

Executive Summary

The Centre for Digital Built Britain commissioned this study from the Cambridge Centre for Housing and Planning Research as part of a series of projects across the University of Cambridge, looking at how digital technologies impact the built environment and how society might be affected by the changes which may follow from the employment of these technologies. The aim of the study was to explore the current use of Building Information Modelling (BIM) in the UK house building industry and the benefits BIM offers, and to consider the opportunities and barriers to its wider uptake.

Set in the context of the chronic under-supply of housing in the UK and consequent negative social impacts, the housing crisis in the UK demands innovative and affordable models of housing production and design. Innovation has been claimed as the key to meeting the challenge, but many researchers into construction comment on the inherent conservatism and lack of innovation in the house building industry.

Our research included a review of existing evidence and literature, telephone interviews with BIM practitioners and a round table discussion with key stakeholders in the house building industry. Setting out a clear definition of BIM, the study provides a definitive picture of the current state of play in terms of the use of BIM in the house building sector and highlights issues confronting the industry as well as an outline of the opportunities for the application of BIM across the industry.

The study shows that the potential benefits from the adoption of BIM have been recognised within the industry, but that take up has been slow and prohibited by several factors. Potential benefits include reduced construction costs and time efficiencies, fewer design clashes and costly reworking on site, greater accuracy in design and build, and fewer defects in new homes.

However, adoption of BIM within the main house building companies takes a considerable investment of time and resources, at a time when the industry is at the upward part of a building cycle and working at capacity. There are issues of skills shortages, both for house builders and their numerous suppliers. Progress has been made in encouraging suppliers to make greater use of BIM, but the nature of the house building industry, with many small sub-contractors over multiple sites, has meant that downstream adoption by such sub-contractors has been more problematic.

The report recommends that there should be a general raising of awareness of what BIM is, how it can be used and the benefits it can offer within the house building sector. This may need to come from various sources and will need to be both top down and bottom up. Specific guidance about the use of BIM, tailored to the industry, may be more successful in increasing awareness, as should BIM-specific training, and, in particular, the inclusion of BIM

on training and education in college courses to embed BIM in the learning of the next generation in the industry.

For more information about this study please contact Dr Gemma Burgess on glb36@cam.ac.uk.

Social Media Summary

Are people the biggest challenge when it comes to BIM? @CCHPR1's 'state of the nation' report on the use of digital tools in the UK housebuilding industry tells all.