Construction’s Digital Transformation

The Current State of BIM and Digital Construction in the UK

Featuring: Iain Miskimmin, Barry Gleeson & Jaimie Johnston
BIM & Digital Transformation in the UK

• Do we all know what BIM is?
• Globalisation of UK BIM standards
• Other emerging trends and hot topics in the UK
• Q&A
The technology adoption curve...
Are we there yet?
• Level 0 – general chaos
• Level 1 - doing the thing you were actually supposed to be doing
• Level 2 – doing the same thing, but better
• Level 3 – doing a different thing
Global use of UK Standards – digital Esperanto?
The Hackett Review

• A ‘golden thread’ of good quality information will enable future building owners to better manage their buildings safely.

• As soon as detailed work commences the client needs to ensure that a digital record of the building work is established...
A Digital Twin is a realistic digital representation of assets, processes or systems in the built or natural environment.

The National Digital Twin is not a huge singular model of the entire built environment. Rather, it is an ecosystem of connected Digital Twins.
**Purpose:**
Must have clear purpose

- **Public good**
  Must be used to deliver genuine public benefit in perpetuity
- **Value creation**
  Must enable value creation and performance improvement
- **Insight**
  Must provide determinable insight into the built environment

**Trust:**
Must be trustworthy

- **Security**
  Must enable security and be secure itself
- **Openness**
  Must be as open as possible
- **Quality**
  Must be built on data of an appropriate quality

**Function:**
Must function effectively

- **Federation**
  Must be based on a standard connective environment
- **Curation**
  Must have clear ownership, governance and regulation
- **Evolution**
  Must be able to adapt as technology and society evolve
Today…

BIM

- Architect
- Structural Engineer
- Operator
- Client
- Mechanical Engineer
- Contractor
- Electrical Engineer
- Quantity Surveyor
Tomorrow?
Automated design

- Different, but just as slow
- Where are now
- The same, but faster
- Faster + Smarter
Spatial Analytics: New Ways of Understanding Architecture at WeWork R&D

by Daniel Davis

Designing with Machine Learning

by Nicole Phelan

NUMBER OF PEOPLE IN 12 PERSON ROOM

PREDICTION BY DESIGNERS

PREDICTION BY COMPUTER
The rise of IOT

Source: Ericsson
A platform approach means we will use digitally designed components across multiple types of asset and apply those components wherever possible, minimising the need to design bespoke components.

For example, a single component could be used as part of a school, hospital, prison building or station.

The three principles are:
1. Design for manufacture;
2. Use a Platform approach;
3. Open for manufacture, use and procurement.
5 Audience Polls for Discussion

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