

RECO7609: Technology and Innovation

Presentation 07: Review Day 01

October 2019

RECO7609: Blog

<https://reco7609.blogspot.com.au/>



Capital Projects & Infrastructure Practice
Decoding digital transformation in construction

Few engineering and construction companies have captured the full benefit of digital. Five practices can help E&C companies move beyond isolated pilots and unlock digital's value across their enterprises.

by Jan Kooleman, Maria Joao Ribabinho, David Rockhill, Erik Spodin, and Garret Saube

DIGITAL FOUNDATIONS
HOW TECHNOLOGY IS TRANSFORMING AUSTRALIA'S CONSTRUCTION SECTOR

StartupAUS



August 2019

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Future-Ready Index

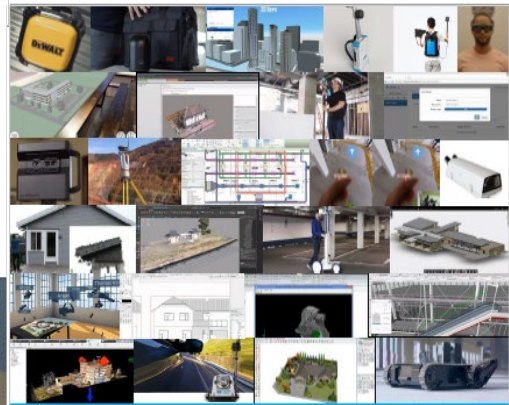
Leaders and followers in the engineering & construction industry

Global Construction Survey 2019



KPMG International
kpmg.com/gcs

Produced by:



AEC Tech Gamechangers:
26 Essential Technologies for 2019



Thought to you by:

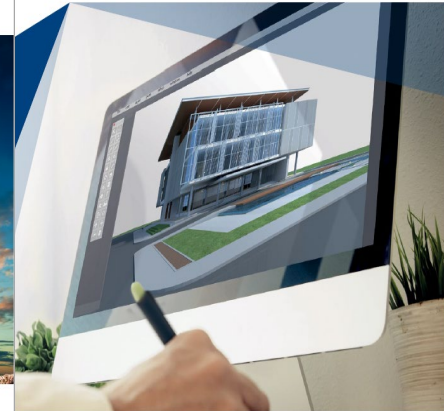
Developing the Capabilities for a Digital Built Britain

A Summary of the 'Capability Framework and Research Agenda for a Digital Built Britain'

July 2019

OLIVER WYMAN

DIGITALIZATION OF THE CONSTRUCTION INDUSTRY:
THE REVOLUTION IS UNDERWAY



McKinsey & Company

Seizing opportunity in today's construction technology ecosystem

A new analysis of the construction technology ecosystem finds emerging trends, constellations of solutions, and an ever-increasing universe of technology use cases that are disrupting the way we plan, design, and execute projects.

Jose Luis Blanco, Andrew Mullin, Kasabuzh Pandya, Matthew Parsons, and Maria Joao Ribabinho



