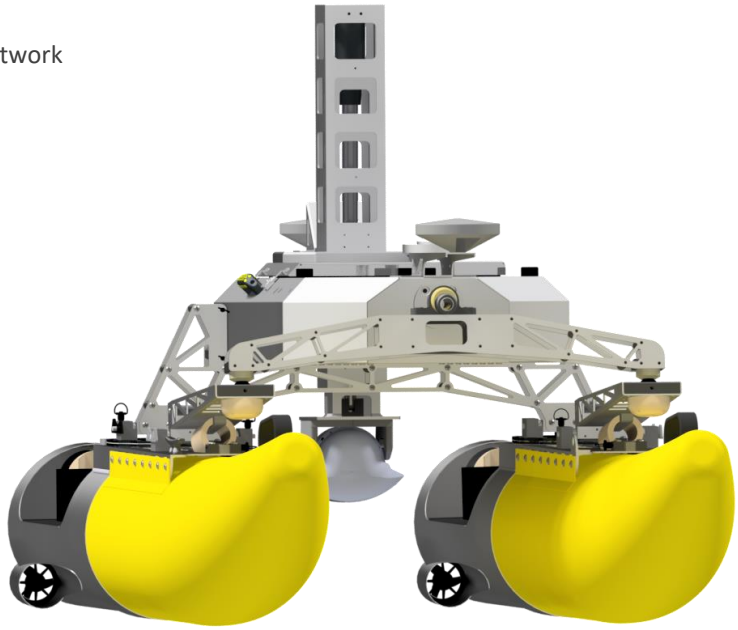
WAM-V® 8 ASV

The **WAM-V (Wave Adaptive Modular Vessel)** is an innovative class of autonomous watercraft that use unique suspension technology to radically improve seagoing capabilities and provide an exceptionally stable platform for increased quality of data acquisition.

For applications requiring a small sensor platform that can be easily transported to any location, the **WAM-V 8 ASV** (Autonomous Surface Vehicle) is ideal. The articulating suspension and compliant hulls isolate and reduce payload movement. The small footprint, light vessel weight, and shallow draft extend the operating range from the open ocean to inland water bodies. The ultra-portable WAM-V 8 can be disassembled and transported as checked baggage on domestic airlines, or backpacked to undeveloped, remote locations. Launch and recover from shore or a vessel deck, or by trailer.

Standard Equipment

- GPS waypoint navigation
- Rugged GPS/INS
- Charging system
- MARCODE
- Short range radio
- Encrypted wireless network
- ROCS
- ROBO-HELM
- 180° FOV camera
- Navigation lights



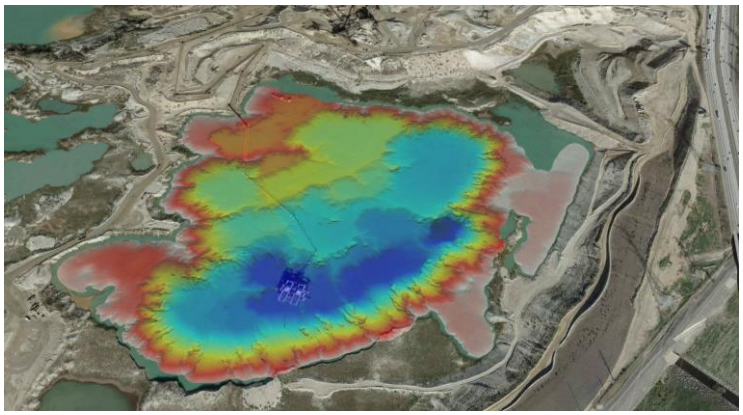
Optional Equipment

- Mobile operator control unit
- Retractable sensor mount
- Multi-beam sonar
- AIS transceiver
- Intermodal freight shipping container
- On-board survey workstation
- UV protective cover
- Custom trailer
- Anemometer

