NEW HYDROGRAPHIC SHIP, NEW CAPABILITIES

Under Project SEA2400 Phase 1, the Royal Australian Navy will acquire a new hydrographic survey ship. An invitation has gone out to industry for suitable specialist proposals, which can either be a modified platform or an in-service design. By **Lachlan Colquhoun.**

With an extensive coastline and significant international responsibilities in ocean charting and survey, Australia has a well-developed hydrographic capability which has evolved over a long period.

The nation's exclusive economic zone encompasses 10.2 million square kilometres, including the Antarctic territory, while its charting area measures 50 million square kilometres.

At the same time, 66% of Australia's coastline shallower than 200 metres remains inadequately surveyed.

With the Navy's new amphibious capability and a range of next generational ships, including 12 new submarines, there is increasingly strategic dimension to future survey needs, and these are at the heart of the requirements under Project SEA2400 Phase 1.

The survey capability was identified in the 2016 Defence White Paper, which said Australia needed "an efficient combination of military and commercial hydrographic and oceanographic capabilities". This required an investment of between $1 billion and $2 billion, which was allocated by the government in the Integrated Investment Plan issued in 2016.

The procurement for SEA2400 Phase 1 is being managed by the Capability Acquisition and Sustainment Group (CASG) and registrations for expressions of interest closed in February 2018.

Currently, the Navy's hydrographic capability consists of two Leeuwin-class survey ships commissioned in 2000 and four Paluma-class survey motor launches which date from 1991. Under the SEA2400 program, these would be retired from the early 2020s and be replaced by a combination of next-generation military and commercial hydrographic and oceanographic assets, potentially including aircraft, which are an important part of the capability.

The current hydrographic assets work in co-ordination with the Laser Airborne Depth Sounder (LADS) Flight formed in 1992 after more than 20 years of research and development.

FUGRO

Now deployed from Cairns on a de Havilland Dash 8-202 aircraft operated under contract by global leader in LADS technology the Fugro group, this capability makes the Navy one of the few military organisations in the world to employ Airborne LADS Bathymetry.

Fugro has been a longstanding hydrographic partner both for the Australian Hydrographic Service and the Navy, and has continued to update technology originally developed by the Defence Science and Technology organisation which is still used in the LADS flight.

Fugro has used this technology in the search for the missing aircraft MH370 and the successful search for the World War One submarine HMAS AE1, lost off the coast of Papua New Guinea but located in January 2018.

At the request of the New Zealand Government, the Navy's LADS flight also conducted a rapid hydrographic survey of the sea floor off the NZ South Island in the aftermath of the Christchurch earthquake of November 2016.

Under SEA2400 Phase 1, the new hydrographic ship will be required to collect seabed sonar data and water column data, and will also be able to deploy unmanned vehicles for use in the air, underwater and on the surface.

SEA2400 Phase 1 also integrated with Project SEA1770 Phase 1, which is for a Rapid Environment Assessment Capability to enhance the direction, collection, processing and dissemination of environmental data, known as Military Geospatial Information (MGI).

The purpose of this is to provide a comprehensive and thorough understanding of the physical maritime operating environment and its likely impact on military operations.

SAAB/BLUEZONE

One group which has confirmed it has responded to the Navy's request under SEA2400 is Saab Australia and the BlueZone Group, which have teamed to offer state-of-the-art oceanographic systems.

The partners bring together Saab's system integration capability with BlueZone's application experience and wide portfolio of leading hydrographic systems around the world.

BlueZone Group's subsidiary UVS has been engaged to supply, integrate and support sensor suites under SEA1770, and these include tidal, wave and current monitoring systems. These capabilities would in turn be embarked in any survey vessels which would be acquired from the group as part of SEA2400.

IMC/SKIPSTEKNISK

Another expression of interest has come from a collaboration between Fremantle-based International Maritime Consultants (IMC) and Norway's Skipsteknisk AS, and in this case the group is open to working with other shipbuilders.

The two companies have entered into a teaming agreement to offer the Skipsteknisk range of hydrographic research vessel designs, bringing together Skipsteknisk's global research vessel portfolio of in-service designs with IMC's experience in vessel construction support and compliance.

The Skipsteknisk/IMC team's approach to SEA2400 is to make their reference designs available to program bidders on a non-exclusive basis, giving the Commonwealth maximum flexibility in its choice of supplier and build location.

Skipsteknisk has a 25-year track record in delivering sophisticated oceanographic vessel designs.

Skipsteknisk managing director Hans Ove Holmoy said: "Skipsteknisk has designed research vessels for customers and shipyards all over the world, providing us with in-service experience and expertise to deliver a high performance, low risk solution to the Commonwealth regardless of where the vessel may be built.

"Our noise reduced ST-design research vessels are highly functional, reliable and comfortable working platforms."

IMC is a diversified and independent naval architecture consultancy, and provides expertise in Australian compliance in addition to specialist knowledge of the Australian shipbuilding industry.