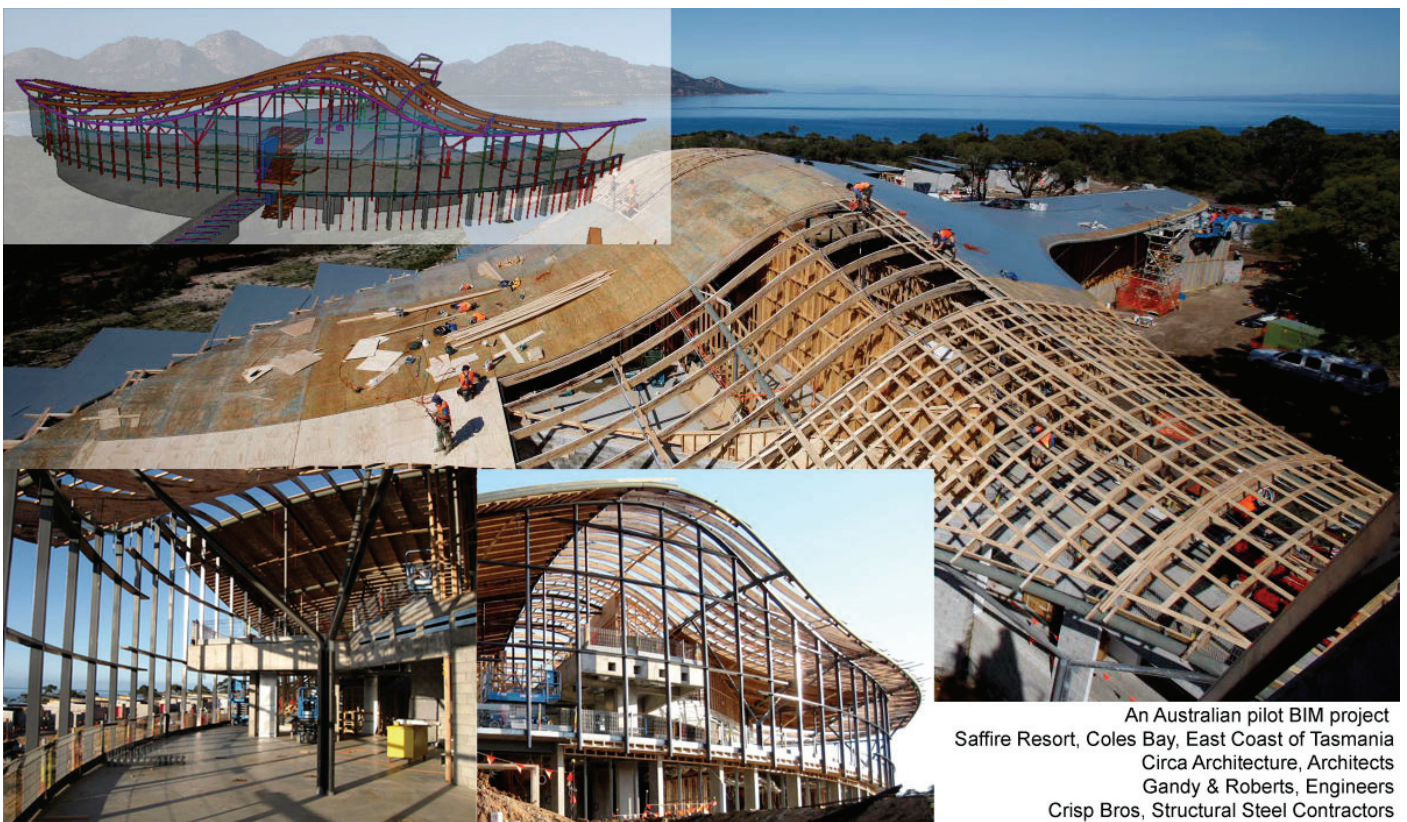


A National Strategy for the Adoption & Implementation of BIM



Targeted actions and prioritised implementation to support a
**high quality, environmentally sensitive and sustainable
built environment**

MESH Conference Series 2011
Brisbane | Sydney | Melbourne

Key Priorities for Action ...

The Federal Government, through the Built Environment Industry and Innovation Council (BEIIC), recently commissioned a report that puts forward a cogent economic case for the widespread adoption of BIM in the Australian construction sector. The study states that¹, “BIM has macroeconomic significance, that its accelerated widespread adoption would make a significant difference to national economic performance and that there is a compelling economic case for encouraging greater use of BIM in Australia.”

The report further states², “the use of BIM has the potential to streamline processes throughout a building’s lifecycle through the integration of design, engineering, construction, maintenance and decommissioning information” and, “the use of digital modelling tools can have wider benefits for the Australian community when the use of this technology is extended to, for instance, urban planning, infrastructure development and the designing and understanding of city environments.”

