

## **Building Information Modelling (BIM)**

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The Government recently announced in a strategy paper that within the next 5 years Building Information Modelling (BIM) will be used on all public projects. BIM proffers a wealth of advantages and, should it fulfil its promises, it's likely that the private sector will follow suit. It is therefore vital that all construction professionals have knowledge of BIM, which is the technological successor to CAD. It's a 3D computer model into which all Consultants involved in a project can input their design. The building is essentially built twice - once virtually and once for real.

Proponents of BIM argue that its advantages include "zero defect construction" presumably in terms of ironing-out up front and pre-construction any co-ordination and sequencing issues. It's also quicker and cheaper to explore design changes as this can be done virtually on the computer model to ascertain feasibility and other implications.

In terms of the way consultants work, there will require to be a high degree of collaboration and communication between the design team members, as they are inputting their design into one model. In terms of cost, the strategy paper assesses the net savings using BIM on construction of new-build projects to be 5%, and refurbishments 1.5%. There is no mention of the cost to industry on training staff to achieve BIM competence, or other costs such as software and computer capability.

BIM, of course, brings with it a number of legal issues. One of these is ownership of the design. The copyright in the individual contributions will most likely remain in the ownership of the individual Consultants; however ownership of the copyright in the integrated model itself is more complicated. It may be that the model manager who does the work to pull together the various contributions into one integrated model owns the copyright in the model, or it may be that all Consultants are considered joint owners. It's yet to be seen how the courts will respond. This is unlikely to cause major issues for Employers in practical terms. As long as the Employer receives a copyright licence from all contributors to the model, and from the model manager, they will be free to use the design. Consultants, however, will have to agree between themselves what rights they each have in relation to use of the model or their own individual contributions to it.

Where a defect arises in a BIM situation due to design, it will be important to be able to establish whose design led to that defect. One suggestion is to include in contracts details of which Consultant has responsibility for each element of the design, thereby allowing the liable party to be identified easily. However a table alone is unlikely to be determinative, especially if the issue arises due to the integration and co-ordination process. There will be insurance implications and we are likely to see a move towards integrated project insurance.

Contracts and professional appointments will require to change to reflect BIM requirements. The JCT has recently issued a public sector supplement which makes reference to any agreed BIM Protocol as a Contract Document. The main change will be an additional technical schedule containing the BIM Protocol. BIM protocols will presumably be drafted by technical advisors and we may see standard protocols produced by industry bodies. We are, however, likely to see clauses requiring the

Consultant to carry out their obligations under the contract in line with the BIM protocols and to communicate effectively with other members of the design team, the contractor etc. We may also see a new role: the "BIM Co-ordinator".

Procurement will change also. BIM Competency will be a requirement for pre-qualification on public projects within 5 years. However at the later stages, design quality and management capability will be key rather than a focus on BIM ability.

BIM is already in use and is going to be increasingly the norm. Consultants and Contractors should familiarise themselves with it now and invest in training at an early stage to ensure they are ready.

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