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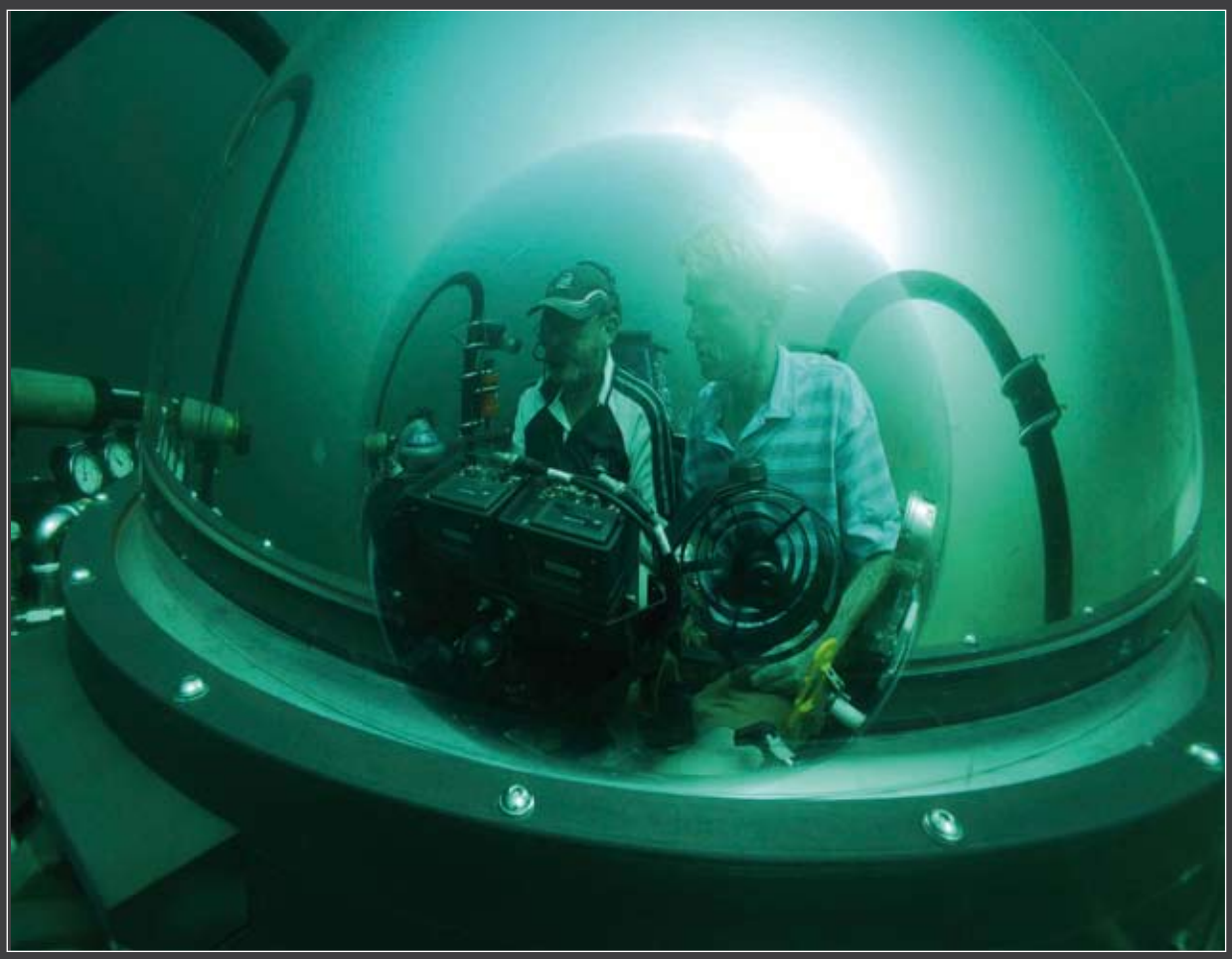

ROV Technology
Subsea intervention
Underwater Equipment

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Versatile ROV

SeaBotix recently teamed up with SEAmagine Hydrospace, manufacturers of one-atmosphere submersibles, to create a unique and revolutionary system for client Mike Caplehorn.

SEAmagine's Deep-C 9 is its latest two-man Ocean Pearl model. Classed by ABS, the submersible is rated to a depth of 320m. SeaBotix worked closely with SEAmagine to integrate its 320m-rated LBV300 HD ROV into its hull. This included installing a purpose-built tether management system (TMS) with an ROV garage and a tractor drive to deploy and retrieve the LBV. A special feature of SeaBotix's ROV was the inclusion of a guillotine cutter.

"Since the primary use for the LBV is to film in and around shipwrecks, the ability to cut its own umbilical was critical should it be irreversibly entangled, trapping the submersible," said a Seabotix spokesman. "The emergency system requires three active operations to function."
The LBV300 HD is the first mini-ROV with a truly-integrated high-definition 1080i video system. Employing a Sony block camera installed within the camera enclosure, it has the same 180deg tilting capability as the standard cameras.

