

CYCLOPS 1

MANNED SUBMERSIBLE

OVERVIEW

Cyclops 1 is the first step in a development program designed to meet demand from government and commercial clients for more advanced technologies and capabilities at deeper depths.

Cyclops 1 showcases a number of systems critical for the 3,000 and 6,000-meter capable *Cyclops 2* and *Cyclops 3* submersibles scheduled for launch in 2016.

OceanGate's Cyclops Program was developed to meet increased demand from industry, research and exploration clients worldwide as they continue to look for the next generation of subsea technology to address the challenges associated with deepwater operations. *Cyclops 1* allows OceanGate to deploy a working prototype for developing technology, operational procedures/experience and new control and display software for use in future Cyclops vessels. It will also demonstrate the company's continued ability to not only rapidly and cost effectively develop and build manned submersibles, but also to operate them in multiple locations with quick mobilization at costs comparable to remotely operated vessels.



DIRECT MONITORING, INSPECTION & COLLECTION PLATFORM

Cyclops 1 features an enhanced automated control system to monitor life support, power management, navigation and other critical system diagnostics. Using a combination of commercial-off-the-shelf (COTS) technology and innovative system architecture designed by the Applied Physics Lab at the University of Washington and OceanGate's internal engineering group, the automated control system aims to revolutionize how manned submersibles operate by reducing time spent on vehicle control and increasing time on mission objectives. This control system will also improve mission safety by reducing opportunity for user error.

Other reengineered technology features include new hydrodynamic components designed to maximize the submersible's in-water speed and maneuverability, and remodeled interior seating and instrument layout to enhance the client experience and increase productivity.

DEPLOYMENT

Cyclops 1, with a steel pressure vessel rated to a maximum 500 meters (1,640 feet) dive depth, will spend 2015 on OceanGate's Eye on the Sanctuaries Tour. This cross-country campaign, developed in collaboration with the NOAA's Office of National Marine Sanctuaries, is dedicated to raising ocean


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awareness through missions at historic locations and sanctuaries in the Pacific, Gulf of Mexico, and Atlantic. Dive sites include the Farallon Islands, the Flower Gardens, and the Battle of the Atlantic.

Cyclops' features include an enhanced automated control system to monitor life support, power management, navigation and other critical system diagnostics, as well as the latest sonar from Teledyne BlueView and a new advanced visual imaging system from Battelle. Using a combination of commercial-off-the-shelf (COTS) technology and innovative system architecture designed by APL and OceanGate's internal engineering group, the automated control system aims to revolutionize how manned submersibles operate by reducing time spent on vehicle control and increasing time on mission objectives. This control system will also improve mission safety by reducing opportunity for user error. Other advances include new hydrodynamic components designed to maximize the submersible's in-water speed and maneuverability, and a unique interior, which will enhance the client experience and increase productivity.

BENEFITS

- 5-person occupancy allows teams to multitask and collaborate during dives
- An operational depth design of 500 meters (1,640 feet) opens access to virtually all of the world's continental shelves
- Main 1.45-meter (57-inch) hemispherical acrylic viewing port and 54-cm (21-inch) conning port provide unparalleled views for direct observation
- 2D & 3D TELEDYNE BlueView sonar technology equipped
- Equipped with a 5-function manipulator with a 25-kg (55-lb) load capacity
- High-definition HD internal and external cameras
- Comprehensive oceanographic-data collection
- 8,437-kg (9.3-ton) weight and 850 cm x 165 cm x 265 cm (28 ft x 5.4 ft x 8.7 ft) dimensions allow for maximum portability
- Fits in a 40-foot container, making her fully mobile and efficient to transport
- Ports to accommodate auxiliary sampling equipment, including manipulator arm and section sampler.

SPECIFICATIONS

Seating:	5 persons (1 pilot + 4 crew)
Depth:	500 meters (1,640 feet)
Dimensions:	6.7 m x 2.8 m x 2.5 m (22 ft x 9.2 ft x 8.3 ft high)
Crane Weight:	9,525 kg (18,600 lbs)
Speed:	2.5 knots on the surface; 2 knots underwater
Propulsion:	Four Innerspace 1002 electric thrusters
Life Support:	Standard: 8 hours for a crew of 5 Emergency: 72 hours for a crew of 5



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