

## MEDIA RELEASE

Thursday 8 July 2021

# Digital Twin Challenge to lead global push to accelerate more productive, sustainable and liveable built and natural environments

The Smart Cities Council is calling on government and industry to value and activate data in a way that will propel global advancement to more sustainable, productive and liveable built and natural environments.

The Smart Cities Council has today announced the participating cohort in their 2021 Digital Twin Challenge, and the projects to be developed in the coming years.

The Digital Twin Challenge cohort will advance a series of 13 projects to help show what is possible with Digital Twin capability, and how it supports the activation of data in a way that supports decision makers. The Digital Twin Challenge includes a program of activities that will ultimately benefit the broader marketplace through the development and release of critical knowledge resources.

Smart Cities Council Executive Director Adam Beck said, “we are at a crossroads in terms of our global commitments such as the United Nations Sustainable Development Goals and the Paris Climate Agreement. We believe data leadership and data activation is key to helping us in meeting these commitments.”

“With less than a decade left to make significant productivity, equity and sustainability gains for our communities, the Council is going ‘all-in’ on the enabling power of data activation, and the Digital Twin is the superior approach,” Beck said.

“Across Australia and New Zealand, the value of data in helping deliver more sustainable infrastructure, providing the best community services, promoting economic development and repairing our critical ecosystem services is becoming more evident. We now urgently require the standards, templates, tools and guidance documents to realise this opportunity. The Digital Twin Challenge will help deliver this.”

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“The Digital Twin Challenge is the only program of its type globally that is seeking to build a series of assets in a collaborative learning environment that will be shared openly for free for government and industry around the world to benefit from.”

“Our goal is to help others accelerate their Digital Twin capability and journey by having a headstart and avoiding duplication on common Digital Twin use cases and capability development activities, Beck said.”

The 13 projects forming the Digital Twin Challenge range from strategy, data framework and project-level action plans, to landscape-based Digital Twins, GIS and IoT capability templates. Organisation-wide Digital Twin education modules as well as urban planning and design use cases feature in the project list.

Beck continued, saying “the most exciting part of the Digital Twin Challenge is going to be the deep engagement among the participating cohort members, who represent public, private and research sectors with interests spanning natural resource conservation, economic development, construction and asset operation, public health and wellbeing and education.”

“Working with our government project co-leads will be a range of private sector and academic peers, sharing their expertise in a collaborative environment to create the next generation of Digital Twin knowledge resources.”

The 2021 Digital Twin Challenge participating cohort members are:

- Autonomation in partnership with ADG Health
- Beca
- City of Launceston, Tasmania Australia
- City of Melbourne, Victoria Australia
- FrontierSI
- Geoscape Australia
- GHD
- GRID Lab @ University of New South Wales
- Lake Macquarie City Council, New South Wales Australia
- Marlborough District Council, New Zealand
- Moreton Bay Regional Council, Queensland Australia
- Office of Planetary Observations
- PCSG
- Sydney Water
- Thinkproject
- WSP

The Digital Twin Challenge will be underpinned by a series of activities, including:

- Deep peer-to-peer knowledge sharing among the cohort on a monthly basis
- A series of international exchanges, in-person intensives and public webinars
- Regular industry updates sharing progress, via quarterly reporting and the annual [Digital Twin Week](#) event
- Use of the Smart Cities Activator Platform to create digital roadmaps for Digital Twin use cases and strategy development processes.

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Beck said, “engagement with relevant industry bodies and other representative groups will commence in the coming weeks to ensure channels for knowledge exchange are established and broader consultation is facilitated.”

Stakeholders interested in participating in the Digital Twin Challenge should contact the Smart Cities Council [here](#).

Stakeholders can track progress of the Digital Twin Challenge at the [Digital Twin Hub](#). More information on each cohort participant and the Challenge projects is found below.

### **The 2021 Digital Twin Challenge projects are:**

1. An organisation-wide Digital Twin Strategy - creating a template to support the development of a Digital Twin Strategy for an organisation.
2. A 'GIS to Digital Twin' Roadmap – creating a module-based Roadmap to help leverage existing GIS capability, and identifying key steps to address gaps in your Digital Twin capability. A similar Roadmap for doing the same for BIM is also proposed as part of this project.
3. A model for Digital Twin Data Management - developing a model for information management within a Digital Twin environment.
4. Digital Twin as a data sharing and data exchange platform – publishing a Guidance Note on how a Digital Twin journey can be an opportunity to accelerate data sharing and exchange services.
5. Artificial intelligence as a driver for Digital Twin performance – publishing knowledge resources on how advanced analytics and artificial intelligence can play a role in Digital Twin success.
6. Digital Twin for Sustainability Strategy – creating a blueprint for how Digital Twin capability can strategically support sustainability goals.
7. Landscape-based Digital Twin environments - defining the use cases and opportunities for nature-based Digital Twin projects.
8. An organisation-wide Digital Twin education program - developing learning materials that support capability development in Digital Twin engagement, action and investment for an organisation.
9. A Digital Twin Data Visualisation Roadmap for community engagement – documenting the role of the Digital Twin and its visualisation capabilities in enhancing community engagement.
10. A project-level Digital Twin Action Plan – building a template to enable Digital Twin capability to be advanced as part of an existing or new project, such as a main street renewal, library development, utilities upgrade.
11. Digital Twin pilot for city planning and design – Identifying and documenting how city planning and urban design processes can be further optimised with Digital Twin capability.
12. A Digital Twin Asset Optimisation Framework – building a framework to apply Digital Twin capability to the management and optimisation of core assets.
13. An 'IoT for Digital Twin' Strategy – developing a framework for embedding the Internet of Things as a core enabler of Digital Twin capability.