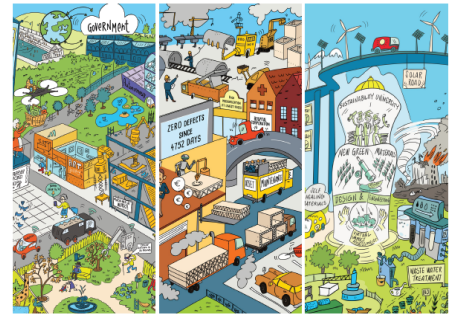
SEPTEMBER 2019 • CAPITAL PROJECTS & INFRASTRUCTURE

Shaping the Future of Construction

Future Scenarios and Implications for the Industry

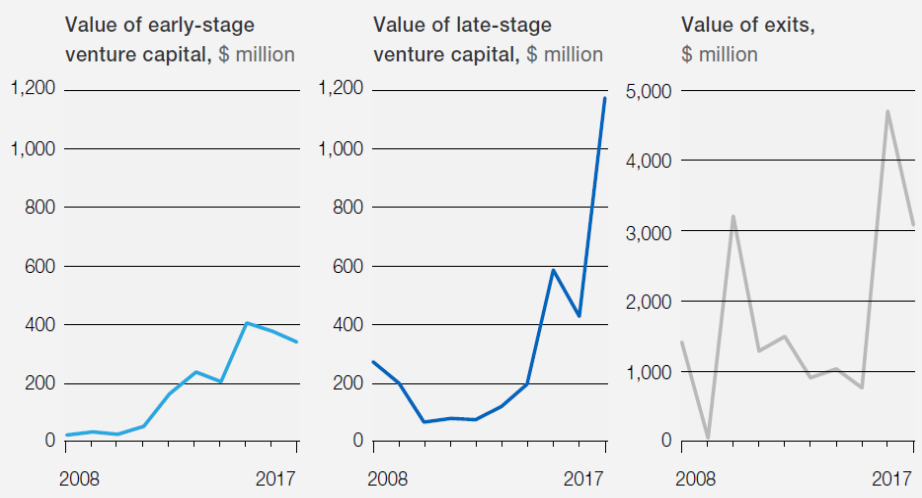
Prepared in collaboration with The Boston Consulting Group

March 2018



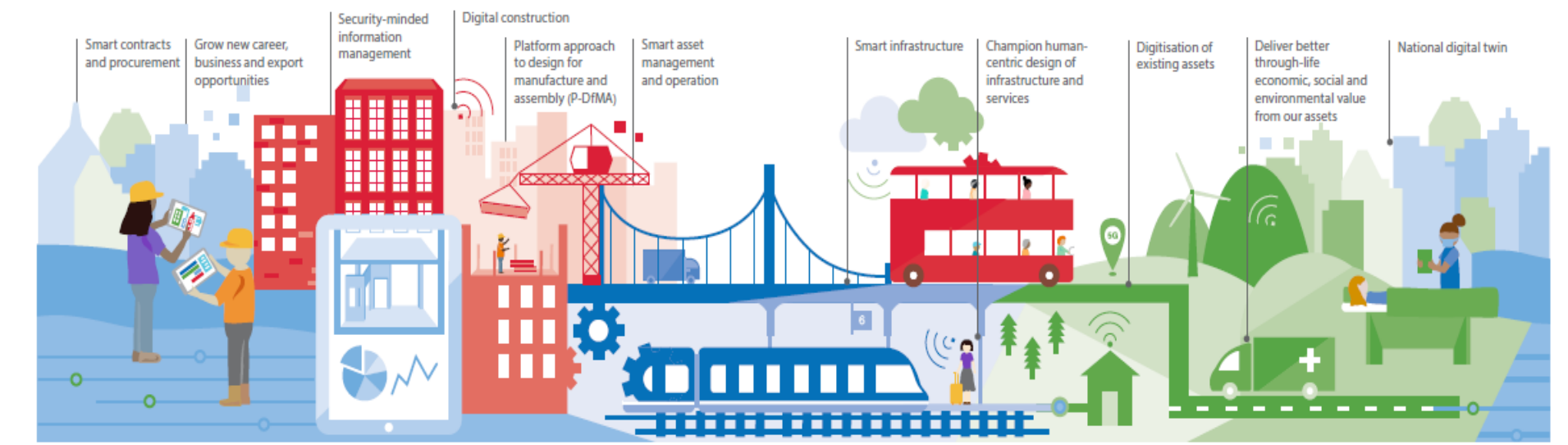
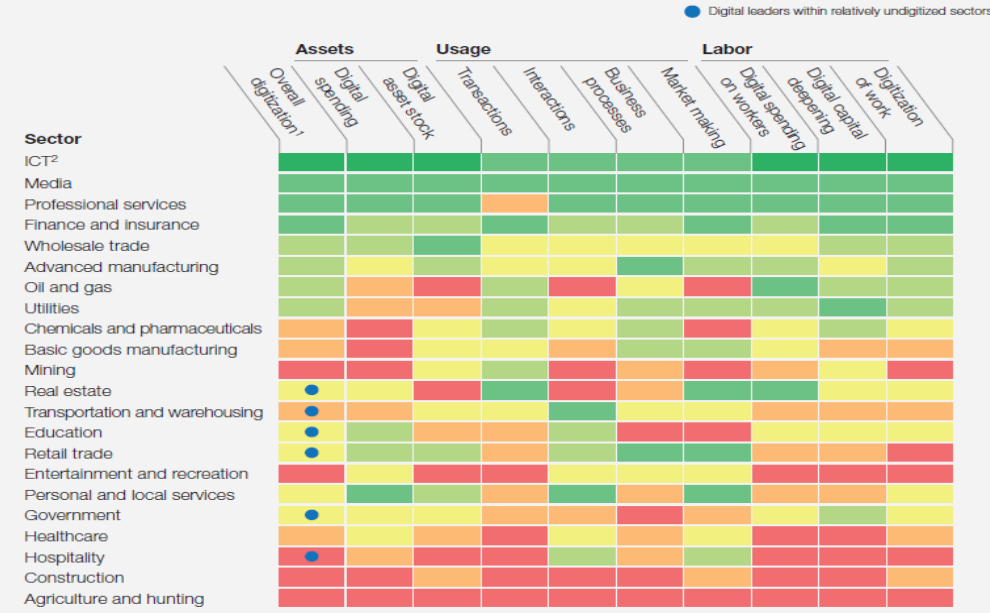
Early- and late-stage investments in venture capital have trended upward since 2008, whereas exits have peaked erratically.

