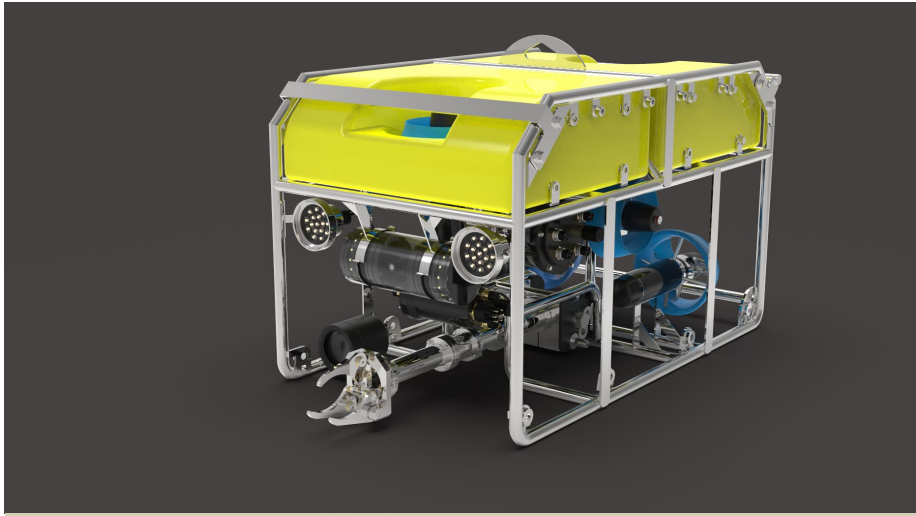
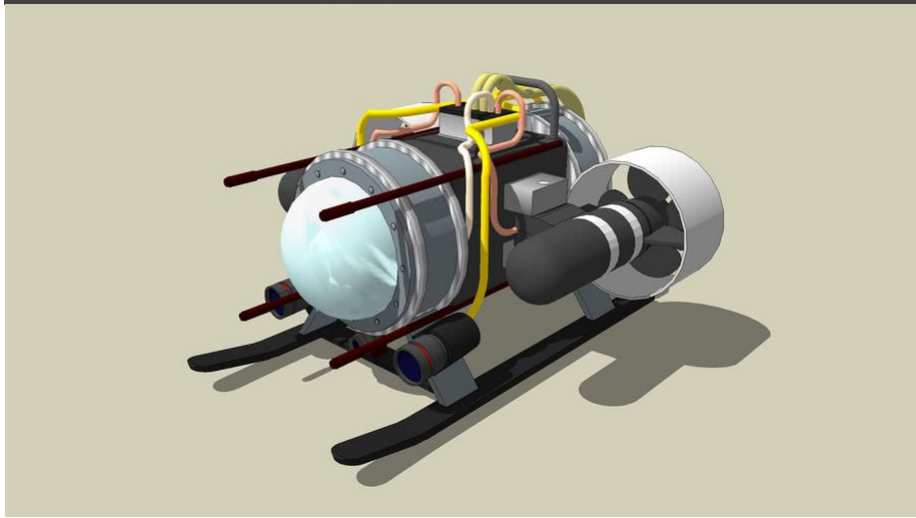
Remotely Operated Vehicles (ROVs)

Hull Design

- Simple box like
- Submarine concept
- Underwater creature / Fish like design
- Equipped with hydraulic arm mechanism





