Study Day 2017 Report

Manchester School of Architecture, Friday 23rd June

Devolution provides real opportunities for the education sector

Philip Dyer, Atkins

Keynote - Northern Power House

The strength and potential within the north is obvious – if it were an economy it would be the eighth biggest in Europe, with 20 of the region's universities sitting in the world's top 100, according to speaker Philip Dyer. Although the Northern Powerhouse remains primarily a political construct, the case for it has been strengthened by devolution and the appointment of Metropolitan Mayors, with Manchester at the forefront following the election of Andy Burnham to the city's post.

But the national political situation poses uncertainty, with potential changes to the form of the Northern Powerhouse waiting in the wings. Mr Dyer told delegates cities in the north cannot just rely on the government and have to find different ways of working in response to a lack of clarity around the industrial strategy and availability of funding.

Tying in with the day's education theme, he discussed the challenges and opportunities facing schools in terms of having enough space for expansion and the need to establish themselves as multi-use hubs housing facilities including GPs surgeries and community spaces. And he said universities had access to immense opportunities to enhance their built environment through public private partnerships, while stressing the need for them to focus on place based regeneration by spending money on the local supply chain and local economy to drive targeted growth.

Getting clients to understand BIM's added value in operating buildings is crucial

Les Copeland, Chair (CIBSE BIM Group), Andrew Almond (Pick Everard), Garry Fannon (Willmott Dixon), Terry Stocks (Faithful+Gould), Naghman Khan (Integrated Environmental Solutions), Mike Shaw (Mace)

BIM Schools Debate

Where are we today with BIM Level 2?

Big strides forward have clearly been made and the industry is nearly achieving full BIM Level 2 during the capital delivery phase of the projects. But the challenge remains in realising the true benefits of BIM in operating buildings, requiring clients to better understand the added value offered. Panel members talked of mandating BIM on all projects – effectively forcing clients and supply chains to adapt – and other issues raised were interoperability of software platforms used, and clients' FM teams lacking the tools and knowledge to use models in operating their buildings.

Where do we still need to go?

Definition of roles and responsibilities was highlighted – traditional notions of who does what need to be challenged and made more flexible, with alliance contracts such as Integrated Project Insurance cited as a route to achieving this. Clients being able to specify exactly what they want from BIM for FM purposes was given as a key goal, as was the need for tier 1 contractors to continue enhancing supply chains' understanding of levels of information required. The tendency for contractors to ignore models once on site exists and needs to be addressed, leading to the term design then build being mentioned.

What has been good and what hasn't worked?

The democratisation of the design process was hailed as a big positive by allowing more stakeholders without technical knowledge to influence designs through visualisation techniques.

The progress made so far in a complex industry was called an 'industrial revolution' which enabled better communication between parties to a construction project. Negatives given were perceived weaknesses in the strength of the government's BIM Level 2 mandate and a lack of enforcement here, along with disproportionate focus on design and construction above operation, and levels of complexity in the process which led to a call for a 'slimmer BIM' approach.

‘Modernise or die’ – how the industry can harness technology to improve

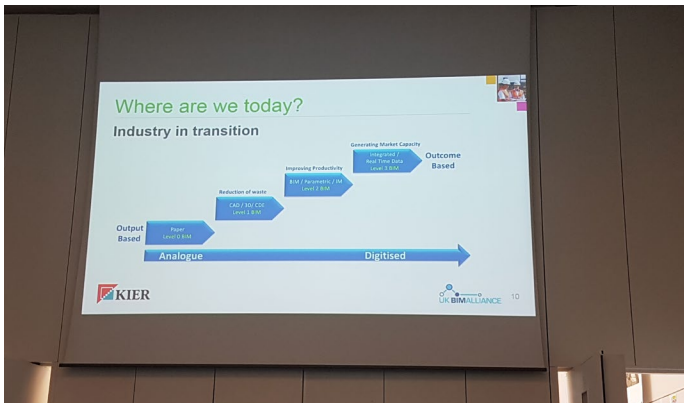
Michael Lacey, SPACES Progression Board and Andy Boutle, Kier

Progression Board

Opened up by Michael Lacey of the Progression Board which represents young members of SPACES, this session, delivered by Andy Boutle, focused on the need for smarter working using BIM and emerging technology, in response to the stark ‘modernise or die’ message from last year’s Farmer Review which identified low productivity, fragmented working and underinvestment in training and research as some of the main afflictions within construction.

Describing BIM as ‘Better Information Management’ and identifying it as a means of reducing double handling of information and driving down risk while increasing efficiency, improving team collaboration and attracting more people to enter the industry, Mr Boutle stressed the need for behavioural change as much as technical change to realise these benefits.

Virtual reality was identified as one technology being used to achieve this, not only by improving stakeholder engagement but also to improve decision making by enabling better optioneering through realistic material rendering – offering a powerful tool to facilitate better client decision making. Mr Boutle also talked of the industry having a long way to go to achieving 75% BIM Level 2 capability across the industry by 2020.



A digital approach to human centred design

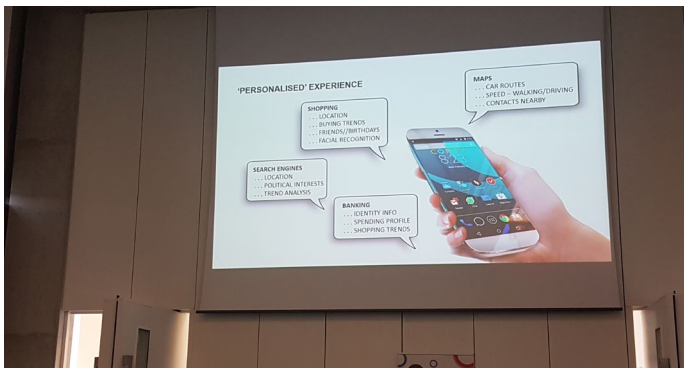
Dr Caroline Paradise, Atkins

Digital Tool for Wellbeing

Winner of the AJ100 award for Best Use of Technology, this innovative tool harnesses the digitisation of all aspects of modern life to put wellbeing at the heart of design decision making on a par with capital and operational costs. It allows wellbeing to be treated as a metric, focusing on both physiological and psychological aspects; for example, how light affects the visual experience and circadian rhythms of building users.

Dr Caroline Paradise explained the process starts by user consultation, both through traditional focus groups and via more personalised online engagement including questionnaires to vastly increase the level of response. Analysis of nine key wellbeing parameters including thermal comfort, air quality and acoustics enables development of personas describing the different types of building user, in turn supporting development of a more bespoke design brief.

From here, data is transferred to Revit and, supported by the use of the Dynamo extension, provides intelligent evaluation of design concepts with users able to assess the impact of each option on key areas of wellbeing. Post-occupation evaluation plays a key role alongside the briefing tool by enabling a before and after comparison to assess whether wellbeing requirements have been addressed. Dr Paradise summarised the tool as ‘giving people a voice over designs through the collection of data’.



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