Specifications

Length	8 ft (2.5 m)	**Endurance**	Up to 10 hrs @ 3 kn
Beam	4 ft (1.2 m)	**Propulsion**	2x 400 W electric
Draft	4 in (10 cm)		4x 400 W electric
Speed	Up to 6 kn		2x 1100 W electric
Weight	100 lbs (45 kg) lightship	**Batteries**	Li-ion or NiMh
		Payload	100 lbs (45 kg)

Operable Sea State 3



WAM-V survey of mining pit

WAM-V 8 ASV for hydrographic survey

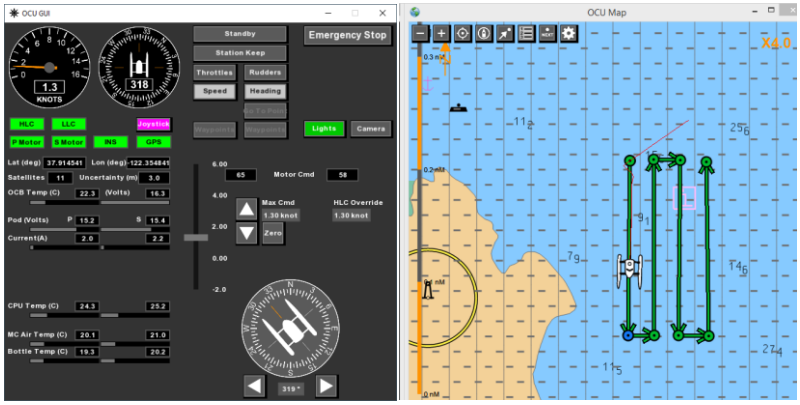
Navigation and Control

Short Range Radio

Handheld, mobile, steering, and speed RC controller. Allows control of WAM-V independent of ROCS and serves as an emergency backup to ROCS.

ROCS Remotely Operated Command Station

Portable, self-contained, remote operation command station. Includes MARCODE workstation, integrated handheld wireless controller, RF module, portable case, and batteries.



WAM-V Graphical User Interface (GUI)

ROBO-HELM Integrated Onboard Control System

Onboard, waterproof, self-contained computer navigation and control system. Contains GPS, INS, digital navigation, propulsion, steering, range, power usage, video camera controllers, and RF module.

MARCODE Control and Communication Software

PC, tablet, and mobile front-end Graphical User Interface (GUI) with multimodal network software and firmware governing ROBO-HELM parameter inputs for communication, navigation, velocity, steering, and secure auxiliary sensor data transmission.

WAM-V Advantages

- ☑ **Wave Adaptive.** The WAM-V's unique design allows the hulls to move with the waves while the center platform remains stable. The inflatable hulls act like automobile tires and absorb vibrations caused by high-frequency waves. The articulation and suspension systems dissipate the medium-to-low frequency wave energy.
- ☑ **Modular.** Payloads and instrument packages are quickly switched, allowing mission-specific customization in minutes. Modular engine pods with different propulsion systems can be swapped to accommodate mission or maintenance requirements.
- ☑ **Stable and Maneuverable.** The 2:1 length-to-beam ratio along with the articulation and suspension systems make the WAM-V an exceptionally stable and seaworthy platform. Widely spaced engine pods enable a high degree of maneuverability, allowing the vessel to turn 360° within its own length.
- ☑ **Helicopter-like Functionality.** A WAM-V can pick up and deliver payloads from its center structure in the open ocean or in very shallow water. No need for an over-the-side crane or A-frame.
- ☑ **Reduced Footprint.** WAM-Vs can be disassembled into components and packed for shipment. Alternatively, they can be designed to fold (manually, electrically, or hydraulically, depending on the model), reducing their footprint by up to 75%. As a result, the WAM-V has exceptionally low deployment and relocation costs.
- ☑ **Energy Efficiency.** Battery power on selected models allows sustainable operation and reduces carbon footprint.
- ☑ **Scalability.** WAM-Vs can be built in various lengths to match specific applications and the customer's needs.

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WAM-V 8 ASV with shipping crates for checked baggage air travel