



Underwater explosives test capability

DST's underwater explosives test facility is a unique capability in the southern hemisphere and has wide ranging potential for both surface and subsurface research and development of maritime platforms.

The capability is crucial to all aspects of the maritime capability lifecycle:

- Requirements gathering
- Acquisition
- Test and evaluation
- Sustainment and disposal.

The capability enables informed advice to be provided regarding the performance of explosives underwater and the response of maritime platforms (both sub- and full-scale sections), structures, materials, fitted equipment and systems. to a shock loading from an underwater explosion.

It is supported by a range of high and ultra-high speed instrumentation including data acquisition systems capable of recording high speed transient events, with up to 240 million samples per second at high resolution.

The capability supports defence industry involved in acquisition programs, and can be utilised for both commercial and academic interests through national and international collaborations.

Potential uses

- Shock qualification/assessment of maritime materials, structure and equipment
- Validation of modelling and simulation tools
- Validation of prototype designs

Whilst primarily an underwater explosive test facility, the facility can be extended to cover research and development in: surface and subsurface hydrodynamics, surface and subsurface unmanned platform performance and magnetic and acoustic signatures.

Features

- Clear water (swimming pool clarity) facility (20m diameter x 20m deep)
- High speed underwater imaging system
- High and ultra-high speed data acquisition system
- Floating shock platform (up to 27 tonne test item)
- Capability to deploy and retrieve a 10 tonne test item in 4m of water.



For more information contact:
PartnerWithDST@dst.defence.gov.au

