MARES
AUTONOMOUS UNDERWATER VEHICLE

INESCTEC
TECHNOLOGY & SCIENCE
MARES
AUTONOMOUS
UNDERWATER
VEHICLE

Developed by OceanSys (INESC Porto and FEUP), MARES - Modular Autono-

mous Robot for Environment Sampling is an autonomous vehicle used in

underwater operations. This robot can be easily configured and its modular

structure allows it to carry a large variety of sensor packages. MARES can be

used for different applications such as environment monitoring, underwater

inspection and mapping, and surveillance. An acoustic positioning system

makes it possible to georeference collected data. This device has been

used regularly since 2007 in environmental monitoring operations.

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
4 degrees of freedom (surge, heave, yaw, pitch)
Autonomous operation with simple mission definition
Rechargeable Li-Ion batteries
Low maintenance
Compact and lightweight - easy transportation and deployment

SPECIFICATIONS
Length: 1.6 m
Diameter: 20 cm
Weight: 32 kg
Maximum depth: 100 m
Horizontal speed: 0–2 m/s, variable
Vertical speed: 0–0.5 m/s, variable
Autonomy/range: 10 hrs / 40 km
Typical sensors: CTD, sonar, turbidity, fluorescence, video camera