BuildingSMART believes that the widespread adoption of BIM will lead to a genuine process of substantive innovation for the construction sector. It will make Australia internationally competitive and through accurate assessment of carbon costs prior to construction, support Australia's challenge to be sustainable and energy efficient.

The BEIIC report highlights a range of issues that constrain adoption or prevent the maximum potentials being realised. As an industry, we must turn those impediments into seven key priorities for concerted action. Everyone has a role to play in this, and it is only as each one plays their part that we will realise those national benefits.

¹ Allen Consulting Group, 2010, *Productivity in the buildings network: assessing the impacts of Building Information Models*, Built Environment Innovation and Industry Council Report, Sydney, October, p. xi.

² *ibid*, p. vii

1. Adoption of Common BIM Guidelines

While some excellent model building guidelines have been developed (see CRC-CI 2009³), there is a need for further work to document best industry practice in each client portfolio as a basis for effective collaborative working.

This requires concerted action by government client agencies, as well as primary industry and professional standards organisations, private owners and property developers. This could involve a review of our approach to briefing, development of BIM-based design standards, a rethink of asset management protocols and the adoption of comprehensive naming and classification conventions.

2. Product Information and BIM Libraries

A crucial issue for the successful adoption of BIM across the entire building sector is access to product information from building product manufacturers for use in all types of model-based applications. This ensures that all the components that make up a building are properly specified, fit for purpose and correctly integrated in to the fabric of the building.

The responsibility for action here lies with product manufacturers, suppliers, Natspec, industry bodies and software vendors. The challenge is to establish agreed object library formats and appropriate methods for integrating those in to the array of BIM software tools employed by all sectors of the industry across the full building life cycle.

³ CRC-CI, 2009, *National Guidelines for Digital Modelling*, Cooperative Research Centre for Construction Innovation, for Icon.Net Pty Ltd.

3. Compliance and Certification

It is widely recognised that we need performance standards that encourage innovation in products, process and methods. At its core, BIM technology is about accurate performance-testing, creating an opportunity to rethink how local agencies automate and improve regulatory processes. Government policy must be in place to facilitate the development and adoption of these standards across industry.

Policy makers, codes and standards bodies, research organisations that inform the development of policy, as well as local regulators, all have roles to play in this key action priority.

4. Information Exchange

A key enabler for the effective adoption of BIM is the smooth exchange of information between all project participants at every stage of the building procurement process. BuildingSMART International has undertaken an exhaustive program over more than a decade to develop a robust and comprehensive data model able to represent any building project, incorporating local nomenclature where appropriate, as well as defined methods for identifying the precise information needed to support industry processes.

The adoption of these technologies requires concerted effort by industry players to define effective collaborative processes that capitalise on the opportunities, plus a commitment from clients, industry professionals, software vendors, manufacturers and suppliers to implement those protocols.

5. Procurement, Legal Issues & Insurance

A logical consequence of integrated project delivery is its impact on current consulting services, management of risk, fee structures, responsibilities, intellectual property, legal

liability and indemnity insurance. All these are seen as significant impediments to the adoption of BIM.

These matters can be resolved, but only through informed and rigorous debate of probity issues among groups such as the APCC, state agencies, legal practices, professional indemnity insurers and Standards Australia Contract Committees. There is a need to develop new forms of contract that facilitate alliancing and take advantage of the opportunities afforded by model-based collaboration, performance assessment and information sharing.

6. Process Change

There is little history of good process management in the construction industry, giving rise to an urgent need for cultural as well as process change. Many factors contribute to this, including reluctance to adopt new technologies and methods, cost of implementation, fragmentation of the industry the need for all parties to move at once, and a general reluctance to share information.

Process change must be encouraged and facilitated by peak industry bodies, supported by process specialists, education providers, supply chain alliances and the development of guidelines.

