

Digital

Built Britain

The construction sector is developing quickly by seizing the opportunities created by the digital progress. Building Information Modelling (BIM) is the digital future of the construction industry. It is a technology, which can be used by the designers, contractors and building owners to optimise the results of the whole construction process.

BIM model contains all information about the geometry, costs, quantities and allows for easier cost calculations, changes in plans and specifications or other variations. The digital version makes changes easier to notice by all parties engaged in construction process what reduce the cost of mistakes. BIM is changing how buildings are designed, built and managed to make more efficient ways of working at all stages of the project. It uses advanced computer programmes to build 3D models of building, which hold information about its design, construction process and current condition. It means that the architect will not have to create Excel documents or spend the time to go through pages of the specification to find the particular data. The contractor will no longer get information about the changes in the design from the structural engineer on site and will be able to estimate more accurately the value of a project while the owner will be able to manage their building.

It is a change in construction industry, and despite the fact that the UK government commitment was to open up the contracts for smaller contractors, the Level 3 BIM has

been set as a minimum target for all work on public-sector projects, by 2016. It means that all project information, documentation and data have to be electronic. It is set to reduce the construction losses caused mainly by inefficiencies in information during all stages of the building process. Level 2 BIM programme allowed projects such as Cross Rail, the 2012 Olympics or Cookham Wood Prison. However, the new Electrical Contractor Association (ECA) survey supported by most of the organisations in the sector, shows that small and medium-sized firms might not be able to compete for the high valued government contracts. Over 50 percent of SMEs are not ready for BIM.

The government's 'The Digital Built Britain' strategy is pushing the construction sector into the world of technology while the BIM 0-3 levels specify the criteria required to be deemed BIM-compliant. Level 0 BIM that is equivalent to a majority of the construction industry means no collaboration, where most documents are in the form of paper. Level 1 BIM comprises a mixture of printed and electronic data but each party engaged in construction process shares its own. There is a significant number of companies operating at this level. Level 2 BIM, which is required by UK government on public sector projects is

recognised as the collaborative working of all parties, but not on a single file format. Plans and specifications are in a standard file format what enables other parties to create their BIM models and make checks on them during the project life. Finally, level 3 BIM means the full collaboration of all organisations involved and it is based on using a single project model. It can be accessed and altered by all parties what reduce the risk of information conflict. Taking into account that the industry is going in the direction of digital progress, it is highly possible that the private sector within years also will have to transform into smart construction based on collaborative working.

The ECA survey shows that companies with a turnover below £1million are not at all ready for BIM while 3 in 10 companies with turnover between £1million and £20million are at the same position. This situation is caused by the insufficient information about BIM and lack of BIM management. It means that SMEs will not be able to apply for government funded public contracts. To help prepare building services SMEs for BIM and promote what BIM means, the ECA created the action plan consisted of case studies and ECA's help towards BIM awareness and training, 'BIM readiness checklist' or 'BIM jargon buster'. Currently, SMEs are encouraged to refer to consultancy agencies to get the BIM training, check their BIM compliance or to discuss their BIM strategy.