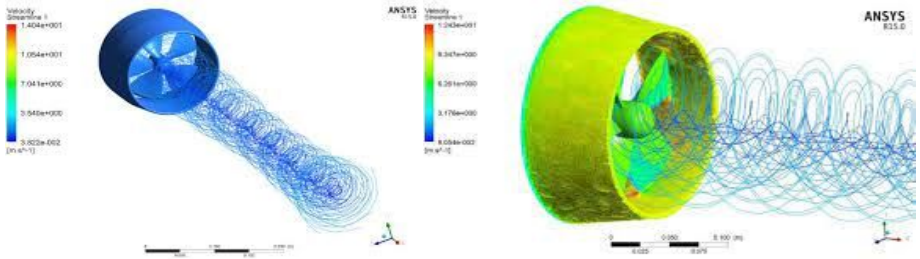
Propulsion System

Propulsion

- Vectored Horizontally
- Vectored Vertically

Thrust

- Forward & reverse
- Pivot



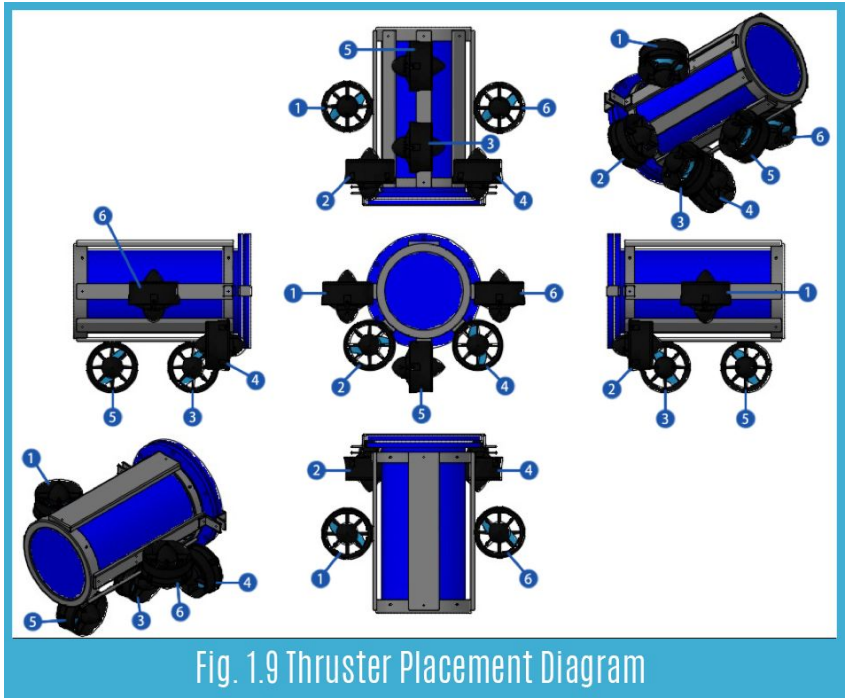


Fig. 1.9 Thruster Placement Diagram

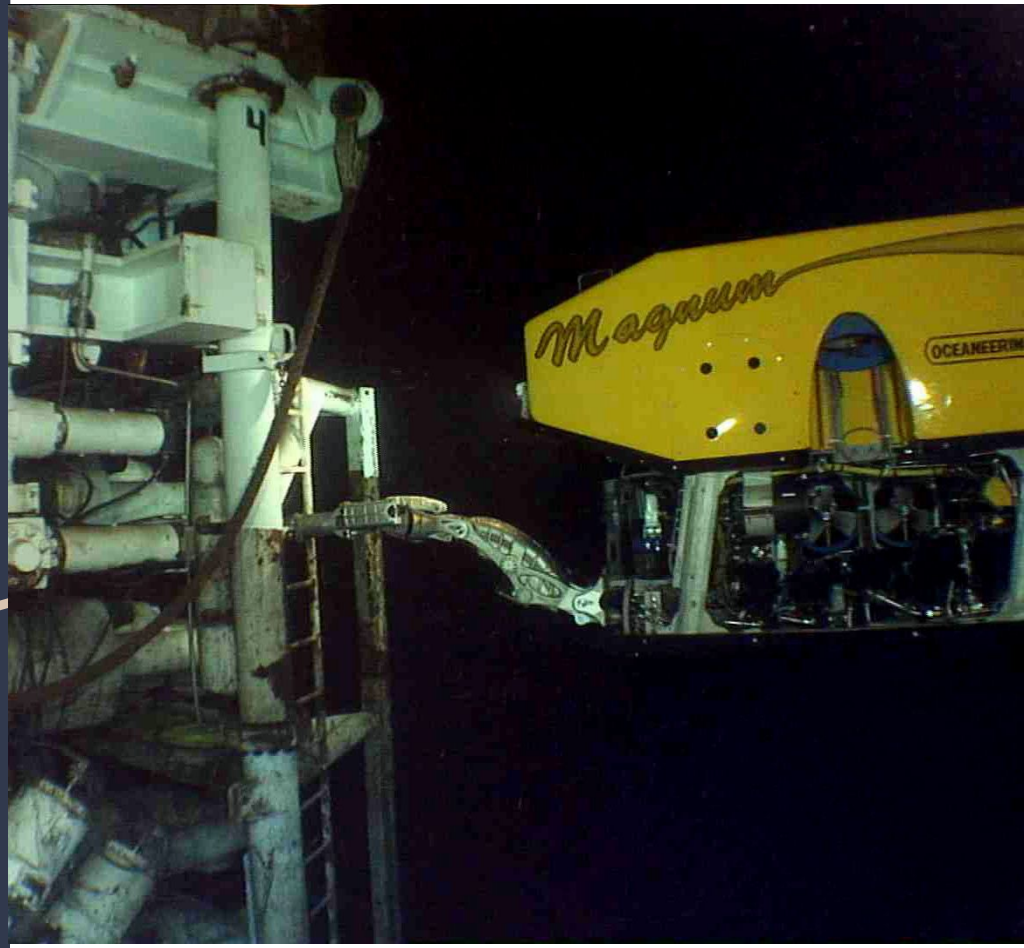
Navigation System

Remotely navigate

Camera and sensor as navigator reference

Lighting

Automatic control (Auto heading/depth/altitude/pitch Cruise control)



Data Collection

- Navigation command (via tethered cable)
- Sonar (sound navigation and ranging)
- Depth (depth sensor)
- Heading and altitude sensors
- Camera Footage