Value of total transactions, (n = 676 unique companies)



McKinsey&Company | Source: Pitchbook data; McKinsey analysis

McKinsey Global Institute industry digitization index; 2015 or latest available data



Design

Use best practice, secure by default, information management and digital techniques to get data right from the start and design better-performing homes, buildings and infrastructure.

Build

Exploit new and emerging digital construction, information management, and manufacturing technologies and techniques to improve safety, quality and productivity during construction.

Operate

Use effective information management to transform the performance of the built environment and the services it delivers.

Integrate

Understand how the built environment can improve citizens' quality of life and use that information to drive the design and build of our economic and social infrastructure and the operation and integration of the services they deliver.

Assessment Task One: Group Technology Innovation

Worth 40% of the overall course grade.

A Group Assignment comprising 2 parts. Each part of equal value.

Due: Part 1, Saturday 19th October; Part 2, Sunday 20th October 2019.

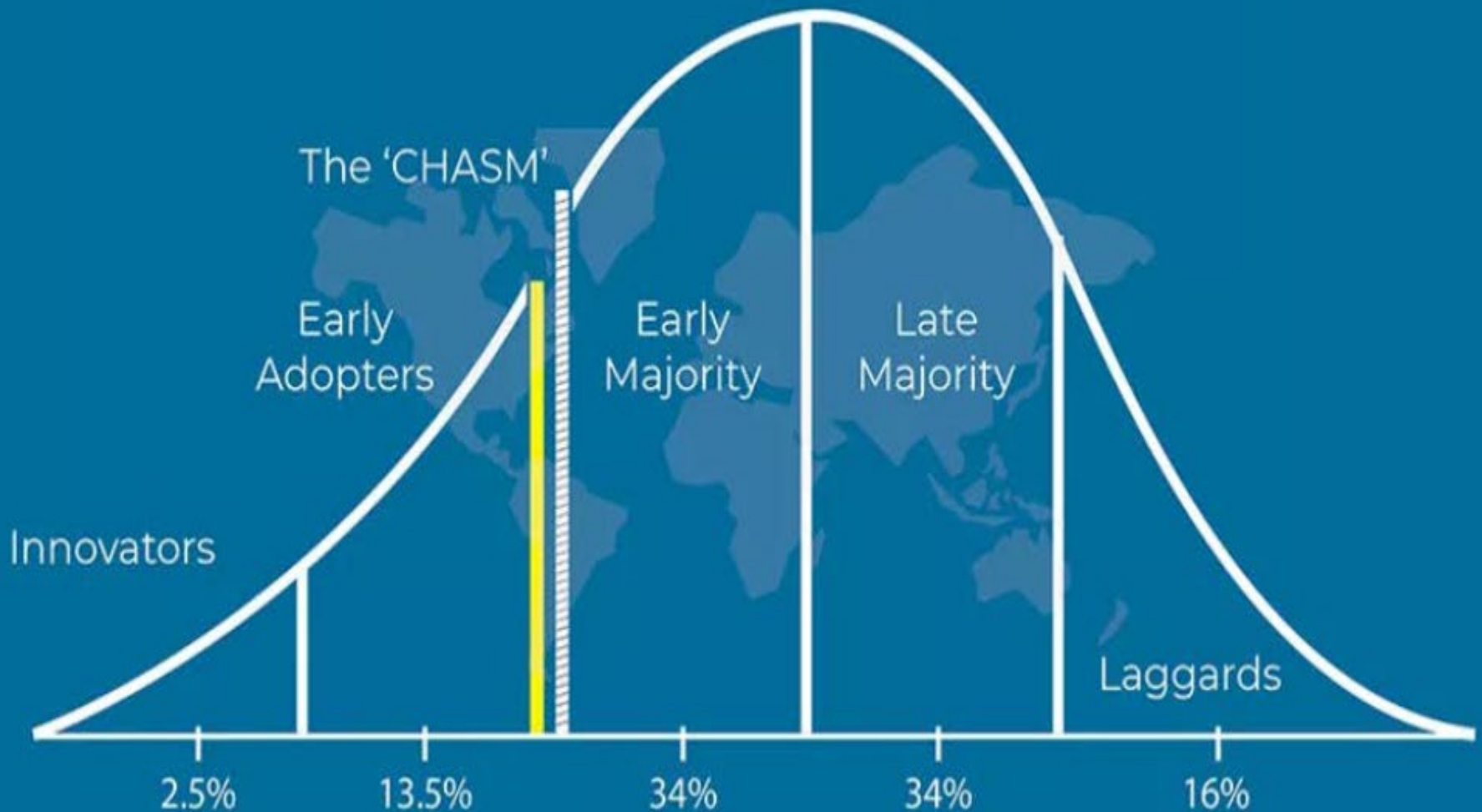
Part 01: Technology Description – ~~Friday 18th~~ Saturday 19th October

