

SSSI 2021 WA Regional Summit

FRIDAY 5 NOVEMBER 2021 | PCEC



8.30am	Registration
9.00am	Welcome Darren Mottolini <i>Western Australia Region Chair, SSSI</i>
9.10am	State Infrastructure Strategy: Taking a digital-first approach Philip Helberg <i>Chief Executive Officer, Infrastructure WA</i> Phil will give a general overview of WA's first long-term infrastructure strategy, which includes insight into its focus on taking a digital-first approach.
9.40am	Priorities and plans for Landgate - harnessing the value of where Graeme Gammie <i>Chief Executive Officer, Landgate</i> Landgate delivers a diverse range of initiatives to harness the value of where. Graeme Gammie will share the latest on these initiatives, including how Landgate is modernising its core functions, revitalising naming and addressing, facilitating strata reform, and innovating through earth observation and spatial technologies.
10.10am	Digital Construction on a Global Scale – Standards, policy and development of global initiatives Rebecca De Cicco <i>Principal, Digital Enablement, Aurecon and Global Chair, Women in BIM</i> This presentation will be an overview of the importance of government policy for Building Information Modelling (BIM) and Digital Construction. Touching on wider issues such as the impact of COVID, the United Nations Sustainability Goals and varying Government programmes for BIM Rebecca will provide insight into the importance of these topics in relation to locally delivered projects across Australia.
10.40am	MORNING TEA
11.10am	Routable Transport Network WA Ralph Talbot-Smith <i>Manager Cartographic Services – Maritime, WA Department of Transport</i> This presentation will discuss the development of a cloud based digital transport network for Western Australia with collaboration across 15 State government agencies and 138 Local government organisations to build and maintain into the future.
11.30am	Surveying the Impossible Brenton Tidow <i>Survey Manager SMP, Veris</i> and Gavin Hassett <i>WA Regional Manager, Veris</i> Undertaking a survey of suspended, overhead or hard to access rails traditionally requires direct access for a surveyor, increasing the risk and safety considerations for any person undertaking this type of work. Rail Runner, a WA and National award winner at the 2020 Asia Pacific Excellence Awards sought to reduce this risk by introducing a rolling 'trolley' system that enables the surveying of these rail lines without the need for direct access. The innovative approach Rail Runner has implemented both improved safety outcomes and generated significant productivity gains. Hear from Brenton Tidow and Gavin Hassett from Veris as they discuss the development of the Rail Runner and its application to mining operations in the Pilbara region.
11.50am	EDM Instrument calibration in WA - Fundamentals, Traceability and Software Kent Wheeler <i>Geodesist, Landgate</i> Under the Licensed Surveyors (General Surveying Practice) Regulations 1961, regulation 20, the Surveyor General is to arrange for a standard or standards to be available to enable surveyors to comply with sub regulation 20(1). To enable surveyors' compliance with this sub regulation, Landgate has constructed the EDM Instrument calibration baselines at Curtin, Kalgoorlie and Busselton. These baselines are recalibrated every 2 years in accordance with NATA requirements and procedures outlined in ISO 17025:2017. During July and August of 2021, Landgate completed the recalibration of the Curtin, Kalgoorlie and Busselton EDM instrument calibration baselines. A new version of the BaselineWA software is now available for download from the Landgate website. This presentation will provide an overview of the fundamentals of Baseline and EDM instrument calibration.
12.10pm	Reducing Infield Risk through Smarter Location Analysis Kurt Adams <i>Senior Location Intelligence Consultant, GHD Digital</i> Surveying infrastructure that is remote, has long linear sections (such as rail and road) and maintaining a high quality survey can be resource intensive and depending on the locations, it will be season dependent and expose survey teams to risks such as exhaustion and fatigue. Prioritising survey areas to reduce risks posed to individuals requires taking a look at multiple factors of influence. Information such as the types of survey required, their locations, landform, personnel availability and travel time required between sites all influence the survey programme. Taking a smarter approach to sending crews into the field, the GHD team have worked with a number of clients to assess how survey programmes are prioritised with geospatial analysis as a business driving tool.
12.30pm	LUNCH

