Industry partners	Key success factors/indicators
Main Roads Western Australia	Education and dissemination of project outcomes. How this research outcomes are embedded in the organisation and industry stakeholders outside of the organisation (seminars, industry conferences, workshops)? Cost benefit of the proposed development (multi-class asset classification and open source point cloud) against the current proprietary software.
WA Department of Communities	Leverage on the findings of this research and previous research in this theme to upskill industry employees. The capability of the proposed development to identify strategies to enhance climate resilience of existing houses.
Sunshine Coast Council	Satisfactory performance of the AI carbon accounting tool. The capability of the proposed development to evaluate alternative designs/materials in terms of carbon emissions.
Transport for NSW	The capability of the proposed development to host Infrastructure Common Data Model and Engineering Cost and Carbon Library to automate and support key infrastructure decisions, balancing cost, carbon, and risk considerations.
QLD Department of Housing and Public Works	Ensuring that the developed automatic emissions analysis and reporting tool aligns with the latest work, such as that from MECLA and GBCA. Life cycle consideration, including design, transport, construction and operation.
General	
IP	• Number of prototypes development • No. of contacts/presentations/interactions with core partners
Sustainability	• Sustainability training participation, i.e., the number of project participants who are engaged in project development and training • Renewable system demonstration, i.e., number of pilot cases where the project's approach is trialed or tested • Emission reduction impact
Research	• No. of reports • No. of journal publications • No. of conference presentations
Skills development	• No. of research students involved • Number of academic, industry, or community partners formally collaborating in the project.
Main SDGs	
SDG13 Climate Change	• SDG13.2 Integrate climate change measures into national policies, strategies and planning • SDG13.3 Improve education, awareness-raising and human and institutional capacity

	This project directly supports SDG 13 by developing and deploying novel carbon estimation and tracking technologies that reduce greenhouse gas emissions in the built environment sector.
SDG 7 Affordable and Clean Energy	• SDG7.3 Improve energy efficiency • SDG7.2 Increase the share of renewable energy The project contributes to the clean energy transition by quantifying and reducing lifecycle energy consumption of residential buildings at the community scale.
SDG9 Resilient Infrastructure	• SDG9.1 Develop quality, reliable, sustainable and resilient infrastructure • SDG9.4 Increased resource-use efficiency and greater adoption of clean and environmentally sound technologies • SDG9.5 Enhance research and technological capabilities This project strengthens sustainable industrial innovation and supports low-carbon infrastructure transformation.
Secondary SDGs	
SDG12 Responsible Consumption and Production	• SDG12.2 Sustainable resource use • SDG12.5 Waste reduction • SDG12.6 Sustainable business practices The project promotes responsible production by embedding lifecycle carbon intelligence into industrial decision-making. Targeted maintenance avoids unnecessary material use. In addition, extended asset life often leans less waste, lower material demand.
SDG11 Sustainable Cities and Communities	• 11.2 Sustainable transport systems • 11.6 Reduce environmental impact of cities • 11.b Climate-resilient planning Smart road management contributes to sustainable urban transport and reduced environmental externalities. By identifying major sources of energy use and associated emissions across building operation, materials, and maintenance, the project enables targeted deployment of low-carbon technologies that lower greenhouse gas emissions and indirect urban pollution.
SDG 17 Partnerships for the Goals	• 17.6 Knowledge and technology sharing • 17.17 Multi-stakeholder partnerships The project exemplifies SDG 17 through cross-sector and industry–research collaboration for climate action.
SDG 3 Good Health and Well-Being	• 3.6 Reduce road traffic injuries and deaths Better road conditions reduce accidents and vehicle emissions from stop-start traffic.
SDG 8 Decent Work and Economic Growth	• 8.2 Productivity via innovation • 8.8 Safe working environments Predictive maintenance reduces emergency work. Improves workforce safety and efficiency