



Innovation underpinning Australia's
built environment industry



Sustainable
Built Environment
National Research Centre
AUSTRALIA

Australia's built environment industry

- The Australian built environment industry is a significant sector of the economy undertaking more than \$120 billion worth of work annually and accounting for 16% of Australia's GDP. It also employs around one million people through 250,000 firms – the vast majority of which are small-to-medium enterprises (SMEs) – and contributes significantly to the rest of the Australian economy as an enabler. It delivers vital infrastructure and buildings that provide the foundation to our nation's communities.
- The building sector alone accounts for 30-40% of energy use. Studies have shown that green buildings have lower operating costs, higher building values and higher return on investment. They also allow buildings to cope better in extreme conditions and bring health and productivity benefits for occupants.
- Workplace fatalities in Australia's construction industry cost the nation \$3.6 billion each year. Research also shows that 20-24 year olds in the building and construction industry are four times more likely to have a fatal accident than those in other industries. An improved approach to safety needs to be a priority.
- Poor quality design and documentation is estimated to cost 7% of total construction costs.
- It is estimated that the direct cost of resolving disputes is \$700 million per year, which increases to a total waste of \$7 billion per year when the avoidable costs are included. This represents a major loss to the Australian community in the lost opportunity to deliver real value through improved health, transport and education facilities and services.
- An estimated construction productivity improvement of 0.3% annually results in an improvement in GDP of \$6.5 billion and is at least double that of any other sector.
- The Australian Bureau of Statistics estimates that from an initial \$1 million extra output in construction, a possible \$2.9 million in output would be generated in the economy as a whole. This would create nine jobs in the construction industry and 37 jobs in the rest of the economy.
- Traditionally the building and construction industry has been slow to research and innovate.

Sustainable Built Environment National Research Centre

The Sustainable Built Environment National Research Centre, Australia (SBEnc) is the successor to the CRC for Construction Innovation. Established on 1 January 2010, the SBEnc is a key research facilitator between industry, government and research organisations servicing the built environment industry.

The three research streams focus on environmental, social and economic sustainability; areas identified by national industry stakeholders as the key areas that will drive productivity and industry development in the built environment industry.

Benefits from SBEnc activities will be realised through targeted national, industry and firm-level collaboration, market premiums through engagement in the collaborative research and development process, and early adoption of centre outputs.

The vision for the SBEnc is:

To enhance the performance of Australia's built environment through our achievements as an enduring world class research and knowledge hub for sustainable infrastructure and building design, construction and management.

The SBEnc's objectives are to:

- Implement a unique collaborative and strategic approach to built environment research in Australia, capitalising on members' regional and national advantage and leveraging regional learnings and benefits nationally.
- Collaborate across organisational, state and national boundaries to develop a strong network of built environment research stakeholders (clients, regulators, industry professionals and researchers) building on the relationships and history of achievement delivered through its predecessor, the CRC for *Construction Innovation* (2001-2009).
- Establish members as national and international leaders in sustainable built environment research and practice.
- Attract new research students to study at member universities and provide research training and linkage opportunities for industry members.
- Attract fresh research funding to improve the industry's performance.

Industry-led projects

The built environment context encompasses the physical form of communities, referring broadly to the planning, design, construction and use of housing, buildings, infrastructure and urban spaces. The Sustainable Built Environment National Research Centre applies cross-disciplinary approaches to improve the environmental, social and economic performance of the built environment, focusing on commercial and public investment in housing, buildings and infrastructure.

The Centre's research priorities are focussed on:

- Social Housing:** Rethinking social housing policy to achieve more effective, efficient and targeted delivery, demonstrating the value of investing in social housing as community infrastructure, and improving the suitability, supply and provision of affordable housing.
- Future Cities and Transport:** Transport and urban form are inextricably linked. However, there is a need for the links to be better understood in terms of how different scenarios could be developed for improved community outcomes as urban regeneration happens more quickly and how affordable and diverse housing needs fit into this.
- BIM/Digital Engineering:** Developing innovative ways of sharing and managing digital information models to improve productivity and safety as well as better decision making across asset lifecycles. Additionally, investigate commercial, legal and security barriers to implementing digital technologies.
- Construction Waste:** With increasing generation of construction and demolition (C&D) waste from housing, building and infrastructure construction across Australia, the issue of C&D waste management has become a high priority for local, state and territory, and national governments, private industry as well as the general public.
- Sustainable Procurement:** Integrating project environments and challenging productivity assumptions through intelligently linking the construction supply chain and revitalising work flows offers a fresh approach to improving procurement.



“Australia's built environment industry is realising a greater level of competitiveness thanks to its engagement in collaborative research - this is due largely to the approach that the SBEnc is adopting with its partners and the industry as a whole.”

John V. McCarthy AO Chairman, Sustainable Built Environment National Research Centre, Australia



“The SBEnc's collaboration with national and international industry, government and research leaders is adding significant value to the effectiveness and long-term sustainability of Australia's built environment industry.”

Dr Keith Hampson CEO, Sustainable Built Environment National Research Centre, Australia





Core Partners:



For further information or to find out how your organisation can collaborate in the Sustainable Built Environment National Research Centre please contact:

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