

BAA: DoD SBIR 2025.1

Topic: N251-037 - Underwater Launch and Recovery of Unmanned Underwater Vehicles (UUV's)

The two AUVs to consider in the RFP are the Remus 300 and 600 as shown below:

REMUS 600

Body Type: Torpedo

Size (LxWxH): 4.57m x 0.71m x 0.71m

Hull Diameter: 0.32385m

Hull Material: Aluminum

Weight: 800lbs

Maximum Depth: 600M

Dynamic Buoyancy: No

Self-Righting: Yes

Obstacle Avoidance: No

Endurance (nominal load): 22 hours

8 lbs. of buoyancy


Included sonar: EM3002 Multibeam and Edgetech Side Scan Sonar

Includes: Line Capture Launch/Recovery Nose system



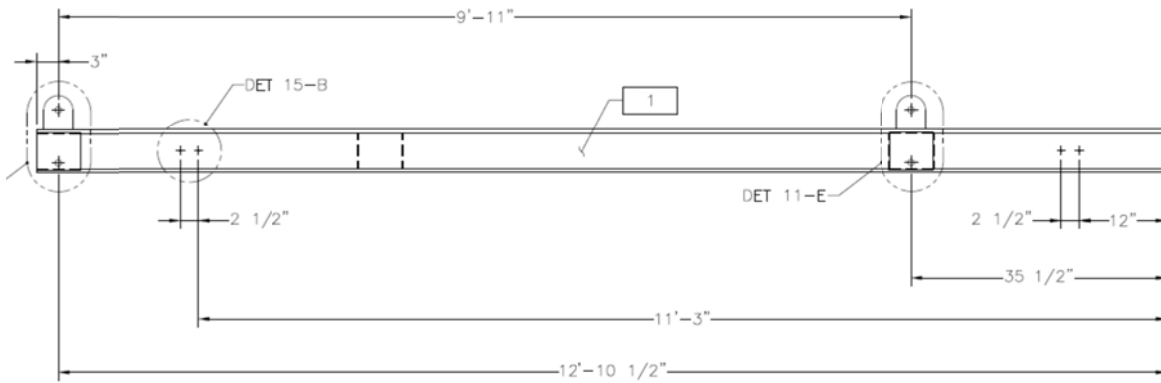
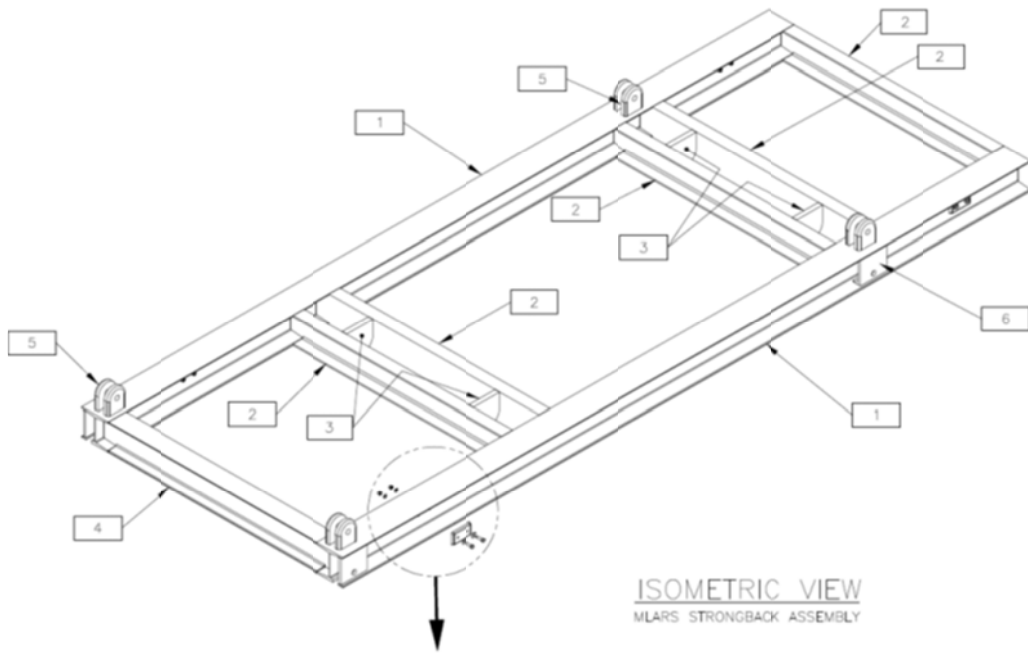
REMUS 600