The presentation will be assessed in terms of:

- the quality and specificity of the technology description (50 marks)
- the relevance of the technology use case to the discipline and IPD (30 marks)
- the clarity and professionalism of the presentation (20 marks)

INNOVATION ADOPTION CURVE

after Everett Rogers 1962-2003



2017_AUS_ConTech_Report

2019_AEC_TechGamechangers

DIGITAL FOUNDATIONS

HOW TECHNOLOGY IS TRANSFORMING AUSTRALIA'S CONSTRUCTION SECTOR

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Basic search options...

Google Scholar – Online search engine of academic articles

<https://scholar.google.com.au/>

ARCOM Abstracts Website – Searchable database of construction management research papers.

<http://www.arcom.ac.uk/abstracts-search.php>

JB Knowledge – Technology solutions for Construction

<https://scholar.google.com.au/>

<https://jbknowledge.com/>

BIM+ – Broad construction technology newsletter by Chartered Institute of Building

<http://www.bimplus.co.uk/>

TechCrunch – all things digital technology newsletter

<https://techcrunch.com/>

Arup Review of Emerging Technology – in course reading

[_EmergingTech_2017_Arup_Emerging-Technology-Timeline.pdf](#)

Saturday - Agile Innovation			
8:00	8:30		Prepare Presentations
8:30	9:00		Assignment 01: Part 01 Presentations - 5 minutes
9:00	9:30	SN	How else might we apply AI... Idea generation, ranking, class discussion
9:30	10:00		How else might we apply Cloud... Idea generation, ranking, class discussion
10:00	10:30		How else might we apply Robotics... Idea generation, ranking, class discussion
10:30	11:00		How else might we apply IoT... Idea generation, ranking, class discussion
11:00	11:30		How else might we apply Blockchain... Idea generation, ranking, class discussion
11:30	12:00	SN	Disruption Evaluation Factors
12:00	12:30		Disruption evaluation of proposed technology application
12:30	13:00		Lunch
13:00	13:30		Informal presentation and discussion of disruption evaluations
13:30	14:00	RL	Production Evaluation Factors - form
14:00	14:30	SN	Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Reverse
14:30	15:00		Production evaluation of proposed technology application
15:00	15:30		Informal presentation and discussion of production evaluations
15:30	16:00	SN	Review