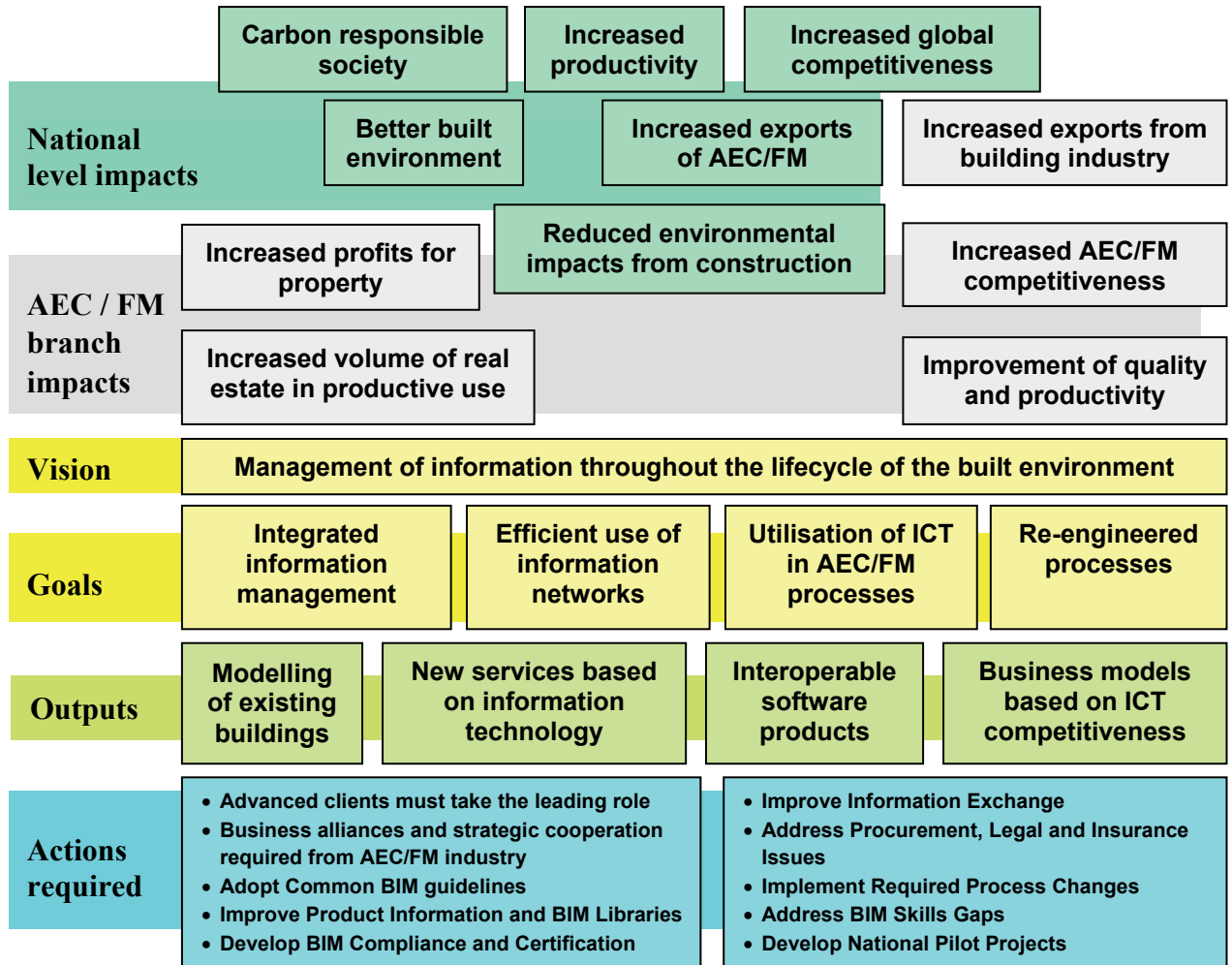
7. Multi-disciplinary BIM education

Widespread use of BIM requires a high level of knowledge and expertise in the use of specific software and the capability or 'know how' to exchange appropriate model data at critical times during the building design, construction and management processes.

Educational institutions at all levels, from Universities and TAFE through to Secondary Schools, need to take the lead here, but they must be strongly supported by professional accreditation bodies and groups such as the Construction Industry Training Board.

1. National Technology Implementation Program

The establishment of a National Technology Implementation Program with the objective to implement building information model technology and information networks in construction processes and to make it possible to manage information flows during the entire life cycle of buildings. This program, if adopted, would establish Australia as a leading player in the global construction sector. The following figure⁴ encapsulates the vision, goals and expected outcomes from the proposed national initiative.



2. National Pilot Projects

The outputs of the **National Technology Implementation Program** would be used and tested through a series of National Pilot Projects with in-kind commitment of project teams that validate these new protocols, procurement methods and collaboration scenarios. This initiative must be directed by client groups, both private and government, since ultimately they are the beneficiaries of quality and increased productivity in the industry. Pilot projects would form a series of case studies, industry workshops and technical documents that would disseminate results and give feedback to the program.

These actions would provide leadership in the built environment, give industry confidence to adopt the new technologies, and make more efficient use of resources within a known time frame.

Are you willing to actively participate in these initiatives?

Please confirm your commitment by providing your contact details, area of interest and particular expertise at <http://buildingsmart.org.au/national-strategy-for-bim-adoption>.

⁴ Adapted with permission. Source: <http://vera.vtt.fi/english.htm>