Report on Marine Technology Development Consortium Working Group

15 June 2016

Three meetings have been held to date to develop a roadmap for collaborative marine technology development on the national scale. The meetings involved participants from the following organisations and included a range of technology users as well as technical and technology development experts:

- Australian Institute of Marine Science
- University of Sydney
- Deakin university
- QUT
- University of Sydney
- CSIRO
- University of Tasmania
- University of Queensland
- Defence Science and Technology Group

The Roadmap has identified five technology development foci (Figure 1) where collaboration on a national scale would significantly improve delivery of outcomes by the Australian marine science community against the NMSP Grand Challenges. The relevance of these Development Foci to the Grand Challenges are also depicted in Figure 1. A presentation was given in March to the Annual Planning Meeting of the Integrated Marine Observing System as one of the key marine science communities with a stake in technology development.

The most recent meeting of the abovementioned organisations was a technical workshop to develop specifications and design options for an "agile" AUV, a concept promoted as a champion project to catalyse collaboration and at the same time significantly improve the capability of the Australian marine science community.

Figure1 Dependency of NMSP grand challenges upon technology development. The highlighted areas are those Development Foci and Grand Challenges which will benefit by developing an "agile" AUV

	Development Foci				
NMSP Grand challenges	Force multiplication through autonomy and automation	Sensing and sampling	Platform design and build	Engineering for Resilience and Persistence	Big Knowledge from Big Data
Marine sovereignty, security and safety	Critical		Relevant	Critical	Critical
Energy security	Critical	Relevant	Relevant	Critical	Relevant
Food security		Critical	Relevant	Relevant	Relevant
Biodiversity conservation and ecosystem health	Relevant	Critical	Critical	Relevant	Critical
Urban coastal environments	Relevant	Critical	Relevant	Relevant	Relevant
Climate variability and change	Relevant	Relevant		Critical	Critical
Resource allocation					Critical