



**WESTERN SYDNEY
UNIVERSITY**



Centre for
Smart Modern Construction

c4SMC INTER-UNIVERSITY ACADEMIC ROUNDTABLE

14th November 2018

‘What is holding back OSCM at the Job Site?’

David Chandler

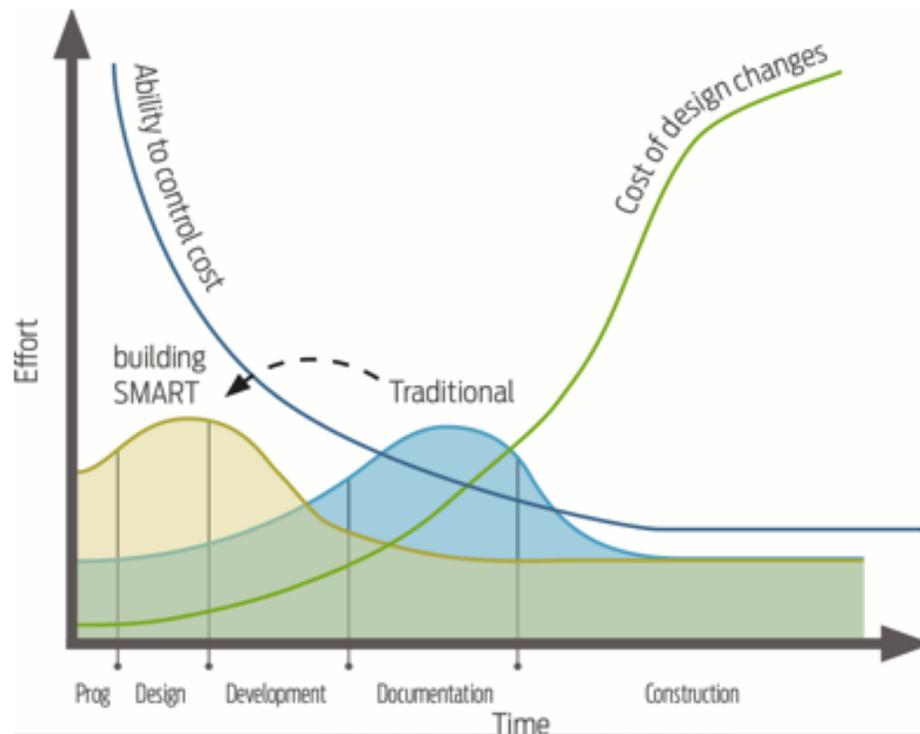
Industry Engagement Lead – c4SMC

Off-Site Construction Manufacture (OSCM) conversation has largely been focused on off-site

There are many arguments given as to why this momentum is running into road blocks;

- Lack of preparedness of construction customers to adopt Early Contractor Engagement (ECE)
- Wide gaps between BIM and DfMA technologies
- Immature nature of many OSCM enterprises

Why would a client go down the OSCM Path?

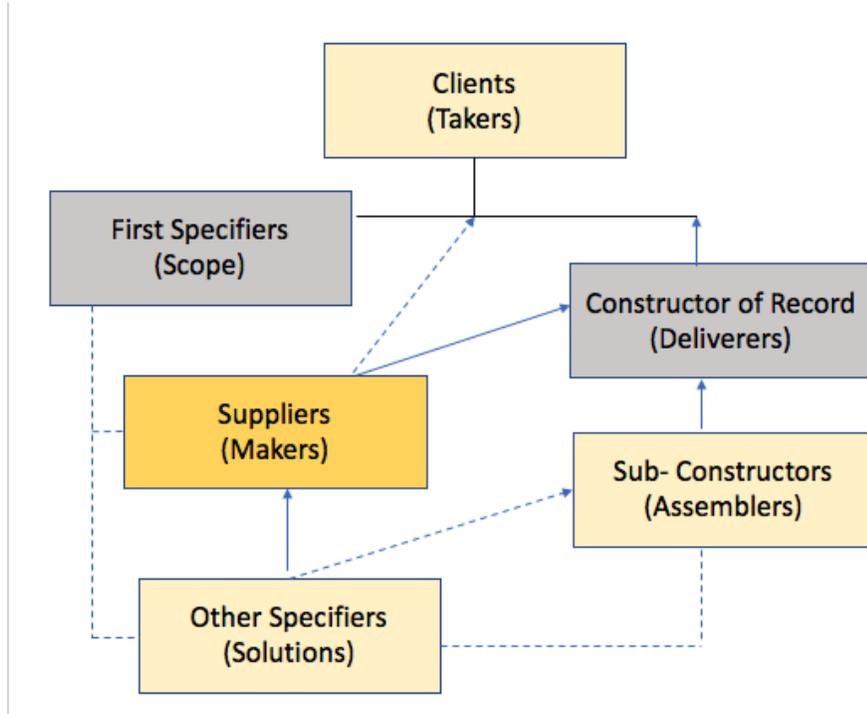


Clients with portfolios of new projects to be committed over the next 3 to 5-years years must see measurable benefits and industry capabilities i.e;

- At least 40-percent faster
- At least 20-percent cheaper
- At least 80-percent less waste
- At least 80-percent safer
- With least 20-percent lower opex