**(U) REMUS 300 Autonomous Vehicles**

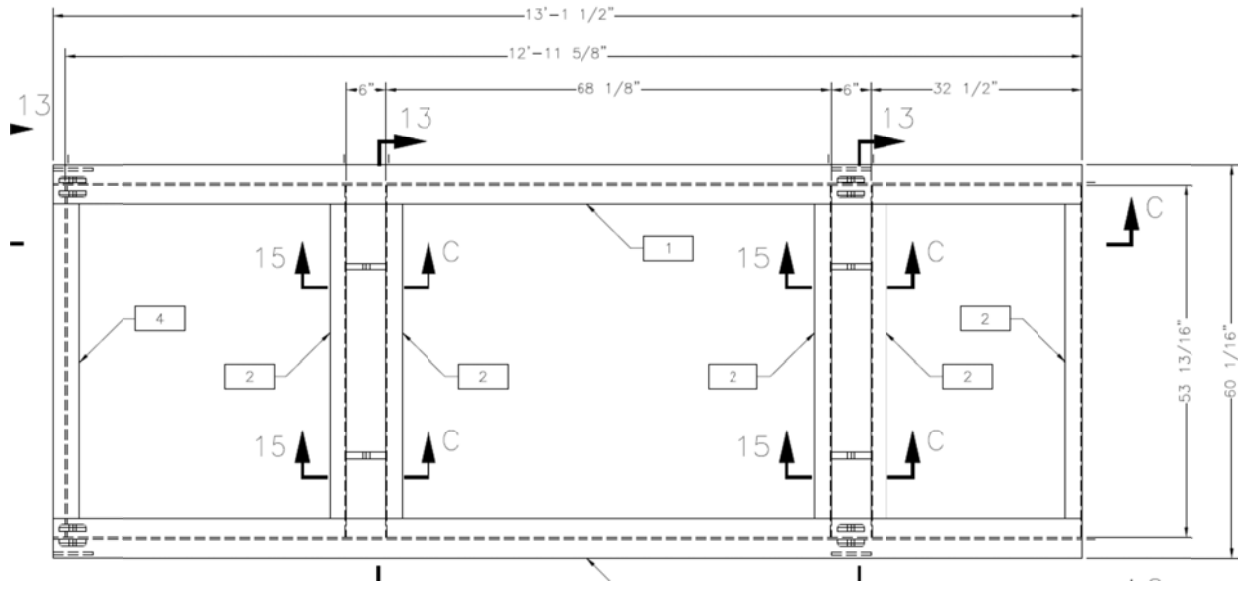


- Ideal for confined regions and transition zone into deeper water
- Variable battery options: 1.5, 3, 4.5 kWh
- Weight: ~100 – 155 lbs (Man Portable\*)
- Length: ~6.5 – 8.5 ft
- Diameter 7.5 – 8.2 in
- Depth limit: 300m
- Endurance: up to 30 hrs\*
- Standard mission length: 5-8 hrs
- Dual frequency sonar 900 / 1800 kHz
- Survey Speed ≈ ~ 4 kt
- Altitude "Flies" 3 – 4 m off bottom
- 30 - 40 m range per side

The details for the strong back are shown in figure 1.



