

Example entry

Applicant: Joe Bloggs

Integration of enterprise BIM with PPP Process

Joe's key objectives were to demonstrate how BIM can improve our effectiveness and efficiency not only during the design, procurement and construction phase but critically during the operational phase (25 year concession period).

So in short, he has not only strived in the quest to ensure that the practice can build the new Cancer Centre virtually and then physically but also to ensure that once built the building will perform over time (embracing 5G technology and sensors etc.) as per the contract. Thus ensuring cost saving benefits as well as an effective and efficient building.

Working with appointed technical consultants, he has developed generic documentation, protocols and responsibility matrices that will be generated into contractually binding requirements on prospective bidders.

Joe has ensured that the following will be encompassed:

- During the prequalification phase (as means of differentiation of Bidder's experience particularly in BIM beyond just mere 'construction experience').
- During Competitive Dialogue – to exploit parametrically the potential of BIM and extensive 3D visualization to objectively (as much as that is possible) compare the Bidder's proposed designs to the 'Reference Design' provided at the commencement of Competitive Dialogue by ourselves – and by doing so involve critically the expertise and knowledge of our clinicians and operational staff.
- During and prior to the Operational Phase (as emphasised above) the key theme here being, in one word – 'integration' of data – to achieve and improve operational performance and information.

The infrastructure programme that he is personally leading will generate generic BIM documentation that will serve as a template for all future major healthcare and educational projects– to that end he is calling his approach 'Enterprise BIM' – EBIM.

Joe's aim is to produce a set of generic guidance documentation as the practice's key deliverable arising from the specifics of our work on the TCS Programme which we feel will be of significant benefit to other Health Boards with capital programmes to use and benefit from us on a case-study and lessons learnt basis. It is considered that there are other sectors beyond healthcare that would also benefit. In a healthcare context the benefits that are targeted through Enterprise BIM are to:

- ensure a clear and manageable audit trail of decisions (through design and construction);
- provide better defined information requirements and specifications – how they result in strong links between technical standards and specific spaces within the new facility. Better management of room specifications;
- provide enhanced design coordination and clash resolution:
 - Drawings and schedules generated directly from the same source – an intelligent model
 - Clashes resolved prior to site "fits first time"
 - Clear communication of design intent
 - Transparency of delivery process

- maximise space management through:
 - clearer understanding of the relationships between rooms;
 - establishing adjacencies through 3D massing;
 - room population with equipment data completed virtually.
- provide advanced mechanical environment visualisations:
 - Engage clinicians and medical teams in the design process
 - Build virtually and then only once on site
 - Ergonomics of equipment placement
- enhance patient safety through detailed analytical modelling
 - Reducing infections through intelligent HVAC systems
 - Optimised equipment placement for improved air flow
 - True Laminar flow and temperature control
- optimise TOTEX
 - Form clearer understanding in relationship between design decisions and their costs across capex and opex
- ensure accurate recording of FM activity
 - Transparency in performance of FM provider
 - Manage interface between soft and hard FM
 - Greater efficiency reduces cost of operation
 - Accurate records with no reliance on paper copies or spreadsheets
 - Monitor performance of FM provider
 - Cost reduction through greater efficiency.

Endorsement

I believe this approach demonstrates excellence and innovation and is of extremely high value and quality to our Health Board and is also a national exemplar worthy of the Award as it is significantly important for major public-sector infrastructure projects throughout the UK and Europe striving to maximise the undoubted potential of BIM and indeed wider digital technology as our industry effectively 'catches up' with the use of such tools and approaches in other industry sectors.

Joe's client