

NATSPERTi Construction Information

Construction Information Systems Limited

30 November 2017

Senator The Hon Arthur Sinodinos AO
via email: digitaleconomy@industry.gov.au

Dear Senator

The Digital Economy: Opening Up the Conversation

Congratulations on the initiative to develop a new Digital Economy Strategy. Due to Australia's large size and small population, it is imperative that Government takes a leadership role to keep Australia competitive and strong in the globally competitive environment.

Currently the design and construction industry works in multiple silos and cells. Digital transformation will enable connectivity but a great deal of work needs to be undertaken to enable integration that can boost productivity.

The National Construction Code, Australian Standards, the National Building Specification (NATSPEC), all currently supported by Government, are all great documents that are undergoing digitalisation but the move to integration will be either slow or impossible whilst they sit in cells. Even partial integration will reduce costs (misinterpretation and re-work eg. combustible cladding). Strong direction and support from Government is required to break the barriers.

Building Information Modelling, Digital Engineering, Precinct Modelling etc will all assist Australia remaining competitive and will eventually be a tool for Government decision making. Imagine a simple calculation on a digital map that would enable Government to quickly calculate the relative cost of installing solar panels to appropriate houses compared with funding an aged coal-fired electricity plant. Imagine trades such as electricians and bricklayers having the right information on their smartphones.

NATSPEC formally shares information with 13 countries and corresponds with a number of others. In 2017 we signed an MOU with the China BIM Union. Australia gains from an open economy by learning from others and being innovative by taking new steps. If we fall behind in technology and innovation we will not be competitive and productivity will decline. This will result in a declining standard of living for Australians.

Your questions have been addressed, regarding the design and construction industry, on the following pages. I disclose that I am on the Board of the Australian Building Codes Board, Council of Standards Australia, Executive Committee of the Australasian BIM Advisory Board, and support the activities of many industry organisations.

I would welcome the opportunity to further engage and assist your Department on this topic.

Yours truly



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STAKEHOLDERS

- Air Conditioning and Mechanical Contractors' Association of Australia
- Australian Elevator Association
- Australian Institute of Architects
- Australian Institute of Building
- Australian Institute of Building Surveyors
- Australian Institute of Quantity Surveyors
- Chief Minister, Treasury and Economic Directorate (ACT)
- Construction Industry Engineering Services Group
- Consult Australia
- Department of Finance (Federal)
- Department of Finance (WA)
- Department of Finance, Services and Innovation (NSW)
- Department of Housing and Public Works (QLD)
- Department of Infrastructure, Planning and Logistics (NT)
- Department of Planning, Transport and Infrastructure (SA)
- Department of Treasury and Finance (TAS)
- Department of Treasury and Finance (VIC)
- Engineers Australia
- Master Builders Australia
- Standards Australia

NATSPEC, founded in 1975, is a not-for-profit organisation with the objective of improving the quality of construction in Australia.

1. How are advances in digital technology changing the way you work, your industry and your community?

The design and construction industry is advancing with Building Information Modelling (BIM), Digital Engineering, and Precinct Modelling etc. These are leading to productivity improvements for some parts of the supply chain but there is inconsistency in the Australian market. The advent of mechanisation of construction towards manufactured construction, prefabrication and use of robots/automation on site is slow but has both advantages and disadvantages. Digitalisation of information, especially in areas such as air-conditioning, leading to improvement in manufacturing and erection on site have been successful. The majority of large practice architects, engineers, and builders are now using BIM for productivity gains.

2. What is your vision for an Australia that thrives in a digital economy? Where would you like to see Australia in 20 year's time?

Data, information, knowledge, wisdom. The future is where we can easily access "wisdom" in order to make appropriate decisions. Australia will have a National Construction Library that will improve the productivity and construction quality of the built environment.

3. What is the role of Government in achieving that vision?

Australia is a large country with a small population. There is need for centralised, consistent and updated information. Government's support for a centralised system provides the economy of scale to make it possible. Competitive systems will lead to confusion and will not result in the potential productivity gains during planning, design, construction, operation, and maintenance of the built environment (and the economy).

4. What key disruptive technologies or business models do you see? What do you predict is on the horizon in five, 10, 20 years' time?

For the design and building industry the most disruptive business model is where we are shipping in (or out) 80% of our built environment (think pre-fabrication and Lego-buildings). This will have a massive impact on the number of jobs at risk in Australia. It is safe to believe that what someone thinks will happen in 50 years may eventuate in 20 years.

5. What communication services, and underlying data, platforms and protocols, does Australia need to maximise the opportunities of the digital economy?

Encourage a competitive market to drive innovation.

6. What opportunities do we have to accelerate the development of technologies that will underpin Australia's digital economy?

Government does not have a great track record in innovation. Support pure research that has proven in the past to result in great discoveries that were not expected. Support cross-industry discussion so that industries can learn from each other.

7. What opportunities do we have in standards development and regulation?

Support Australia's international involvement so that we have "a seat at the table" and are not disadvantaged.

8. What digital standards do we need to enable Australian business to participate in global chains and maximise the opportunities of the digital economy?

All of them. If only large organisations can afford access to the standards, all the smaller Australian enterprises are at risk.

14. What is holding Australian businesses back in terms of benefiting from digital technologies?

Economy of scale. Government needs to show leadership of harmonising requirements across the federation.

15. What would help Australian businesses to embrace digital technologies?

Consistency from Government clients.

16. What efforts are you and your organisation making to respond to digital transformation?

NATSPEC commenced its digital transformation in 2008. Since that time it has freely supported the industry and in 2011 produced the National BIM Guide for the Australian Industry on the request from the Department of Innovation. Further work is being done regarding construction information.

17. What opportunities do we have to use digital technologies to improve linkages into export markets and global supply chains?

Countries are similar to commercial companies. Be big enough, have price advantage, or differentiate your offering. The Australian construction industry needs to have a strong brand differentiation to compete globally. Digital technologies are required in the Australian design and construction industry to remain competitive. It may not be the driver of new opportunities.

18. What opportunities do small and medium-sized business have to embrace digital innovation to drive customer value, improve their services and unlock their potential?

For the built environment digital technologies will drive productivity gains. Hurdles include resistance to change, upfront development costs, on-going IT costs, and training costs.

19. What are the key new growth industries that Australia should be tapping into?

I don't know but be wary of picking winners and, for whatever is chosen, determine what Australia's competitive advantage will be.

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