Elevation View



Plan View

Figure 1: Strongback drawings

The details of the Umbilical cable are shown on Figure 2

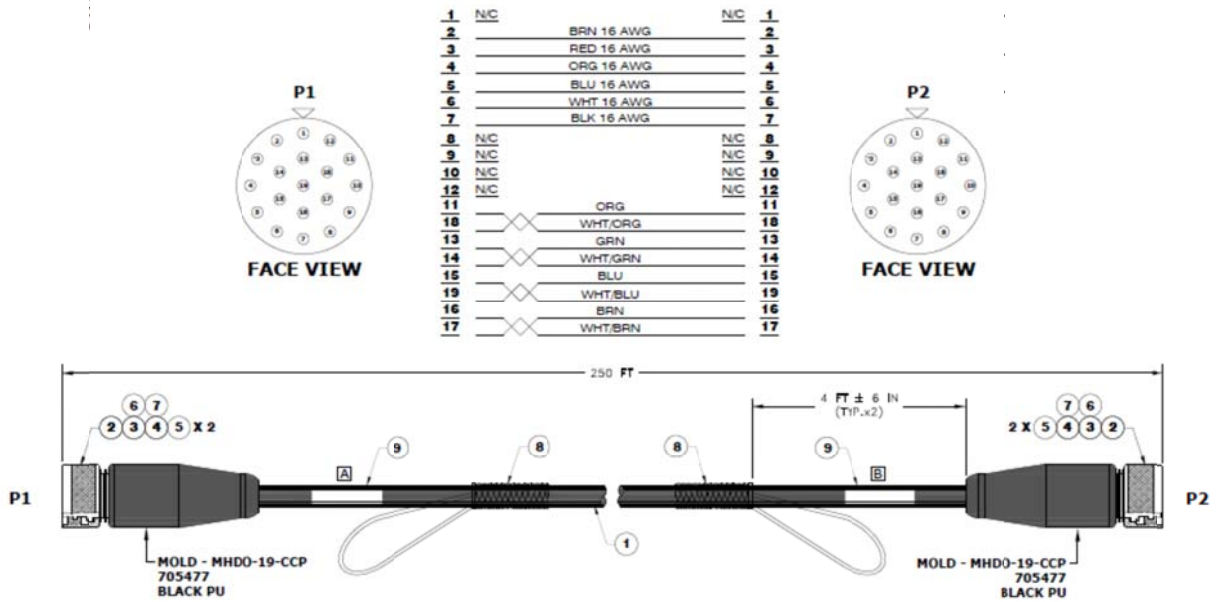
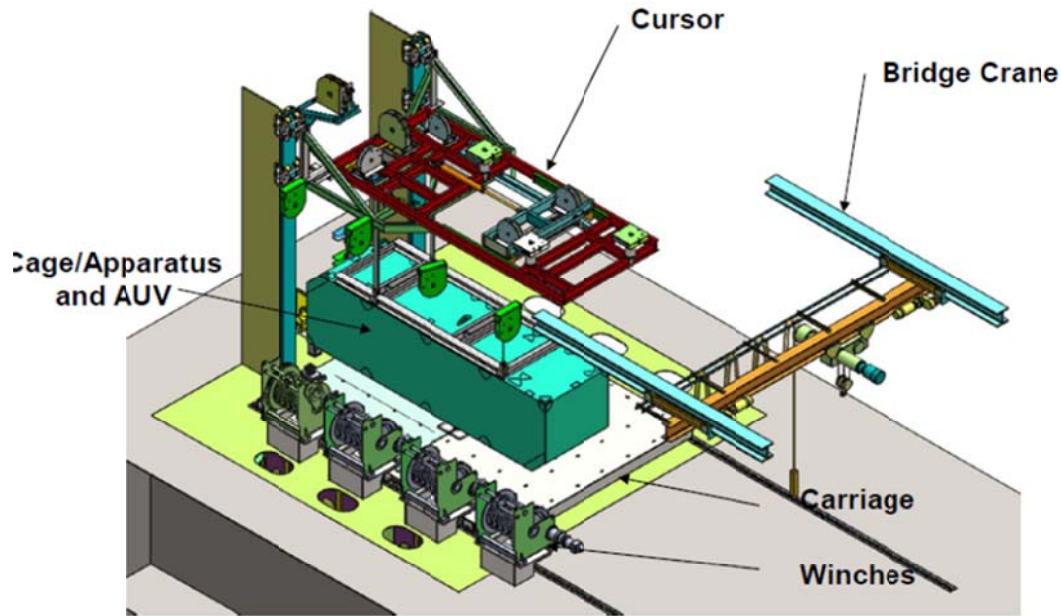


Figure 2: Umbilical Cable

The General Arrangement of the T-AGS 67 Moon Pool Launch and Recovery System (MLARS) is shown in figure 3