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1.30pm	<p>Role of the defence and security sectors in driving the next stage evolution of the geospatial industry Amir Farhand <i>Chief Executive Officer, Soar</i></p> <p>Since the 'drone' pigeons equipped with cameras in 1903, to the world's first ever image from space in 1946, the advent of GPS in 1960, the military has been a tremendous innovation fulcrum driving the geospatial industry. However, with the end of the Cold War and shift towards commercialisation, the geospatial industry has seen its focus move away from the realm of defence and security through to other industries such as the mining and agricultural sectors. But with recent geopolitical considerations and with more world powers growing their technical knowhow, will it be a case of back to the future for where the geospatial industry gets its ideas from?</p>
2.00pm	<p>Going with the flow: development of a hive migration decisions support tool for Noongar land-based enterprises Bryan J Boruff <i>Associate Professor, UWA School of Agriculture and Environment</i></p> <p>The Noongar Land Enterprise Group (NLE) is an indigenous collective promoting commercially viable Noongar land-based businesses. Recent initiatives have focused on the development of ngooka (honey) production across a number of member properties. In order to optimise production, hives will require sequenced movement based on seasonal pollen and nectar availability across farms and reserves. As such, this project aimed to develop a hive migration decisions support tool to assist in maximising the group's mosaic of melliferous flora resources for honey production.</p>
2.20pm	<p>Quantifying The Impact of Urban Infill on The Urban Heat Island Effect – A Case Study for an Alternative Medium Density Model Phillip Burton <i>Managing Director and Principal Landscape Architect, Open Space Design Australia</i></p> <p>Urban Heat Islands (UHIs) impact the quality of life in many urban centres. Metropolitan areas of Australian cities and urbanised regional centres, in particular, show vulnerability towards UHIs due to challenging climatic conditions and the model of greater subdivision of established properties whereby backyards and mature trees are replaced with more residential dwellings and sealed areas. The measurements for the UHI mitigation, such as imposing reforestation, employing sustainable and medium density housing build form typology must be quantified. Simulation-based identification and mitigation of UHIs can be used for planning decisions. The aim of this work is to quantify the impact of the current urban infill methods on UHI. We focus on an area that has gone through a process of re-subdivision that is bounded by roads within Perth, Western Australia. For the same area we propose an alternative design with an urban infill model based on a medium density housing guidelines with an improved green space allocation.</p>
2.40pm	<p>Riding the Radar wave: Rise and rise of Synthetic Aperture Radar imagery in Geospatial Applications Dipak Paudyal <i>Managing Director & Chief Scientist, APAC Geospatial</i></p> <p>Synthetic Aperture Radar, or SAR, is rapidly becoming a go-to method for remote observation. The use of SAR is advantageous over other remote sensing methods, such as optical data, for several reasons. Some of the most cited are the ability to see through cloud cover and smoke, and the fact that SAR may image an area regardless of illumination conditions, so it may be used both day and night. In addition to these, SAR scenes may also cover very large areas – some are over 200 km across. SAR Imagery is therefore extremely versatile and may be used across a wide variety of applications – anything from hazard monitoring and disaster response (such as fire and flood), oceanographic monitoring for oil spills or ship detection, agricultural monitoring, change detection, subsidence and displacement mapping through to estimation of forest biomass/carbon. This presentation will discuss how we should go about making practical use of SAR Imaging technology, will attempt to demystify some of the jargons used in SAR Image Analysis and discuss how Geospatial Analysts can exploit the benefits that SAR imagery provides.</p>
3.00pm	<p>Towards a 3D Cadastral System for WA Murray Dolling <i>Principal Consultant Surveyor, Landgate</i></p> <p>With the Intergovernmental Committee on Surveying and Mapping's (ICSM) 3D Cadastral Survey Data Model and Exchange Project (3DCSDMP) due to be completed early in 2022, a new standard will then be available across Australia and New Zealand for exchanging digital cadastral survey information between the survey industry and government land administration agencies. Combined with complementary and concurrent developments in 3D capability for modelling the built and natural environments, cadastral surveyors will be increasingly challenged to provide 3D models of land boundaries. This presentation will provide updates on the progress of the 3DCSDMP and discuss the potential future of 3D cadastral surveying in WA.</p>
3.20pm	AFTERNOON TEA

SSSI 2021 WA Regional Summit

FRIDAY 5 NOVEMBER 2021 | PCEC



3.50pm	<p>How digital twins are transforming our cities Julia Spark <i>Business Development Manager, Aerometrex</i></p> <p>If you have been keeping up on visualisation technology, you will have heard about digital twins. A digital twin is a combination of a 3D model of a physical entity and a live data stream, with the live data from the real-life entity driving the model's animation and onscreen displays. Creating a digital twin can also allow for simulations to be run by building the asset digitally with metadata, constraints, and relationships between components, we can test scenarios and use the data to make better decisions and predictions. From conception to completion, large-scale infrastructure projects need accurate, up-to-date datasets – so developers can make more informed decisions with precision. Digital twins make it possible. These real-time replicas use static and dynamic layers of geospatial data and information to build a virtual 3D environment, giving a glimpse into what's happening now – and what might arise in the future. Armed with real-time spatial data, developers, councils, and government can design smarter sustainable cities for the future. Some uses for digital twins are facility management; city planning, autonomous vehicle testing, analysing usage, traffic and workflows, stakeholder engagement and community consultation.</p>
4.10pm	<p>Integrated Geospatial Information Framework - Digital Transformation Game Changer Lesley Arnold <i>Director, Geospatial Frameworks</i></p> <p>The Integrated Geospatial Information Framework (IGIF) is a United Nations adopted framework for strengthening geospatial information management. Originally created to help developing nations to digitally transform, the framework is now being adopted by developed nations to assess geo-maturity towards transitioning to more integrated systems. This presentation explains the IGIF and its key strategic pathways that enable holistic planning and delivery of geospatial projects, and their long-term sustainability.</p>
4.30pm	<p>When two Worlds Collide – Geospatial and Infrastructure Design Alistair Fox <i>Principal GIS Consultant, Jacobs</i></p> <p>For too long now the worlds of Geospatial and Infrastructure Design have lived apart. Each has been happy to undertake their role in Infrastructure Design and delivery while never really integrating or understanding how they affect each other. There is now an increased drive to develop more sustainable Infrastructure that leaves a positive impact and adheres to Climate change principles. AEC firms like Jacobs are working with vendors and clients to develop new more tightly integrated solutions that bring these two worlds together and deliver better Infrastructure outcomes. This presentation will discuss these challenges and some of the solutions being proposed.</p>
4.50pm	<p>Closing Remarks Tony Wheeler <i>Chief Executive Officer</i></p>
5.00pm	Summit concludes
6.00pm	Asia-Pacific Spatial Excellence Awards WA Dinner

Please note the Land Surveyors Licensing Board has assessed the Summit to be worth the following LSLB points for attendees:

- 3.0 Cadastral Education points
- 3.5 General Education points.