

Digitalisation of Construction report launch

24 August 2021 | Responses to Webinar Questions/Comments

#	Questions/Comments	Response by	Response
1.	Hi. There are many difficulties for digital construction start-ups to work with potential clients. The Australian industry is not open to invest and value digital engineering services and they are not open to work with new vendors. Please support and help start-ups.	OBC	It is anticipated that the research will help facilitate discussions about how to leverage from technological innovation, including through new start-up businesses. Ways in which the NSW Government supports start-ups are detailed here - https://www.nsw.gov.au/topics/support-for-startups .
2.	Would there be a hold point or independent verifier access verification system for all key components? We saw Jordan spring subdivision issues with earthwork results in whole land sunk, we saw so many apartments in Sydney region didn't consider the ground modelling - geotechnical and soil movement, ground water improvement? How can Government, Building Commissioner and Agencies contribute towards tough and highly controlled and monitored subdivision works, including earthworks.	OBC	The Design & Building Practitioners Act provides greater accountability by requiring the relevant professional to declare their work. This works in conjunction with the certifier conducting the inspections that should be greater confidence for the community.
3.	Will David Chandler be reviewing and ensuring conformance with the new regulations governing internal wall and ceiling linings?	OBC	Building inspectors focus on defects in the key building elements, this includes passive fire and structure.
4.	Most Designers are drafter not engineers and not even architects who have very good understanding of building code. Should the Designers be registered and accredited? Most class 2 building involves only structural engineers, not Geotech/ Civil/ environmental/ building services engineers	OBC	The Design & Building Practitioners Act requires designers and engineers who work on class 2 buildings to be registered. Please visit NSW Fair Trading website for further information at www.fairtrading.nsw.gov.au
5.	Would the digitalisation have an option to add live photo upload during key and critical stage inspecting during construction?	WSU	This is an issue for the respective project related systems and software to deal with rather than government as a regulator of the construction industry.

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6.	Were the Registered Surveyors (BOSSI Registered) whose endorsement would be required on as-built survey plans/models consulted/included in the survey?	OBC	No. They were not included.
7.	What is the definition of "builder" does it include major contractors?	WSU	This research considered anyone in the practice of construction of Class 2 buildings as a builder. They are the ones who are duly registered as builders in the Fair-Trading database. This is consistent with the DBP Act 2020.
8.	Is there any granularity to digital capacity *within* construction trades? E.g.: secondary steel contractors vs concrete placement or steel reinforcement trades?	WSU	We have not gathered data with respect to individual trades in this survey.
9.	definition of designers?	WSU	Designer is a person who prepares regulated designs. The survey included designers represented by members in AIA, EA and BDAA.
10.	Can you comment on the 'horse and cart' aspect of adopting digital twins for structures? Wouldn't you agree the designers need to create the model that the builder uses?	WSU	Yes, we very much agree that building designers would require a model to be created which is then constructed. Subsequently the model is updated to reflect the constructed asset. This is the ideal scenario, but it does not preclude variations to this process.
11.	How do you see 4D simulation? Is there any chance you make 4D mandatory like many countries? Because it is considered as a luxury in the Australian industry now, while it can benefit all parties in the project if the 4D model is accurately developed linked to the project program. That's the only way to build the p	WSU	In the strategic framework for digitalisation of NSW construction sector proposed in this report, we have suggested an approach towards rapid digitalisation of the construction sector that would achieve what you propose.
12.	Was there a cross analysis of the barriers/opportunities applicable to the different profiles of builders and designers (in terms of size, turnover, etc)?	WSU	Yes, we have a cross analysis of drivers and barriers for various categories of builders and designers that is provided in the detailed report.
13.	Through your findings, what do you think is the biggest incentive for builders to embrace technology?	WSU	From the technology perspective, the biggest incentive would be to develop and/or adopt a common data environment that facilitates interoperability of software and one that enhance trust and accuracy. This would open up the marketplace for fair competition. From a regulatory perspective, refinement and adoption of the

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			proposed strategic framework for digitalisation of the construction sector would be the best incentive.
14.	Let's make Australian Standards free!	OBC	The OBC has worked with Standards Australia to make it easier and more affordable to access Standards, resulting in small pack for key building elements. See here - https://storestandards.org.au/sets
15.	What happens when as built plans differ from plans subject to a construction certificate/complying development certificate. Is there a consistency test	OBC	The Design & Building Practitioners Act reforms requires consistency testing by placing new requirements on designers, certifiers and builders.
16.	Should the Australian Standards that are normative as part of the BCA be available free of charge?	OBC	The OBC has worked with Standards Australia to make it easier and more affordable to access Standards, resulting in small pack for key building elements. See here - https://storestandards.org.au/sets
17.	Is there a plan to mandate the BIM (digitalisation) in the projects?	WSU	In the strategic framework for digitalisation of NSW construction sector proposed in this report, we have suggested an approach towards rapid digitalisation of the construction sector that would achieve what you propose.
18.	How is the NSW government supporting start-ups focused on the digitalisation of the construction industry?	OBC	It is anticipated that the research will help facilitate discussions about how to leverage from technological innovation, including through new start-up businesses. Ways in which the NSW Government supports start-ups are detailed here - https://www.nsw.gov.au/topics/support-for-startups
19.	Srinath, what do you see the role of Blockchain is in the digitisation of the industry?	WSU	Blockchain has a greater role to play in regulating industry and commerce and government involvement in such activities. It will help to improve trustworthiness and accuracy of transactional data between parties involved in all types of transactions. There is no doubt there is greater potential in its application in the construction sector, built environment in general and more urgently, contributing to the carbon net zero global agenda.
20.	is, can and or could homeowners' able access to all documents that is related to their dwelling and or	OBC	Access to information on the planning portal is governed by GIPA Act. A strata portal is being released to provide building owners with

