

Project 2.34

Driving Whole-of-life Efficiencies through BIM and Procurement

RESEARCH PROGRAM 2: PEOPLE, PROCESSES AND PROCUREMENT

In 2013, the Australian Department of Industry identified lifting productivity and economic growth as one of the most important challenges that Australia is facing. In 2014, the Australian Productivity Commission highlighted that a more widespread adoption of Building Information Modelling (BIM) could enhance productivity across the industry and in turn have a positive impact on the cost structure of infrastructure projects.

Findings from SBenrc Project 2.24 Integrated Project Environments (2013-14) pointed to the need for: (i) more effective procurement models that allow the use of BIM as a tool for whole-of-life asset management; and (ii) the integration of measurable indicators that can be used from the early procurement phases and carried through the entire life-cycle of constructed assets.

This project (2014-15) aims to identify and assess this added value of creating industry benchmarks for implementing BIM in whole-of-life asset management, with a focus on procurement methods and efficiency gains for infrastructure and building. Outputs from this project will provide a base for clients to improve their approach to implementing BIM and monitoring their progress towards fully integrated whole-of-life asset management systems.

Objectives

- 1 Define indicators to measure tangible and intangible benefits of BIM across a project's life-cycle in infrastructure and buildings. These will include financial benefits, productivity, team development and integration, sustainability/resource efficiency, disaster risk recovery, and sustainability factors throughout the facility life-cycle.
- 2 Pilot test a whole-of-life BIM value realisation framework on leading infrastructure and building case studies and validate the NATSPEC National BIM Guide within this context.

Industry Outcomes

This project will:

- Identify and evaluate leading comparators to assess the value of BIM across the life-cycle of infrastructure and buildings.
- Provide a practical framework to assess the actual benefits of implementing BIM in Australian asset delivery and management.
- Advance knowledge base of benefits from transitioning from 2D asset management systems to 3D integrated digital built environment.

Case Studies

This project will leverage off national exemplar projects through case studies to develop and test the value realisation framework:

Design - New Generation Rollingstock Depot, QLD

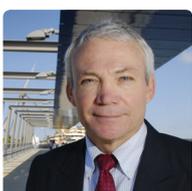
This purpose-built train maintenance depot is being delivered at Wulkuraka near Ipswich as part of a AUD4.4 billion public-private-partnership and it is part of the Queensland Government's New Generation Rollingstock project.

Construction - Perth Children's Hospital, WA

This AUD1.2 billion project will replace Princess Margaret Hospital as Western Australia's dedicated children's hospital to provide the best possible clinical care for future generations and as a location for outstanding paediatric research.

Asset Management - Sydney Opera House, NSW

The Sydney Opera House is a global icon and probably one of 20th century's greatest buildings receiving over eight million visitors every year. This case study will revisit the 2007 CRC for Construction Innovation exemplar project study and review the value of BIM in practice.



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