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More information about the participating cohort members is provided below.

**ADG Construction Digital Services** – We unlock asset value through the application of advanced investigation techniques, state-of-the-art technologies and industry leading expert analyses. Our holistic investigation, analysis and advisory process means we develop deep knowledge of each asset, allowing us to go on the journey with our clients and generate a truly tailored approach to our data-driven asset solutions. ADG CDS provide the AEC industry with Structural & Civil Investigations, Digital, Structural & Environmental Monitoring, geospatial data capture & modelling, and Asset Performance Optimisation.

**Autonomation** - Autonomation was started in 2018 with the simple goal to 'Make AEC Smarter'. The founders worked in the AEC industry with a mix of backgrounds and experiences from Technical Advisory, Project Delivery to Digital Solutions.

**Beca** - Beca has worked alongside our customers for more than 100 years to become one of Asia Pacific's most progressive, client-centric professional services consultancies. We work closely with our customers to meet their needs using both established and emerging technologies to create innovative digital solutions that solve complex challenges.

**City of Launceston**, Tasmania Australia - As the largest Local Government in Tasmania, the City of Launceston is a diverse organisation. It operates a world-class sporting stadium, a museum and art gallery and a world-class aquatic centre. The Council also owns and manages more than 260 parks, reserves and conservation areas, and maintains more than 740 kilometres of road and 88 bridges.

**City of Melbourne**, Victoria, Australia - City of Melbourne has a vision of Melbourne as a bold, inspirational, and sustainable city. Melbourne is the capital of Victoria, and has a population made up of people of all ages and from many different cultures. Residents include young professionals, international students and older couples looking to enjoy everything the city has to offer.

**FrontierSI** - FrontierSI, a not-for-profit company, was established following 16 years of operations as the Cooperative Research Centre for Spatial Information. We exist to deliver major benefits to governments, industry and the community using our deep expertise in spatial mapping, infrastructures, positioning, geodesy, analytics and standards.

**Geoscape Australia** - We provide national location data, backed by the governments of Australia and a diverse ecosystem of commercial and research partners. We create, curate and deliver spatial data products and services to enable economic, social and environmental outcomes across the economy. Our data represents the digital Australia: the addresses, land, buildings and transport networks across Australia's 7.6 million km<sup>2</sup>.

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**GHD** - We are a global professional services company that leads through engineering, construction and architectural expertise. Our forward-looking, innovative approaches connect and sustain communities around the world. Delivering extraordinary social and economic outcomes, we are focused on building lasting relationships with our partners and clients.

**GRID Lab @ University of New South Wales** - GRID is a research cluster within the UNSW School of Built Environment that operates in a transdisciplinary way, bringing together research, industry and government surrounding a common understanding of the importance of mapping our world. The time is right for Digital Twins to flourish – however such complex systems require research and development to best achieve aims when operating collaboratively across large geographies.

**Lake Macquarie City Council** - Lake Macquarie provides a naturally beautiful, vibrant, progressive environment for families to grow, businesses to thrive and tourists to visit. It's a City like no other, with lively communities, beautiful beaches, lush forests and the delights of a lakeside life. A City that's rich in new ideas and next generation thinking – a natural playground for progress and possibility.

**Marlborough District Council**, New Zealand - As a unitary authority Marlborough District Council has the functions, duties and powers of both a territorial authority and a regional council.

**Moreton Bay Regional Council** - The Moreton Bay Region is a diverse area, spanning more than 2,045 square kilometres and boasting everything from rural townships and urban centres to coastal villages and thriving business precincts. Located between Brisbane City and the Sunshine Coast, Moreton Bay is one of Australia's fastest growing urban regions with its population forecast to grow by over 40 percent to more than 645,000 by 2036.

**Office of Planetary Observations** – We provide environmental analytics from satellite in near real-time for city planning purposes. Our decision ready data products are easily accessible for the non-spatial user for underpinning city planning decisions with data driven insights. Focused on urban greening, this 'smart nature' vertical ensures our cities of the future have strong urban greening metrics towards combatting the urban heat island effect and being climate resilient.

**PCSG** - PCSG is a leading built environment consultancy with bases in the UK and Australia. Since 2000, we have provided an outstanding service and the best-informed advice to organisations in the UK and abroad. Working in close partnership with our clients, we leverage the skills and expertise of our 50 strong-team, and a select handful of high-calibre, complementary partners, to meet and surpass their objectives.

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**Sydney Water** - Every day, we supply more than five million customers with safe, high-quality drinking water. We are also custodians of wastewater, recycled water and some stormwater services, ensuring our communities can enjoy healthy rivers and clean beaches. Sydney Water is embracing research and partnerships into technologies and innovations that will drive change in the way it operates. This will create new value in its business, for our customers, and the community, now and into the future.

**Thinkproject** - Thinkproject is a global leader in construction intelligence software for the Design, Build and Operate phases of an asset's lifecycle. RAMM is the asset and work management solution that connects all stakeholders in single source of truth. RAMM is a geospatial, cloud-based solution making it possible to manage and maintain any asset class and type, in any location, at any time. The solution suite is transforming to achieve true data visualisation with interactive schematics, 3D models, and Digital Twins.

**WSP** - With more than 50,000 people working in over 550 offices across 44 countries, WSP is one of the world's leading engineering consultancy firms. 2021 marks the 151st anniversary of WSP in Aotearoa. We are proud to have the blueprint of New Zealand in our DNA and contribute to the projects that will continue to connect and support us for generations to come. We value our people, our reputation, and our impact on the future.

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