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	development? Or they have to go through GIPA and still may not allow to access?		easy access to critical information on their building. The first phase of this went live in July 2021.
21.	What about construction of roads etc	OBC	We are focussed on class 2 building work, and the key elements within buildings.
22.	What will be the impact on design and construct contracts due to the Class 2 Building reforms. Will we see subcontractors start to become registered as Design Practitioners to maintain the current process or will there be a complete change in the process. Longer design lead times and higher up front consultant costs that don't take advantage of highly competent supply chains.	OBC	There will be changes in the process to ensure it's one of design "then" construct, rather than doing design work to respond to what has been completed.
23.	is this going to extend to class 1 an town planning?	OBC	The NSW Government has stated that it will consider applying the DBP Act to other classes in the future
24.	would this digitalisation connects with Department of Planning, Industry and Environmental for lodging Development Application and Approval with their local council / CDC?	OBC	This research is being shared with DPIE and the e-planning team who work closely with the OBC
25.	Thank you. Very insightful. When will we see a ground up approach for real cultural change? Rather than a top-down approach?	WSU	This report presents a bottom-up approach for digitalisation of construction born out of views of the construction industry players. There is a clear bottom-up desire for greater and rapid digitalisation of the sector. What is missing is the facilitation of that process.
26.	David, do you think the advent of the private practitioners was a wise move given some of the disasters like Mascot towers	OBC	Mascot Towers was certified by the former Botany Council (now Bayside Council). Private certifiers are necessary to meet the demand for certification work. There is significant reform occurring to lift certifier standards

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27.	Is there an Open-Source software BIM / 3D model which start ups could use to enhance the digitization of buildings? Is this something Government could encourage?	OBC/WSU	The report definitely encourages such an approach moving towards Smart and Transformative levels of digitalisation.
28.	where does the safety in design regulations fit in?	OBC	The designs are required to comply with BCA and Australian Standards. Safety is integral to compliance
29.	Have the researchers engaged with other government agencies who have advanced their digital requirements such as TfNSW and the Digital Engineering Framework, these requirements can be applied at the Buildings Level? https://www.transport.nsw.gov.au/digital-engineering	WSU	The research followed a bottom-up approach predominantly to identify where we stand. As such, it did not have a discourse with government agencies and other such institutions. However, we consulted the Chief Economist's digital maturity model and made it the basis of the framework proposed. We believe it is essential to have a discourse with government and other agencies relevant to the construction sector in moving towards an implementation strategy for the proposed digitalisation framework.
30.	Can a easily under stable and standardised template/ checklist for designers, builders, developers, certifiers ?	OBC	Additional guidance related to regulated designs is being prepared, including an online learning module
31.	Is there a reason we don't adopt the ISO standard ISO19650 Building Information Modelling best practices during this transformation period	OBC	The report highlights the significant challenges that would need to be overcome to move to systems such as BIM in the short term.
32.	One of the Barriers identified was the cost of Software. Are "we" (as builders) being too tight on spending, or are the costs absurd? What were the findings?	WSU	On one hand, software is expensive and the whole sector has moved to an annual licensing regime. No longer the concept of perpetual license exists. This adds on significant additional costs while lack of interoperability of software binds them to what they have been using, making it difficult for companies to move from one software to another. On the other hand, construction sector is very reluctant to spend on software plus R&D. This is why the sector is stagnating.
33.	Isn't digitisation mandated in Class 2 through the DBPA now?	OBC	Yes at a minimum level.

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34.	Is there any consideration within the context of the strategy of implementation of digitisation in the industry for government to provide incentives for small business implementation? One of key challenges I see is the small-scale builders making the investment as in short many in the industry need to be led to the implementation, and only then will they realise the value / return of the investment	OBC	We are not aware of any such plans in the short term.
35.	How can the insurance industry contribute to this digitisation transformation or vice versa?	OBC	The insurance industry is closely involved via representation from the Insurance Council of Australia (ICA)
36.	Question for the building commissioner, why are hydraulic engineers who design plumbing and water services in class 2 buildings kept out of the new design and building practitioners act? they are not required to be registered as professional engineers or design practitioners? Is there a second phase to the act that will come in future?	OBC	The current classes are the first phase. There is likely to be expansion and changes in the next few years.
37.	It will important that the industry embrace an exchange of data utilising open, non-proprietary formats, utilising OpenBIM and .ifc. We cannot lock data in vendor proprietary formats and make it accessible for all parties	WSU	We completely agree with you on this. The findings of the research indicated this as a major problem that needs addressing. This is reflected in the proposed framework for digitalisation as the way forward.
38.	Most contractors in Australia are small scale. As seen in the presentation many are outsourcing IT services as it's much economical. Is it affordable for such small contractors to deploy Digital Technologies?	OBC	The research highlights that software vendors and suppliers need to be conscious of these challenges when supplying products to the market
39.	To Prof. Srinath - Is there any suggestion to the government in the report, to give incentives for such small contractors?	OBC	We are not aware of any such plans in the short term.
40.	Covid has shown us the problem with state-wide vs National solution?	OBC	We hope that other jurisdictions will consider replicating this research nationally

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41.	Is there a standardised digital delivery platform that the NSW Govt. is looking to implement?	OBC	The main platform being focussed on is the NSW planning portal
42.	Global/national Industry supply chains will likely remain fragile for some time. How do we build in flexibility around these supply driven changes on site, and the capturing of this digitally?	WSU	It is becoming abundantly clear that Australia no longer be a nation that produces raw materials and rely on global imports of finished products. Until this situation changes, we will be vulnerable to the geo-political and economic variations. With respect to capturing supply chain transactions digitally, we see blockchain as the right solution that would capture transactions in a trustworthy and open manner.