



Building Information Modelling

What is BIM?

BIM is the use of software which creates a model of a building which will react to change in the same way that an actual physical building would.

Although there is not a standard definition of "BIM" as such, it can fairly be described as a digital representation of a facility's physical and functional characteristics. It is intended to form a reliable basis for decisions during a facility's entire lifespan- potentially from conception through to demolition.

There are different types and levels (0-3) of dimensions to the BIM model which may include cost, programming and facilities management issues. An example of how one type of this intelligent model can be used is that floors and walls can be stretched, joined and moved and other parts of the building move accordingly.

Who can use BIM?

All parties involved in a construction project can use and contribute to the BIM model.

Designers may use this to explore alternative concepts, conduct value engineering and optimise design. Contractors may use it to rehearse construction, co-ordinate drawings and strategies. Owners may use it for monitoring life cycle costs and optimising building maintenance, renovations and energy efficiency.

Potential Benefits

The correct use of a good BIM model throughout the project should yield a number of benefits to those involved in the development. These include significant costs savings, especially in relation to design changes which should be capable of speedy implementation. End users are also likely to benefit from having a workable model for use throughout a building's entire lifecycle.

BIM is designed as a shared information model and the idea is to encourage collaborative working and the sharing of information.

BIM potentially allows collaboration between all parties of construction projects in a very new and exciting way which has not been seen in the UK construction industry previously.

When is BIM likely to be in widespread use?

It has been used so far in the UK on some high profile projects (for example, Terminal 5 at Heathrow and Gatwick redevelopment works). In the public sector the Government wants Level 2 BIM (which presents certain data in specific BIM databases which may include cost and programming information) to be used on all public projects by 2016.

BIM in some shape or form is in fairly widespread use in certain other countries and in particular the United States of America.

Continued >



Building Information Modelling

Its use in public sector projects in Europe is increasing.

We envisage that BIM will in the coming months and years come to be in use on most larger scale or complex projects in the UK.

Legal Issues

Given that this is a new and evolving area there are a whole host of issues which may arise in relation to the BIM model. These include, but are not limited to, the following.

Building contracts and professional appointments

Many of the standard forms used in the UK have been drafted before BIM was introduced. Although many of these have been amended (eg: to deal with changes to the Construction Act) they still in the main do not cater for BIM. It should be noted however that the JCT September 2011 Public Sector Supplement does refer to BIM. It is essential that where it is used, BIM issues are addressed in the contractual documents.

Contractual parties

Given the number of parties who are likely to be involved in managing and maintaining the BIM model could this lead to a shift away from the traditional two-party agreements which we are familiar with to more multi-party agreements?

Different BIM software

As there is no single software package currently designed for use on a project envisaging the use of BIM there may be some problems with regard to the number of parties involved in a project using different software.

The contract should specify what is to be used and by whom.

Ownership/intellectual property rights

We envisage that the owner of the building will usually retain ownership of the BIM model however there may well be separate issues relating to ownership of the data contained within the model itself.

Risks and liability

BIM software is designed to react to changes and there is potential for greater liability to be taken by designers as the model develops. Who bears the risks and liabilities in relation to BIM and for how long (especially as things change during the progress of the project) is a matter which needs very careful consideration at the outset and contract documentation must be drafted accordingly.

The duties of care which are owed between the parties contributing to the BIM model, where one party's input can have a very significant effect on another party, need to be addressed at a very early stage.

Management of the BIM model

Given the number of parties who are likely to be contributing to the BIM model it seems likely that there will have to be a lead consultant appointed to manage and co-ordinate the process. The duties owed by and levels of responsibility assumed by such a BIM Co-ordinator will need consideration.

Confidentiality

With such a collaborative approach, the number of parties likely to have access to information and the amount of data which

Continued >



Building Information Modelling

is likely to be contained in the software confidentiality is an issue which needs to be considered.

Costs of BIM

Given the technical complexity of the information and software there are likely to be significant costs in using BIM. It needs to be agreed and documented at the outset who is to bear the costs, especially for any changes which are made during the project.

Insurance

At the moment given its early stage there are not many BIM products on the insurance market. This is very likely to change in the coming years.

Disputes

With the best intentions in the world, disputes can and will arise during the project. This is perhaps particularly likely given the number of parties who will be contributing to and changing the BIM model through the course of the project. Complicated issues may arise in relation to matters such as design and management responsibilities and software failure. An appropriate dispute resolution procedure needs to be agreed at the outset of the project.

BIM Advice/Training

If your organisation requires any further information or would benefit from some in-house training on BIM then please contact Michael Janney.

The information contained in this document provides background information only. The document may be misleading if relied upon as an exhaustive list of the legal issues involved. If any matter referred to in this document is sought to be relied upon, further information should be sought.



Building Information Modelling

Meet the team

“This is a very significant project for us and it was very important for us to be working with a firm that has such an established practice in the region. We were very pleased to have Claire and the team on board, as this is a huge investment for Benenden Health. We were grateful for their help in guiding us through some of the more complicated contractual areas.”

Graham Goddard,
Project Director,
Benenden Health



Michael Janney
Head of Construction
01622 776422
michaeljanney@brachers.co.uk



Claire Barwick
Associate
01622 776442
clairebarwick@brachers.co.uk

