

Developing a Cross Sector Digital Asset Information Model Framework for Asset Management

April 2017 - September 2018

Asset management in the built environment has been the subject of changing practice and research for years and is often complicated by inconsistency in measuring and monitoring the condition and performance of assets across the industry. This project, with an overarching approach across housing, buildings and transport infrastructure, seeks to develop a Digital Asset Information Delivery Manual to support the operation and maintenance of key assets. It will determine enabling information management technologies and develop a framework for capturing, structuring and exchanging asset information digitally, while taking into account its classification and practical uses. This will aid the wider adoption and consistent curation of digital information for maintaining and operating assets across the construction supply chain, improving the efficiency of managing community assets, improving the return on investment and ensuring sustainability, resilience and safety.

Objectives

1. For housing, buildings and transport infrastructure, determine primary asset information requirements for operations and maintenance, and identify the strength of commonalities across these sectors.
2. Determine the effectiveness of existing asset information classification and structuring systems in supporting the practical requirements of asset managers, and facilitating interoperability between software applications used during the design/construction and operation/maintenance phases of the asset lifecycle.
3. Explore the challenges for asset owners and managers when working with current asset management principles/standards, and develop solutions that enhance the value of asset information.
4. Map the decision making processes related to (i) asset procurement and (ii) operations and maintenance to identify best practice in asset information modelling.
5. Develop a proof-of-concept Digital Asset Information Delivery Manual and test this in a range of real life scenarios.

Industry Outcomes

This project will expand the use of digital information modelling, such as BIM and DE, beyond design and construction to encompass asset management practices. It will provide an asset information model framework and delivery manual with supporting cross-sector case studies. It will enable access to asset information and identify opportunities for adding value to assets by enhancing the quality and use of digital asset data. The outcomes will serve as a foundation for future development of a digital asset information model to aid management over asset lifecycles, identifying ways of decreasing the cost of operation and maintenance, and of improving the return on investment of asset management whilst concurrently improving sustainability, resilience and safety.



Professor Keith Hampson

BE(Civil)(Hons) MBA PhD (Stan)
Project Leader
Curtin University
k.hampson@sbenrc.com.au



Colin Jordan

BCom (Econs), BEng (Civil)
Chair, Project Steering Group



Professor Sherif Mohamed

MEng, PhD, PMP
Research Leader - Housing and Buildings Sectors
Griffith University
s.mohamed@griffith.edu.au



Professor Xiangyu Wang

PhD, MS, BS
Research Leader - Infrastructure Sector
Curtin University
xiangyu.wang@curtin.edu.au



Will Hackney

BSc (Hons) MSc ICIOB
Project Industry Leader
Digital Built Leader, Infrastructure, Aurecon