To make smarter, better quality and more sustainable modern facilities

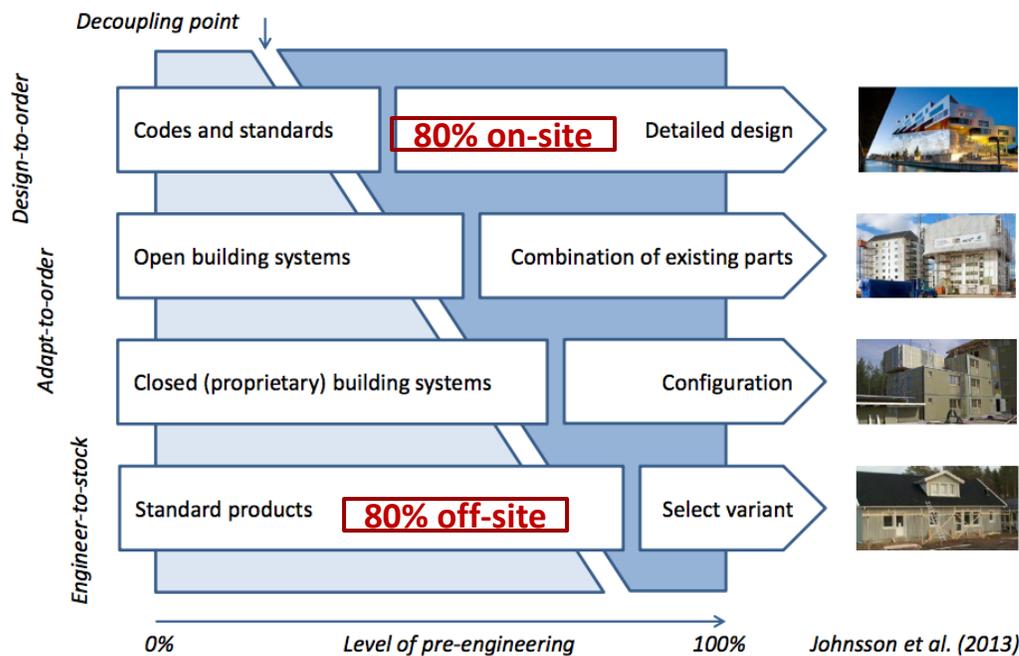
Little focus on what OSCM looks like on-site



- Few DDC contractors have digital design, OSCM procurement and logistics capabilities
- Few understand the emerging OSCM eco-system impacts
- Few realise that the Makers of OSCM may influence success

The future of construction narrative is unclear

The supply chain structures in construction



- Few constructors have imagined what the future of their enterprises may look like
- Urgent need to reimagine next onsite work packages and skills
- Little regulatory appreciation

FROM THIS



TO THIS





This is the 'project in a box' referred to in the [SSH discussion paper](#)



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THE JOINING UP CONSTRUCTION CONVERSATION

The Smart Site Hub - competition

David Chandler

Industry Engagement Lead – c4SMC

Sydney 14th November 2018

The principle residual on-site functions for the DDC s



- Risk management and assurance
- Logistics, work flow co-ordination, sequential possessions of site for elemental work packages performed by multi-skilled self-managing teams
- Responsible person under the OH&S regulations,
- Providing a shared site office hub that enables both off-site and on-site management to connect and engage seamlessly during the performance on-site
- Dealing with payments and executing change management where required

SSH Design Competition Aims

WHAT:

Design Competition for The Smart Site Hub

WHO:

Diverse teams, must include at least one student attending any AUS/NZ university

Major Sponsor:

To be announced – early 2019

- Promote student engagement and thinking
- Work with c4SMC partners to deliver construction learning
- Change the way the construction industry views the future workplace on-site and through a new narrative
- Put better site sheds into circulation
- Modern construction one shed at a time



THE
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PHASE 1 – DESIGN COMPETITION

Considering the changing construction industry, we're looking for innovative and practical designs for The Smart Site Hub, the site shed of the future – **start competition February 2019**

You are required to design The Smart Site Hub for an example project that achieves the Design Brief whilst challenging the way we currently operate on site – **phase 1 of competition close April 2019**

The top 3 ideas will be shortlisted to participate in Phase 2 – Prototyping and invited to attend a Design Intensive to commercialise their ideas – **July 2019**

CONTEXT:

Consider the following example project:

- ❑ ~\$25m project with construction program of 8-12 months
- ❑ Green Field School Project with Off-site Manufactured Components
- ❑ Limited space for Site Amenities and Sheds

JUDGING CRITERIA:

- ❑ Compliance with and innovative approach to design brief
- ❑ Adaptability and flexibility of design
- ❑ Commercial and Buildability Analysis

SUBMISSION REQUIREMENTS:

You are required to submit a PDF (max 10 pages) outlining:

- ❑ Vision of the Future of the Construction Industry
- ❑ Description, Plans and Diagrams outlining Design for the Smart Site Hub and how it addresses the Judging Criteria

An optional submission of a short 3 minute video is also encouraged to further demonstrate your design.



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PHASE 2 – PROTOTYPING

The top 3 ideas will be provided with feedback from the judging panel to adjust their designs. Two members of each of the shortlisted teams (including the student) are then invited to attend a Design Intensive to commercialise their ideas.

Teams will work with MBS (manufacturer of the Smart Site Shed, and Shed Hire Co, the proposed owner of The Smart Site Shed, to prototype, rationalise and further commercialise their ideas before presentation to the broader Construction Industry for final judging.

PHASE 3 - CONSTRUCTION

The winning design will then enter manufacture at the MBS factory before entering circulation under National Plant Hire Company.

PRIZES:

- Design Competition Winner - \$5,000 per team
- People's Choice - \$3,000 per team
- Most Outstanding Student - \$1,000

Registration of Roundtable Collaboration interest

Impact:

*“Changing the
face of
construction one
shed at a time”*

- Centre to publish a draft discussion paper following today’s roundtable – comments
- Interest in a collaborative publication
- Interest in SSH participation

ACKNOWLEDGEMENT OF C4SMC PARTNERS



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