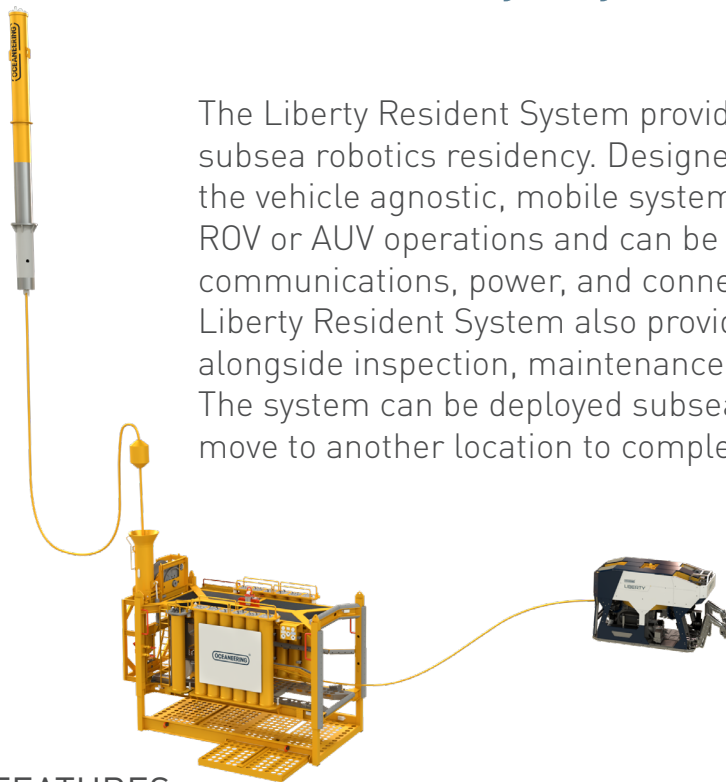


Liberty™ Resident System

Increase the efficiency of your subsea operations



The Liberty Resident System provides advanced infrastructure for subsea robotics residency. Designed using a modular approach, the vehicle agnostic, mobile system can be configured to support ROV or AUV operations and can be adapted to meet diverse communications, power, and connectivity requirements. The Liberty Resident System also provides a force multiplier when used alongside inspection, maintenance, and repair (IMR) operations. The system can be deployed subsea, enabling the IMR vessel to move to another location to complete simultaneous operations.

FEATURES

Does not require a surface vessel during operations, reducing CO₂ emissions and cost

Reduces POB via remote piloting from shore

Mobile system can be deployed by vessel of opportunity

Liberty™ Resident System

Increase the efficiency of your subsea operations

Liberty is fully self-contained with 550 kwh of battery power for remote, resident operations and communicates with an Onshore Remote Operations Center (OROC) via an integrated buoy, rig downline, or subsea infrastructure connection. The system enables completion of work scopes including inspection, commissioning, valve operations, pipeline isolation, leak testing, conductor guiding, pigging, and unexploded ordinance surveys.

Liberty provides users with a system that:

- » Reduces vessel days required to complete operations
- » Optimizes schedule by releasing deployment vessel for other operations
- » Supports efficient installation and recovery operations as the system can be moved using a single lift
- » Reduces carbon footprint and mobilizations
- » Operates independent of surface weather conditions
- » Leverages remote operations via piloting from one of Oceaneering's OROCs
- » Stays subsea for prolonged periods without maintenance
- » Supports 24/7 operations independent of vessel port calls
- » Increases flexibility with vehicle agnostic design

The system is operated from Oceaneering's Onshore Remote Operations Centers (OROCs) via a 4G LTE or low earth orbit (LEO) satellite from a buoy on the water's surface, eliminating the requirement for a surface vessel onsite.

Liberty can be deployed by a vessel of opportunity equipped with a subsea crane, allowing the vessel to be relieved. Removing a dedicated vessel allows operators to simplify logistics while significantly reducing risk, costs, and carbon emissions.

Piloting ROVs from onshore is made possible using Oceaneering's proprietary remote piloting and automated control technology (RPACT). By safely transferring ROV control data and live, high-definition video via satellite or high-bandwidth terrestrial network, we maintain full control of the ROV and its tooling.

Specifications

System depth rating	3,280 ft / 1000m
Excursion distance (tethered mode)	3,280 ft / 1000m
Subsea docking station	Includes cage-mounted 550 kWh battery pack and tether management system (TMS)
Surface buoy	Data/communications buoy hosts an antenna mast to improve signal reception and is battery powered to support communication transfer Includes a robust, highly engineered mooring system providing a broadband data connection and suitable weight to address sea conditions Fully redundant fiber optic communication link via buoy umbilical Integrated pan and tilt camera Integrated AIS transmitter for marine traffic awareness
Communications	Operates via a 4G LTE network or LEO satellite with low latency, enabling efficient communication and data transfers All traffic uses a secure, encrypted VPN tunnel Additional connectivity methods: Via rig or vessel downline Via subsea infrastructure connection
Vessel crane requirements (minimum)	30 mT AHC subsea crane



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