

# EVENING TECHNICAL MEETING

11 August 2021

5.30pm - 8.30pm

Parmelia Hilton, Mill Street, Perth 6000

## DEFENCE & AUTONOMOUS SYSTEMS

### *Anti-Submarine Warfare operations utilising autonomous Wave Gliders for detection, classification and localisation* **Norman Ballard, Bluezone Group**

BlueZone Group has been awarded a Defence Innovation Hub contract to develop Anti-Submarine Warfare (ASW) capability using Australian-developed sonar and track processing systems installed in unmanned surface vehicles.

The system is an innovative integration of Sonartech Atlas's sonar processors and Acacia Systems automated tracker technology with leading-edge ASW sensors and unmanned platforms. It will provide a fully autonomous persistent surveillance capability which will complement the ADF's existing and planned ASW force structure.

The project will deliver automation and autonomy to ADF ASW to a level never before attempted anywhere in the world.

### *Underwater Technologies Assisting Robotic Autonomous System* **Scott Elson - L3 Harris MSA**

Australian Defence under SEA 5012 is seeking interest in Remote Undersea Surveillance and has sharpened the focus on Robotic Autonomous Systems (RAS). These new RAS technologies promise a force multiplying effect to the scale of surveillance that can be provided by manned platforms alone. However to achieve this affect there are a number of key technologies that will need to be addressed, including: (1) Communications between RAS agents and remote C2 systems (2) Application of Aluminum-Water (Al-H<sub>2</sub>O) Energy Modules (3) Trusted Autonomy - Surface and underwater vehicles. The presentation will describe the technologies being developed by L3Harris in Australia and abroad to suit these future challenges.

### *Hull External Pressure Test Project*

**Hamid Yeganeh, JFD Global & Bernie Phelps, Defence Science and Technology Group**

The Department of Defence, through the Defence Science and Technology Group (DSTG), awarded JFD Australia with a contract to build and pressure test three large ring-stiffened cylinders to validate their analytical and numerical methods for modelling of pressure hull collapse. The hull external pressure testing project involves the design, construction, measurement, monitoring, testing to collapse, and disposal of the three cylinders.

All the items including the test cylinders, enclosures, and transport items will be constructed in Australia and the final test will be conducted in Aberdeen (UK) as there is no suitable in country testing capacity. Prior to each test, strain gauges will be installed to record structural response for validation of analytical and numerical modelling. Dimensional measurement of the cylinders and enclosures will be carried out during and at the completion of fabrication. In addition, the cylinders will be measured after testing to map the collapsed shape on return to Australia.

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|---|-------------------------------|----------------------------|--------|
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| Non-Members                             | \$50                          | \$60                       | \$65   |
| 5 Ticket Member Pass                    | \$125                         | \$200                      | \$225  |
| 5 Ticket Non-Member Pass                | \$225                         | \$300                      | \$325  |

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