 months by INESC TEC and commissioned by a consortium of Brazilian hydroelectric power companies (CEB Lajeado, EDP). The first unit was exported to Brazil in 2011.

MAIN FEATURES

- Modular construction with reconfigurable sections
- Spare ports to accommodate additional payload sensors
- Robust and safe, with fully shrouded moving parts
- Operates in confined spaces - able to ascend/descend on the vertical
- Hovering in the water column - station keeping and close inspection
- 5 degrees of freedom (surge, sway, heave, yaw, pitch)
- Autonomous operation with simple mission definition
- Rechargeable Li-Ion batteries
- Low maintenance
- Optional fibre-optic umbilical for real-time video/data transmission (ROV mode)

SPECIFICATIONS

- Length: 1.3 m // Total width: 80 cm // Overall height: 50 cm // Weight: 75 kg
- Maximum depth: 100 m
- Horizontal speed: 0-2 m/s, variable // Vertical speed: 0-0.3 m/s, variable
- Autonomy / Range: 10 hrs / 40 km
- Typical sensors: video camera, high sensitivity still camera, multibeam sonar, sidescan sonar, CTD, turbidity, fluorescence



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