

Office of Naval Research - NAVSEA PMS 325J Partnership



SAHRV - Semi-Autonomous Hydrographic Reconnaissance Vehicle

WHOI POC:

Christopher von Alt
WHOI
Principal Investigator
508.289.2290
cvonalt@whoi.edu



NAVSEA PMS 325J POC:

LCDR Doug Horner, USN
NSW Project Officer,
PMS 325J
703.602.9033 Ext. 120
HornerDP@navsea.navy.mil

ONR POC:

Tom Swean, Jr.
Team Leader
Ocean Engr & Marine Systems
3210E
703.696.4025
sweant@onr.navy.mil

Based on the Remote Environmental Monitoring Unit System (REMUS) developed by Woods Hole Oceanographic Institution (WHOI) under ONR support, the Semiautonomous Hydrographic Reconnaissance Vehicle (SAHRV) system is being cooperatively developed by the Naval Sea Command (NAVSEA) and the Office of Naval Research (ONR) to support Naval Special Warfare missions for the United States Special Operations Command (USSOCOM). The SAHRV vehicle is an unmanned underwater vehicle that performs reconnaissance (hydrographic and side-scan sonar surveys) in littoral waters, from the seaward edge of the surf zone into waters as deep as 100 meters. The vehicle is small, capable of deployment by two people, simple to program, and can be launched and recovered from a small vessel without a crane or other special handling equipment. The SAHRV can operate over 20 hours on battery power before recharging and is capable of speeds over 2.5 meters per second. The primary navigation is by localization relative to long base line transponders. Navigation is additionally supported by an ultra short base line system, Doppler velocity log, and compass. In addition to searching and detecting mine-like objects, system products from reconnaissance missions include water current velocity, seafloor bathymetry, water temperature and salinity, and optical properties of the water. The SAHRV is now an acquisition program under execution by NAVSEA for the USSOCOM. It will be the first system of its type to be employed in military operations. ONR in cooperation with USSOCOM and NAVSEA continues to develop advanced technologies for future improvements to the system.

Physical Characteristics:

Length 63" (160 cm)
Width 7.5" (19 cm)
Weight 80 lbs (36.5 kg)

Sensor Packages:

Marine Sonics Side Scan Sonar
(COTS Sonar)

Acoustic Doppler / Conductivity
Temp Depth (CTD) / Optical
Backscatter Sensor (OBS)

Navigation Means:

Long Base Line / Ultra Short
Base Line / Doppler Assisted
Dead Reckoning

Dynamic Tracking:

Yes

In Development:

Acoustic Communications
Autonomous Transponder
Deployment
Advanced Sensors
CAD / CAC