The video feed is via SeaBotix's 8mm fibre-optic tether with 100kg working load. By building the system into the LBV camera enclosure without changing the vehicle profile, HD LBVs can also carry and simultaneously run other large sensors on a lower tool skid.

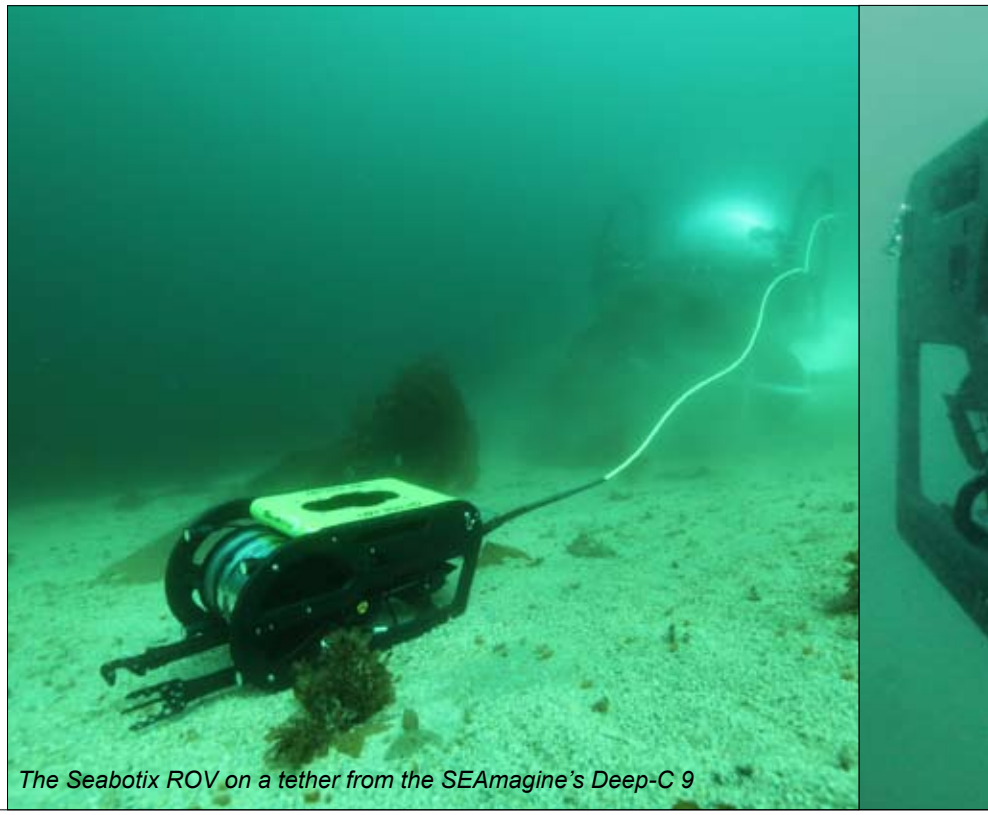
The hydrodynamic efficiency and payload capability is the same as standard LBVs. In the case of Deep-C's LBV300 HD, this provided sufficient space to mount both a universal 3-Jaw grabber as well as the guillotine cutter for dual manipulator functionality.

As part of a successful ten-day expedition to Catalina Island with SEAmagine, Caplehorn carried out four training dives piloting the LBV, with SeaBotix' global sales manager, Sean Newsome, which proved the utility of this feature. In total, the Deep-C performed 23 dives over 42 hours, in areas ranging from shallow sandy sea bottom to large kelp fields and 300m-deep ledges under strong wind, surge and current conditions.

The benefits of the training occurred immediately. On the proceeding dive following the training session, Caplehorn was forced to deploy the LBV due to the inability of Deep-C to clear a large flat section of kelp that was threatening to block one of its thrusters. The normal procedure is to simply reverse the submersible and have the kelp exit the tube immediately in front of the thruster.

"We successfully launched the ROV and manoeuvred it so we could view what was causing the problem," said Caplehorn. "A section of rock was attached to the kelp and had entered the tube. Using the ROV, we were able to clear the tube and proceed with the dive. The constant depth and heading capabilities of the SeaBotix LBV were key to moving in an area where surge was moving the sub, the kelp and the ROV."

Sean Newsome said "I've spent a combined year and a half under water on Trident Submarines in the Navy, but this was the first time I had a big transparent 'pearl' of a window. Knowing the LBV was immediately successful in both the primary mission in holding steady in current as the second point of view system (alongside the fixed-mount HD pan and tilt on the submersible), as well as in the secondary mission in being an emergency rescue tool at +300m, is very gratifying to the SeaBotix crew, seeing as it was performed just one day after training."



The Seabotix ROV on a tether from the SEAmagine's Deep-C 9

A Seabotix LBV installed in a console within the Deep-C 9

The Seabotix LBV

SEAmagine Deep-C 9