General Arrangement

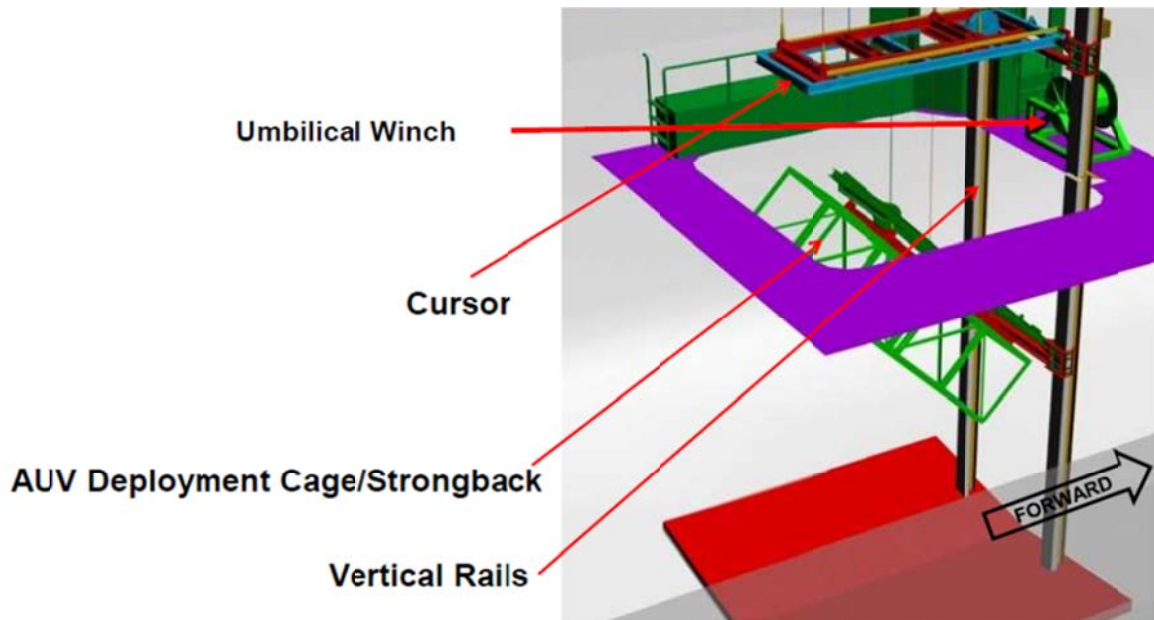


Figure 3: MLARS General Arrangement

Some of the components are shown in figure 4.

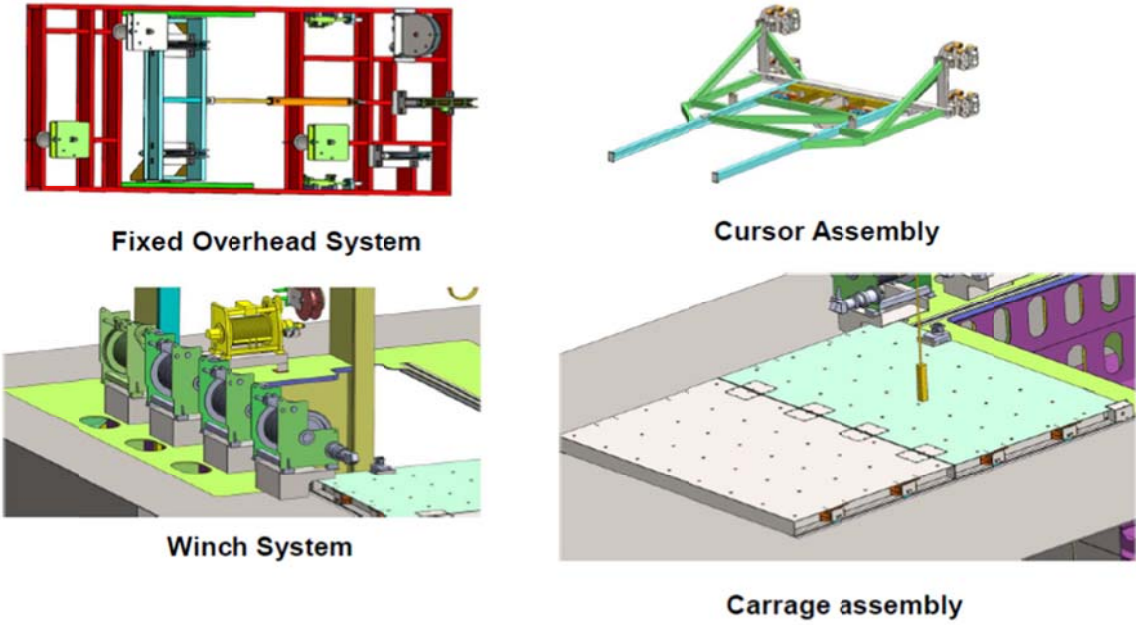
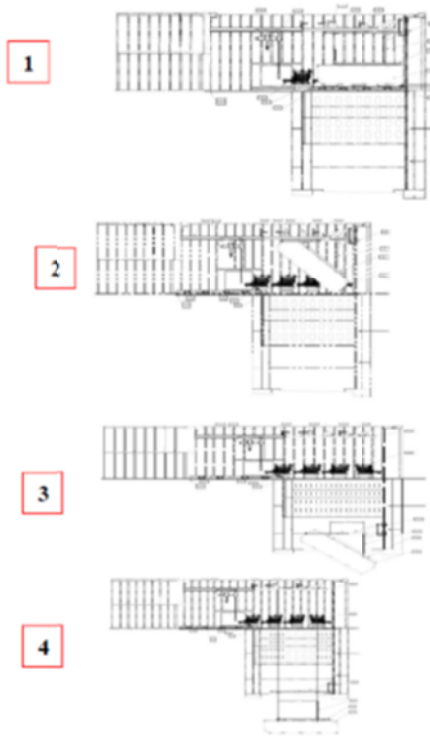


