

Smarter AUVs

The UUV family has two separate branches: the ROV and AUV. Each branch has its pros and cons, and specific tasks. However, the application of AUV technology to ROVs – turning them into ‘smart’ ROVs – is diminishing the boundaries between the branches. No doubt the debate on AUVs and ROVs will continue, but miniaturisation of sensors resulting in less drag and lower power consumption and improved battery performance have made UUVs able to work in many applications. Real-world use of the available technology – be it ROV or AUV – will crystallise the preference for the various applications. Some examples of AUV applications (AUVs being this issue’s theme) include bathymetric and environmental mapping, under-ice deployment, pipeline tracking, inspection and light intervention tasks in, harbour protection and defence-related tasks such as MCM. These different applications cover a variety of AUVs, from handheld gliders to large and heavy ones with a corresponding price tag, and although AUVs are not the solution to all underwater operations they can offer a great increase in effectiveness.

AUVs are losing their prototype status and have become a fully operational, reliable and effective tool. See, for example, ‘AUV Operations in Marine Mining’ (page 8), with AUVs working around the clock, or the recently achieved 125,000km mark by C&C with their AUVs in surveying tasks. Regarding deep-sea-rated AUVs: some say they are so efficient that there is just not enough deep sea work for them, and others say that prospects are high as there are just not enough ships to do the job.

However, manufacturers and (potential) users cannot sit back as more needs to be done; for example, on recovery systems, battery technology, propulsion efficiency, intervention capability and data communication. Manufacturers and users have to work closely together: the user (defence, scientists, and the oil and gas industry) must tell the manufacturer what is really wanted in order to direct R&D, which can only be done if budgets are available. At the same time, the manufacturer must support the user to get the maximum out of the equipment, thereby learning about practical obstacles. One driver in the development of AUVs is human safety in defence and in oil and gas applications. Another aspect wanting attention is training staff for regular use of UUVs.

“Out-of-the-box” thinking can take AUVs a step further from the current proven technology. Student AUV contests can be a breeding ground for “out-of-the-box” solutions. To stimulate interest in these contests from students and sponsoring manufacturers, we have published an article on a student AUV contest (page 20).

Dr Shoichi Oshima recently retired from his company Japan Continental Shelf Survey and asked to step down as a member of our Editorial Advisory Board, as he is no longer active in the hydrographic field. This request we grant with reluctance. Our heartfelt thanks go to Dr Oshima for all the work he has done during his long affiliation with Hydrointernational, both as a regional correspondent and as an EAB member: he was always prompt in reacting to our questions.

A last thought: What did you do on 21st June? I hope you promoted our profession on World Hydrography Day! I celebrated the birthday of my eldest daughter... how’s that for thoughtful planning of a hydrographic surveyor 28 years ago?

Enjoy your read!