

Chapter 1

What is BIM?

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In starting to think about BIM and what it is, let's consider the following definition:

Building Information Modelling is the digital representation of physical and functional characteristics of a facility creating a shared knowledge resource for information about it and forming a reliable basis for decisions during its life cycle, from earliest conception to demolition.

(This definition by CPlc is based closely on the US National BIM Standards Committee (NBIMS).)

Note that it mentions digital representation, sharing knowledge, reliability, decision making and lifecycle.

Remember: this is about much more than a 3D geometry model. It is about all asset information around the asset lifecycle.

Remember too that there can be many kinds of models – financial, data, planning, logistics, environmental and also geometric/graphical (3D).

In BIM, or perhaps we should use the term Common Data Environment (CDE¹), we can begin by standing back from this and looking at it in a different way.

Let's consider Figure 1.1.

I'm sure we are familiar with the basic stages of a project, and our role in it, whatever it may be. Someone has a need, or an idea, they write or get a brief written. Someone produces a design; it is procured and then bought. It is then made and installed, or constructed, and then finally handed over to the owner and operated or used. This could apply to anything, a ship, plan, nuclear power station, tunnel, road, gas pipe or even a building.

I'm also sure that whatever role you or your organisation have in this process, you know where you fit and operate in this cycle of brief, design, construct and operate.

Let's take this a step further. Now consider all of the information that is produced at each stage and is then handed on to other stakeholders for their work, and so on. A web of information is woven from a very early stage on any project, which over its lifecycle will fill several filing cabinets and, on larger projects, a warehouse!

¹ CDE refers to the terminology of the BS1192 series. Check out BS1192:2007.

Collaboration / Integration / Communication

"Follow the information and data on an iterative journey around the asset lifecycle..."

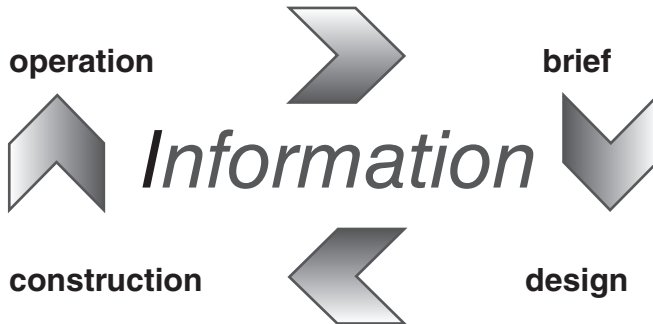


Figure 1.1 Project process in four basic stages.

Consider then your own role and your own organisation. What do you do? What information do you use and/or produce? How do others use your information, what do they return to you and how do you then use that information? How do you collaborate and work together?

In trying to understand the information flows, it is these sorts of questions you need to be asking. You need to understand how you engage with the project information in your role.

As we have seen, this is about 'following the information and data on an iterative journey around the asset lifecycle'.

Once you have an understanding of how you use and interact with the information, you can then begin to think about how this looks in a BIM or CDE.

Remember that in a CDE (BIM) information is digital; it is shared around the team and stakeholders; and, when working in this way, we need to be consistent and coordinated in how we use and produce information. This can then lead to increased efficiency and reduced waste in our working simply because we are reworking information a lot less, and increasing the reliability of what we're working with and thereby informing the decisions that we're making.

As we shall see later, there are many aspects to how we can work with the digital information, producing simulations and reports at the press of a button. New apps and plug-ins are being produced almost everyday.

The beauty of this approach is that we are sharing the same information source on the project – the term *single source of truth* is often used. In BIM, information created on one project can then be used or referred to for the next project much more efficiently. This is where libraries of data and objects come into their own – an approach used by retailers, for instance, in standardising the kit of parts, products and components for their stores.

So, before we get bamboozled by BIM technology, the buzzwords and the jargon, we just need to remember this simple idea of understanding the project information flow and our part in it when working with the other stakeholders.

We need to understand what is produced, who by, what for, what they do with it, who receives it, what they do with it and so on. It is then possible to lay BIM workflows and digital tools over this to see how it works in a CDE.

So ... things to think about:

- Understand your role.
- Understand your organisation.
- What information do you produce?
- How do you use it?
- What information do you receive from others?
- What do they do with it?
- And repeat ... repeat!
- Remember: BIM is about much more than technology and 3D.
- Where do you fit in the team?
- How do you work and engage with other members of the team?