

Notes from Digital in Construction workshop, 21 March 2019

Workshop 1 – Innovation (led by IAWM)

The delegates who attended this workshop had expertise/knowledge on:

- Suppliers' data for the construction industry
- Improving efficiency of internal operations
- Supporting companies to uptake innovations (incl. digital tech).
- Health and safety
- Data analysis
- Policy advice
- Software development
- Development of a resource efficiency matching app
- Smart cities, adaptable homes, housing and transportation
- Assisting the public sector to digitise

Discussions broadly focused on:

- The intelligent client (IC)
 - Seen as the key to bringing technology into developments
 - Helps to create sustainable and flexible housing/ building stock
 - Provides a more long-term interest in building performance
 - Focusing on IC could also benefit the public sector
 - WMCA could be one example of an IC through their digital work
- Construction as a digital manufacturing process
 - How do we take this learning so that we don't repeat it/reinvent wheels?
 - Not just about off-site manufacturing, about driving up productivity as has happened through digital in automotive and aerospace
 - BIM increasingly used but less so once the building is actually built...
 - ...which leads back to the requirement of an IC and a more flexible product
 - Flexible buildings that can be adapted to meet changing technologies need to be considered more readily
- Drive implementation down the supply chain
 - Need suppliers to not just focus on cost; need to look at 'value' which focuses on not just what the cheapest option is now but what the value of the building will be in future
 - Need flexibility/range of suppliers depending on focus (e.g. in automotive sector, clients have a five-year view of what clients are likely to need to provide)
 - However, the type of work changes very frequently so it is difficult to predict supply; it's a dynamic market.
 - Therefore, a better approach may be to find suppliers for individual projects, depending on need etc. This is currently a challenge.

Conclusion

Based on the above discussions, it was agreed that developing an accelerator/ innovation programme focused digital manufacturing in construction and the intelligent customer could be valuable. This could include (i) proof of concept and demonstrator level activity; (ii) support for

innovative SMEs to develop and commercialise (iii) parallel support for 'clients' to adopt technology/solutions, (iv) a digital platform that has the ability to link specific ideas to specialist clients (e.g. an energy platform). KTN was interested in this idea. Currently, large organisations (e.g. Colmore Tang) run their own accelerator programmes but this is not done (as known) more widely.

IAWM will convene a workshop on this topic to further develop discussions and kick start a possible project.

Other comments and barriers

- Confusing government messages
- Government moving away from the carbon agenda resulting in less efficient housing; the buzz word is now 'transformational' buildings
- There's no profitability in retrofit
- SMEs need to understand that large corporate processes are slow, but large corporate processes need to speed up!

Workshop 2 – Skills (led by CITB)

Skills issues in the industry and how digital tech can help with these

- How can we use technology to improve inductions?
 - Often a very inefficient process
 - Non-interactive inductions don't help learning
 - Digital induction less engaging
 - AR/VR helps people to engage/remember
- Issue in construction industry over image
 - Perception that it is for the less-qualified
 - Male-dominated industry puts off females
 - How can technology be used at careers-fairs to showcase tech in the industry?
 - Work experience is a great way to change perceptions of the industry
 - Many start their interest at this point
 - Health and Safety issues with work experience students
- Technology is less engaged-with at a managerial/exec level in comparison to a newcomer at the bottom of the business who are more tech-savvy
- SMEs often know their needs but don't have the resources to employ a digital engineer who would be best placed to produce bespoke software for their work (an advantage given to larger companies)
- Schools are trying to self-teach construction careers
 - Schools could better-engage with the industry through official channels
 - School children need a basic technological understanding which may include: Language of technology, applicability of technology, and an awareness of past and future changes in technology

Technology issues

- Data collected around digital tech in a business should be useful and help justify its purpose (rather than being data for the sake of data)
 - This makes it harder to work with other businesses where software is incompatible

- Software incompatibility is a long-running and constant issue
- Smart-card apps on-site are grossly underused
- Remote sites have limited mobile internet access (for tech such as mobile WiFi)
 - Questions over whether or not 5G will actually help given it requires line-of-sight and this would require an incredible number of antennas
- Issues exist around the fact that multiple (incompatible) software can be regarded as the industry standard

General points

- Focusing on quick wins is good because they make it easier to achieve the bigger wins
- It mustn't be forgotten that some do join the construction industry because they are not suited to technology and require a more physical job
- Ultimately, everything is driven by return on investment (ROI)
 - For example, better digital training may reduce insurance costs
 - However, costs of technology can be hard to justify to others in the business without the same expertise