Figure 4: MLARS Components

The sequence of operations is shown in Figure 5

## L&R Sequence (System shown in 4 positions)



1. Position AUV over moon pool opening by placing the AUV on the carriage and moving the carriage over the Moon Pool.
2. Lift and Tilt the AUV and Move carriage aft .
3. Lower AUV through the moon pool until Cursor is at the bottom of the opening and the AUV is clear of the hull..
4. Adjust the cage to be Horizontal. Continue to lower and launch AUV.

Figure 5: Launch and Recovery sequence

The location of the Moon Pool on T-AGS 67 is shown in figure 6

- Moon pool located at approximately the longitudinal center of flotation (aka the center of pitch)

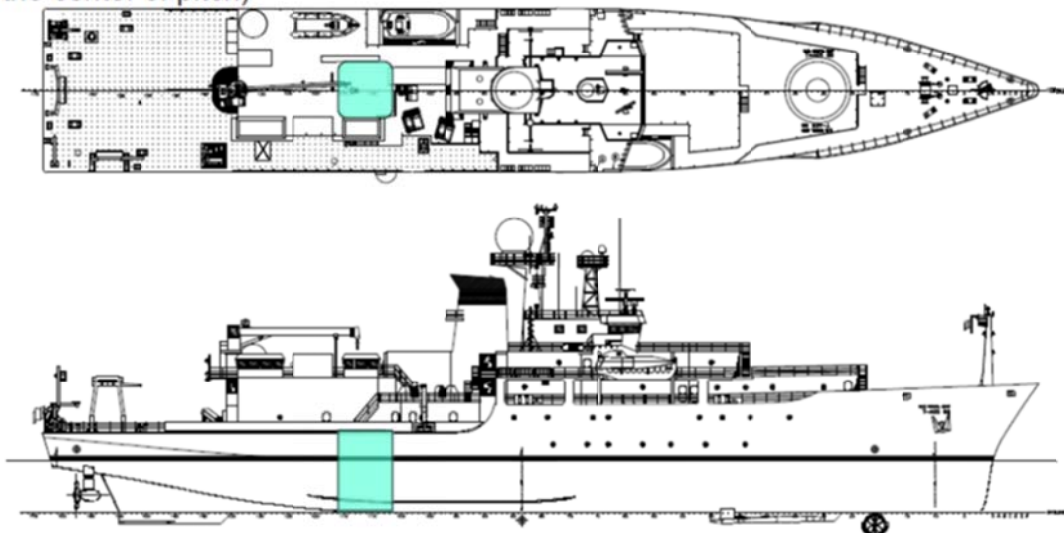


Figure 6: Moon Pool Location