Data links

- Multiple RS232 and RS485
- Ethernet
- Optical fiber

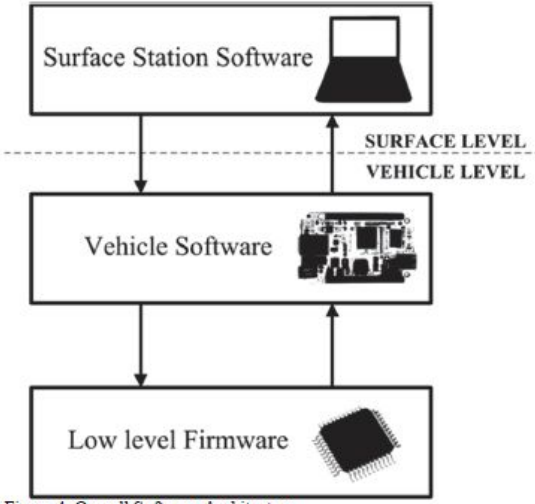
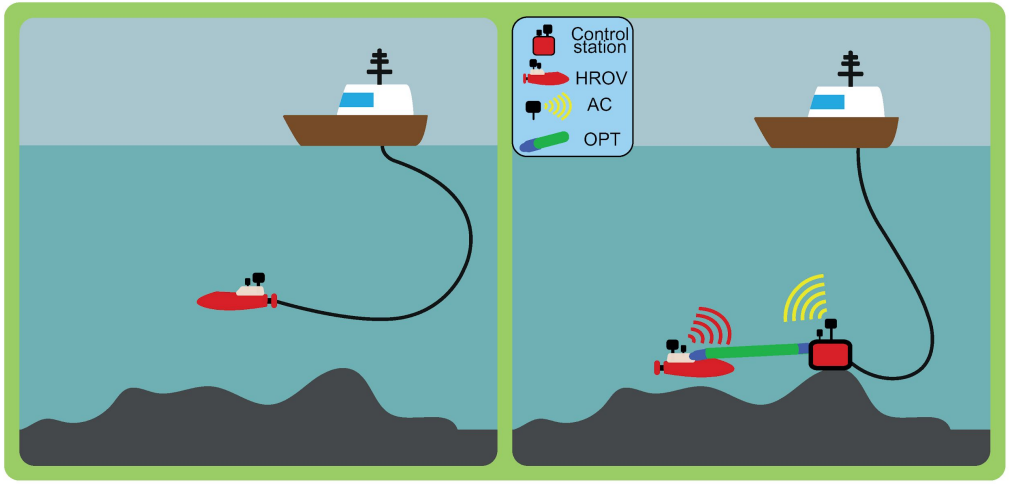


Figure 4. Overall Software Architecture.
Source: The authors.

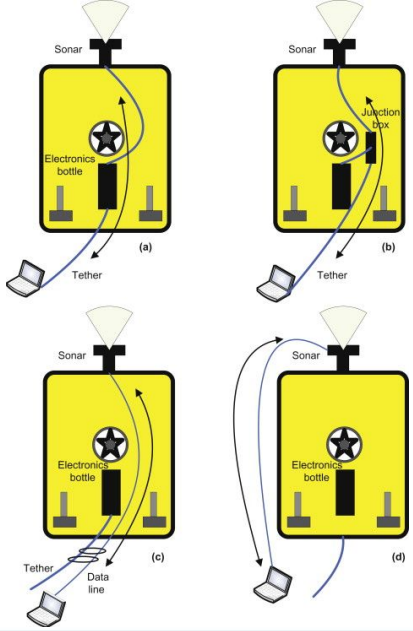


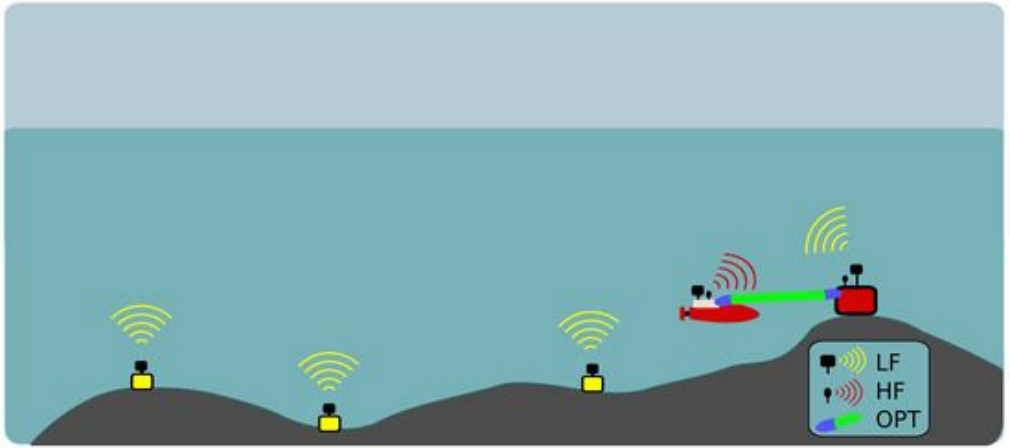
Data Transmission

- Sonar (sound navigation and ranging)
- Light signal
- Heading and altitude sensors
- Camera footage
-

Data links

- Multiple RS232 and RS485
- Ethernet
- Optical fiber





Power Management

Supplied

- Power tethered

Usage

- Propulsion
- Hydraulic arm
- Lighting
- Sensor
- Sonar
- Camera
- Electronics component