

Intelligent Hybrid Underwater Vehicle (IHUV) System



Side view



Front view

Design & Development of Intelligent Hybrid Underwater Vehicle System

System Description

- ✓ The **Intelligent Hybrid Underwater Vehicle (IHUV)** is the latest underwater platform developed by Underwater Robotics Research Group (URRG), Universiti Sains Malaysia.
- ✓ On dual capabilities
 - i) remote operated
 - ii) autonomous navigation.
- ✓ IHUV is developed to support various underwater application :
 - i) underwater monitoring
 - ii) sub bottom profiling
 - iii) bathymetry.

- ✓ Has optical vision system with two cameras at different orientation to provide visual information for operators.
- ✓ IHUV command centre is managed by a portable surface control station.

Objective

- i. To design and develop intelligent hybrid underwater vehicle for underwater applications such monitoring, sub bottom profiling and bathymetry.
- ii. To develop a hybrid underwater platform that capable for remote operating and autonomous operations.
- iii. To design and develop an intelligent navigation control and power system.
- iv. To support the development of 3D virtual visualization system.

Specification of IHUV

Dimension

Length	: 3.00	m
Width	: 1.10	m
Height	: 0.70	m
Gross weight	: 350.00	kg

Operation

Rated depth	: 50 meter
Material	: Aluminium alloy T6061, PVC, Fiber glass
Propulsion system:	Brushless DC motor propeller thrusters
Equipment	: Lithium Polymer battery pack, Power module, Electronics Control Unit, ATX board, Thruster controller, depth sensor, echo sounder, collision avoidance sonar, side scan sonar, gyro compass, acoustic modem, RF, GPS, optical camera, light.