

How Building Information Modelling can improve efficiency

How BIM can help you reduce your carbon footprint, and drastically improve efficiency.

Building Information Modelling (BIM) is more than 3D designs. By augmenting existing manual processes with digital technology, BIM allows you to fully understand a building model. This includes all information associated with building components, how buildings are constructed, and how they will be maintained during their lifetime.

Bringing information together

BIM brings component information together at an earlier stage of a construction project, encouraging greater collaboration with project information and allowing you to update practices and develop more realistic building models. The BIM modelling process defines:

- Performance properties
- Physical characteristics
- Appearance
- Functionality
- Operation and maintenance information
- Costing information

Adding new dimensions

BIM adds extra dimensions to a building model by gathering 'intelligence' as information is created, captured, analysed, and shared. BIM data allows for analysis of three additional dimensions beyond the traditional 3D building model:

4th Dimension – Time analysis

5th Dimension – Cost management

6th Dimension – Facilities management

The adoption and implementation of BIM can be quite difficult for a traditional company to initiate successfully. So, three milestone levels have been introduced to enable a progressive transformation.

Level	Collaborative working	Information format	Information distribution
0	No	Paper or unmanaged 2D CAD*	Paper or electronic prints
1	No	Managed 2D/3D CAD	Some electronic sharing
2	Yes	Managed 3D CAD	Shared common files
3	Full	Integrated automated design	Single shared project model

* Computer aided design

Why is BIM important?

BIM provides a number of important benefits for construction projects:

1. Reduces design errors by making it easier to identify problems before construction starts.
2. Reduces conflicts and design clashes.
3. Enables construction of sustainable buildings, using materials that could decrease environmental impacts.
4. Offer efficiency improvements for maintenance and operation companies.

In essence, BIM is about collaboration. Every stakeholder is working to the same processes and standards, using the same information at every stage of the project. This will provide an opportunity to improve the quality and efficiency of building designs, as well as to strengthen working relationships between stakeholders.