

## SESSION 1

### **Remotely Operated Vehicle Underwater Survey of the Lake Illawarra**

Michael Larkin, *Managing Director, Fulcrum*

This presentation will review three projects where Fulcrum have utilised a range of technology and sensors to capture accurate geo-spatial information for a diverse clientele.

Project 1: Heritage Bore

Project 2: Dam Surveillance

Project 3: SS Lake Illawarra

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### **Positioning Australia for a Resilient and Prosperous Future**

Tobias Fischer, *Senior Lecturer in Robotics and Computer Vision, QUT Centre for Robotics*

This presentation focuses on enhancing the reliability and accuracy of positioning systems in autonomous vehicles. It highlights the limitations of current foundational technologies, such as the Global Positioning System (GPS) and Simultaneous Localisation And Mapping (SLAM), in complex environments. In particular, we will explore the importance of introspection in positioning systems, advocating for systems that can self-diagnose when their accuracy may be compromised. The discussion also addresses key research challenges in positioning systems, the types of errors, and the need for better deployment metrics.

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### **Economic Impact of Geospatial Services in Australia**

Alan Smart, *Senior Associate, ACIL Allen Consulting*

The Geospatial Council of Australia commissioned ACIL Allen to undertake a review of the value of geospatial information in Australia. The last time this was done was in 2007-08 when the then CRC for Spatial Information and Spatial Industries Business Association commissioned the work.

The Geospatial Council of Australia commissioned an update of the value of geospatial information in 2023-34. GCA released an interim report at Locate 24 on 8 May 2024. Final report will be released in Canberra on 9 October. The presentation will provide background to the project, examples of case studies that supported the analysis and a recap of the interim economic findings.

## **New Bridgewater Bridge Geospatial Management**

Paul Banks, *Director, AUSPAT Land Surveys*

This presentation will focus on the construction and surveying of the new Bridgewater Bridge.

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## **Applications Based Workshop for Surveyors and Geospatial Scientists: Showcasing Ginan Suite and SBAS Positioning Opportunities**

Anna Riddell, Director – GNSS Analysis, Geoscience Australia

Positioning Australia represents a transformative Commonwealth investment aimed at providing accurate and reliable positioning information across the country and its maritime zones. By leveraging cutting-edge satellite and terrestrial technologies, this initiative aims to achieve positioning accuracy down to 10 cm nationwide and 3-5 cm in mobile phone coverage areas. This capability is poised to boost productivity, safety, efficiency, and innovation across diverse sectors such as agriculture, mining, transport, and construction, while opening new avenues for research and development.

To fully realize these benefits, effective collaboration among government agencies, industry partners, research institutions, and end-users is essential. This presentation will explore Geoscience Australia's strategic approach in establishing the National Positioning Infrastructure Capability (NPIC) to support Australian businesses in leveraging precise positioning technologies. It will focus on "Ginan-in-a-box," an open-source GNSS toolkit designed to enhance positioning accuracy, and discuss SouthPAN's Signal-in-Space and Data Access Services, which offers real-time positioning and reliable connectivity.