PSG#1 - P2.11.2 Building Key Digital Capabilities in the Australian Built Environment

Date: Tuesday 5th May 2026

Time: 09.30am – 11am AWST

Attendance:

- Keith Hampson (SBEnrc) - Meeting Chair
- Peng Wu (Curtin University) – Project Lead
- Shengping Li (Curtin University)
- Will Hackney (SBEnrc)
- John Clifton (DevelopmentWA)
- Qindong Li (Main Roads Western Australia)
- Lalinda Karunaratne (Main Roads Western Australia)
- Jenella Wojtkiewicz (Main Roads Western Australia)
- Antony Straubhaar (Transport for NSW)
- Christian Dorst (Queensland Health)
- Victor Mantilla (Sunshine Coast Council)
- Karim Yngstrom (ATLAS Precast)
- Houman Hatamian (Transport for NSW)
- Fred Fialho Teixeira (The University of Queensland)
- Wenchi Shou (Western Sydney University)
- Jun Wang (Western Sydney University)

Actions

1. **PSG Terms of Reference Update:** Revise the PSG terms of reference wording to explicitly include both implications on the project and implications of the project on the broader community, as suggested by Antony. (Will Hackney) – ***In progress.***
2. **Case Study Data Provision:** Provide the IFC file of the 12D models for the sewage facility to the project team for integration and testing in the MetaBIM platform. (Victor Mantilla, Peng Wu) – ***The team has received data from SCC. We have paid to purchase a licence of 12d.***
3. **Case Study Data Requirements Communication:** Send a detailed set of data requirements to John Clifton for identifying a suitable recently completed built form project for case study 3 - life cycle carbon of property assets. (Peng Wu) – ***In progress. The team has been working on refining the performance of MetaBIM for conducting automatic carbon accounting and will follow up with John to identify a case study.***
4. **Case Study Collaboration Discussion:** Potential collaboration with the new digital engineering lead in Qindong Li's office regarding the object library platform and related digital engineering initiatives. (Qindong Li, Jun Wang) – ***The team had a discussion with Ario who has shown interest in the work of the team. We will follow up with Ario and Qindong to continue the discussion.***
5. **Communications Matrix Population:** Assist in populating the communications matrix with ideas and opportunities for effective dissemination of project outcomes within organisations and to the broader industry. (Peng Wu) – ***Some events are now added into the communication matrix.***

6. **Student Placement Opportunities:** Consider opportunities for student placements within organisations to support capability building and address project management and delivery skill shortages, particularly in Western Australia. (PSG members) – ***In progress.***

Key Comments

Project Steering Group Terms of Reference: Keith Hampson led a review of the Project Steering Group (PSG) terms of reference, with Antony Straubhaar suggesting clarifications on the scope of project implications, and Will Hackney emphasising the importance of quarterly PSG meetings for industry calibration and ongoing communication.

Project Objectives and Overview: Peng Wu presented the four key objectives of the project—developing a unified data framework, integrating 12D civil asset models into MetaBIM, advancing digital technologies for asset management, and building workforce digital capabilities.

Case Study Summaries and Industry Collaboration: Peng Wu and Jun Wang detailed four case studies addressing industry needs: infrastructure common data model with Transport for NSW, 12D model integration for carbon counting with Sunshine Coast Council, lifecycle carbon modelling for property assets, and LIDAR-based asset classification with Main Roads WA, with active input from Victor Mantilla, Qindong Li, and John Clifton.

1. **Infrastructure Common Data Model Case Study:** Jun Wang explained the development of a platform integrating cost and carbon data at the BIM object level, linking standard joins, performing geometry cross-checks, and enabling AI-based query and visualization for Transport for NSW, with the platform accessible to both internal teams and external stakeholders.
2. **12D Model Integration and Carbon Counting Case Study:** Peng Wu described the use of Sunshine Coast Council's 12D civil asset models to test integration into MetaBIM and automatic carbon estimation, with ongoing efforts to obtain IFC files and educational licenses for software access.
3. **Lifecycle Carbon Modelling for Property Assets Case Study:** The project will use AI and digital data integration to quantify embodied carbon and emissions from property assets, with Victor Mantilla providing invoices and data for plugin development, and John Clifton discussing the suitability of completed versus ongoing projects for case study selection.
4. **LIDAR-Based Asset Classification:** Peng Wu outlined the extension of previous work on road barrier detection to 17 asset categories using LIDAR and open-source point cloud data, collaborating with Main Roads WA and Sunshine Coast Council for testing and reporting preliminary results.

Project Timeline, Milestones, and Funding: Peng Wu reviewed the project timeline, milestones, and deliverables, including reporting schedules, prototype development, and plans for securing additional funding from industry partners and Commonwealth sources, with Will Hackney providing links to detailed governance timelines.

Uptake, Impact, and Industry Implementation: Peng Wu and Will Hackney emphasised the importance of research uptake and implementation, inviting PSG members to facilitate

adoption of project outcomes, participate in workshops, and provide feedback on impact measures, with plans to baseline and report uptake in future PSGs.

Communications Planning and Industry Engagement: Keith Hampson and Peng Wu introduced the communications matrix for partner events, publications, and outreach, with John Clifton suggesting opportunities for sector engagement through briefings and guest speakers, and the group discussing lead times for effective dissemination.

Student Placement and International Collaboration: Peng Wu discussed opportunities for student placements in industry partner organisations and maintaining alignment with international standards and bodies, with John Clifton highlighting the strategic importance of capability building for project management in Western Australia.

Administrative Process Improvements: Peng Wu announced a streamlined process for meeting invitations and document access, shifting from direct email attachments to centralised distribution via the SBEnrc research mailbox and website, aiming to improve efficiency for PSG members.