

The advantages of digitizing the built environment

Building information modeling or BIM is the foundation for digitizing the built environment. BIM can help asset designers, constructors, operators and owners adapt more easily and efficiently to changing usage. Digitizing the built environment can transform building construction so assets are more cost effective, better designed and sustainable now and into the future.

Better economic performance

Confronting economic, regulatory and environmental pressures, the engineering, construction and operations (EC&O) sector is seeking solutions to shrinking profit margins.



In the UK, the overall margin for the top 25 firms dropped **below 1.5%**¹



Improvement of 3.8% in productivity in building functions would pay for the facility's design, construction, operations and sustainment through increased efficiency.²



Personnel costs are a significant company expense, so even small gains in employee productivity can result in **large bottom-line savings.**

BIM can help enhance efficiency, reduce construction waste and help lower or eliminate operational expenses by accounting for the future life of the asset.

Improved social outcomes

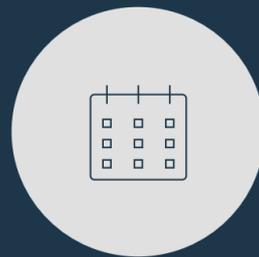
Health and safety is a critical issue on any construction project. The experiences of the people involved in constructing and occupying a building must be taken into consideration.



Every 15 seconds, 151 workers have a work-related accident.³



In the UK, 3% of workers sustain **work-related injuries** and 3% of workers suffer from an illness they believe to be work-related.⁴



These injuries and illnesses result in **1.7 million lost working days.**⁴

BIM can help improve outcomes both during and after construction. At a building site, it can notify others of unexpected incidents, such as weather changes, personnel availability or equipment downtime. Once the project is complete, BIM can help improve building spaces to better meet the needs of occupants.

Reduced environmental impact

Globally, there is a growing demand for smarter buildings and building assets that take environmental factors into account. But sustainable design is becoming more challenging as projects become more ambitious.



Cement accounts for approximately 5% of global **CO₂ emissions.**⁵



China used **more cement** between 2011 and 2013 than the US used in the entire 20th century.⁶



Up to **40% of all solid waste** in the US comes from building projects.⁷

BIM and lean construction methods can help reduce the environmental impact of EC&O projects. Using BIM as the foundation can bring new efficiencies to design and construction and improve long-term operation and maintenance.

Begin with the end in mind

Business transformation, coupled with an intelligent digital strategy, can help EC&O companies create and maintain assets that deliver high performance for decades to come.

To learn more about the opportunities that emerge as the built environment becomes more digitized, download the white paper

"The performance advantages of digitizing the built environment."

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