

SURVEY

Exceptional imagery for Bluefin Robotics

Sonardyne and Bluefin Robotics, developers of Autonomous Underwater Vehicles (AUVs), have collaborated to integrate a Solstice side scan sonar with a Bluefin-12 AUV with results of recent payload testing producing higher quality imagery than is currently available from conventional sonar. A modular vehicle that allows for swappable payloads, Bluefin-12 is most commonly used for offshore survey, search and salvage, environmental monitoring and unexploded ordnance survey operations.

"Bluefin Robotics and Sonardyne have a long partnership; we already use products from their acoustic positioning and wireless communications technology ranges which are installed on some of our other AUV models," said David Kelly, President & CEO for Bluefin Robotics. "Installing Solstice is part of our latest development programme to

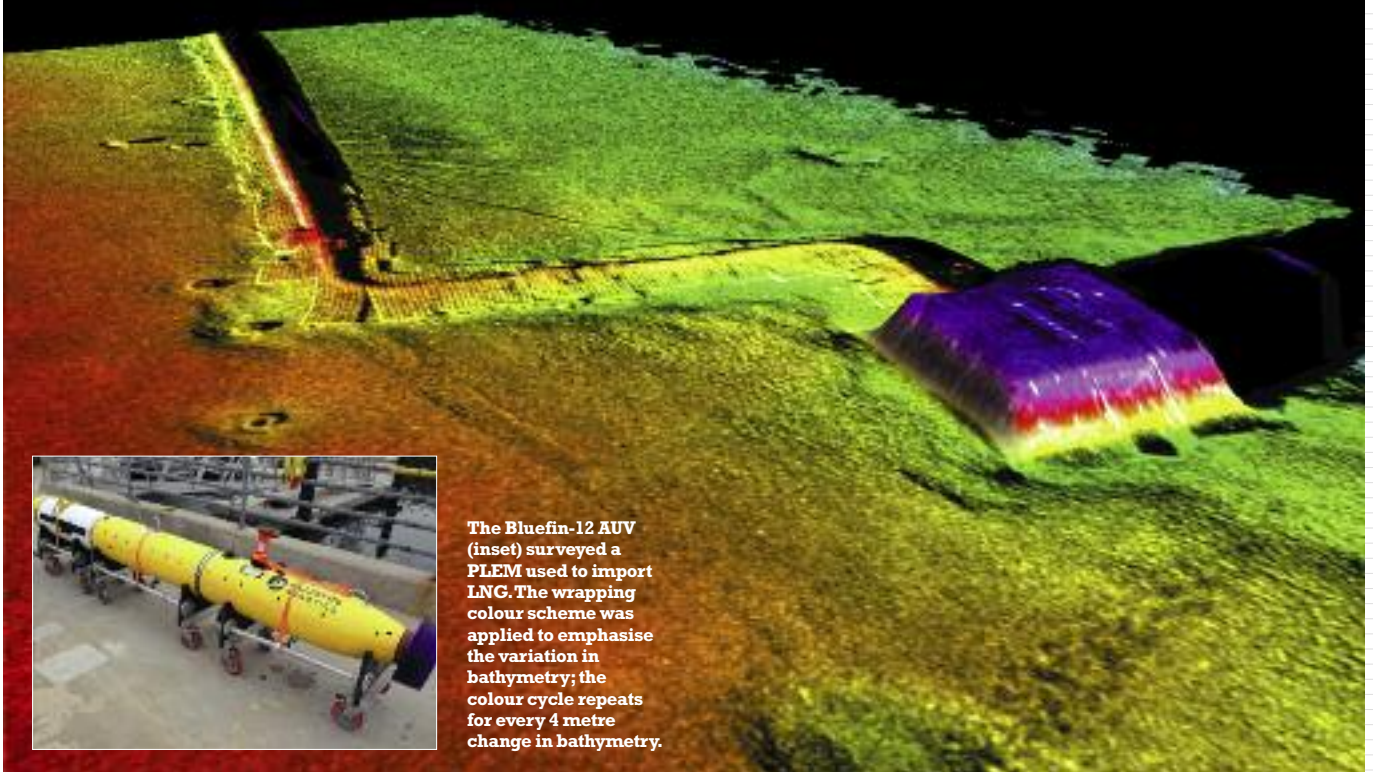
demonstrate the technology as an integrated option for our customers."

Solstice produces imagery of the highest possible quality from a conventional (non-SAS) sonar. It is designed to produce wide swath coverage (± 100 metres) whilst consuming only 18 Watts of power, increasing the operational and cost effectiveness of the AUV. The most recent trials of the Bluefin-12 AUV with the integrated sonar were conducted from Bluefin Robotics' headquarters in Quincy, Massachusetts, where the AUV was deployed from Bluefin's vessel, the *R/V Resolution*, to perform short missions around the Boston Harbour area in approximately 15 metres of water. Each mission consisted of runlines of 500 metres, during which the AUV flew in a pattern known as 'mowing the lawn.'

"We are pleased with how quickly we were able to integrate the sonar and collect high-quality data," said Will

O'Halloran, Marine Operations Manager at Bluefin Robotics. "The imagery is some of the best I have seen in my 10 years of operating AUVs and reviewing data sets. The Solstice sonar is an excellent payload option for our clients who want exceptional imagery from low-logistics, rapidly-deployable AUVs."

"A surveyed pipeline end manifold (PLEM) provided an excellent target to show the resolution and contrast performance of Solstice. This PLEM consists of a large square template, pipe and mattress protectors; you can see where the individual elements of the mattress are clearly resolved in the imagery," said Nick Swift, Sonardyne's Business Manager for Maritime Security. "This is further proof of Solstice's exceptional image quality and is thanks to advanced processing techniques, inbuilt technologies and a unique array design for minimising multipath effects."



The Bluefin-12 AUV (inset) surveyed a PLEM used to import LNG. The wrapping colour scheme was applied to emphasise the variation in bathymetry; the colour cycle repeats for every 4 metre change in bathymetry.