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# FACILITY PERSPECTIVES

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## EDUCATION: DESIGN FOR A VIBRANT CAMPUS

## WORKPLACE CULTURE: THE ROLE OF ACOUSTICS IN THE WORKPLACE




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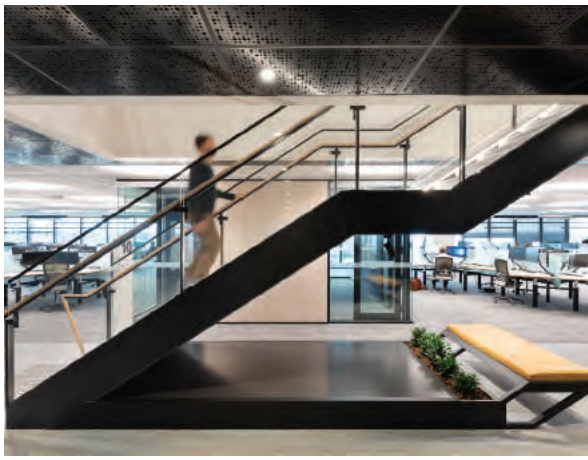
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# BUILDING IN BIM: CAN WE AFFORD IT?



**By Adam Adkin,**
Associate Director,
WT Partnership

Building Information Modelling (BIM) doesn't come free, but the benefits of BIM provide value throughout the life of a project. How can we influence the construction industry to adopt these up-front time and cost premiums to provide a better final solution for our FM industry?

The concept of BIM has existed since the 1970s, yet after 70 years in the industry, WT Partnership (WT) is yet to see an Australian project that truly utilises BIM in design, construction and operation. This is a staggering statistic.

While BIM has been successfully used in countries such as the United Kingdom and New Zealand, in the Australian market, there is a low uptake of BIM and we believe that this is largely due to a disconnect between three key stakeholder groups – the developer, the builder and the building owner. A key observation WT has made as a consultant to the building industry is that unless at least two of these stakeholders are the same entity, the likelihood of a project successfully implementing BIM is low.

In addition to the perceived cost and time implications of working with BIM, WT observes that contributing factors to this reduced likelihood of success are intellectual property (IP) transfer, professional indemnity risk and a lack of ongoing interest in the project.

## INTELLECTUAL PROPERTY TRANSFER

BIM requires IP to be shared across the project group, which means that architects, engineers, project managers, cost consultants, builders and subcontractors have a level of visibility that many would find unsettling or alien to standard practice.

## PROFESSIONAL INDEMNITY

With the sharing of information and open protocol systems comes the increased risk of cross-pollination if all does not go to plan. The argument about which consultant or party is responsible for mistakes and errors can become troublesome and impede the project delivery. For example, if the project is designed in BIM, and the project quantity surveyor (QS) is instructed to base an estimate on the quantities that are provided by the BIM model, who is responsible if a quantity is incorrect? Does the QS have a responsibility to check all quantities by way of a traditional take-off? If so, where is the time and cost saving that BIM is supposed to deliver? Do we allocate additional time and cost for the designers to model in BIM, only for other consultants to still complete manual checks and balances of the model?

## ONGOING INTEREST IN THE PROJECT

Put simply, developers develop to make money and builders build to make money. With no ongoing interest in the project post completion, where is the incentive for developers and builders to do the right thing?

If the above issues can be circumnavigated, the ongoing benefits of BIM to the facilities management (FM) industry would be invaluable, with functional and complete asset data made available to inform clients and to support FMs across the industry. Maintenance pricing would be based on actual asset numbers, with fixed labour loaded FM contracts where value for money is unquestionable. Asset tagging/barcoding would be completed as a matter of course, with geographic information system (GIS)/location data available from day one of the building operation.

## ALTERNATIVES TO BIM

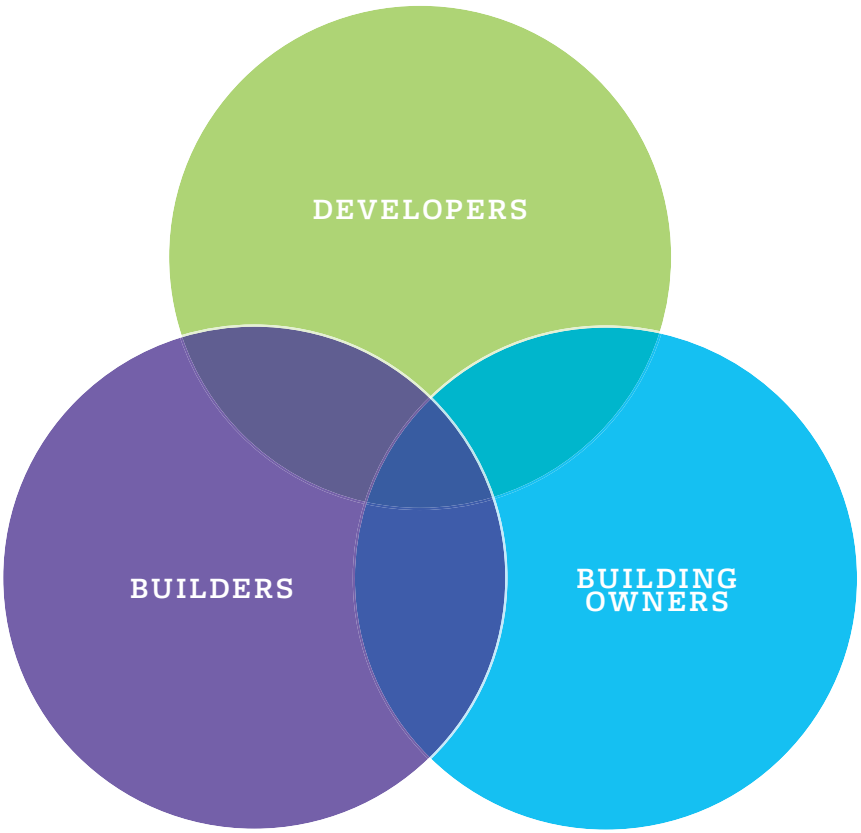
While we wait as an industry for the issues around BIM to be resolved, WT offers the following advice to our clients to work towards building better asset information to inform the operational phase of a project.

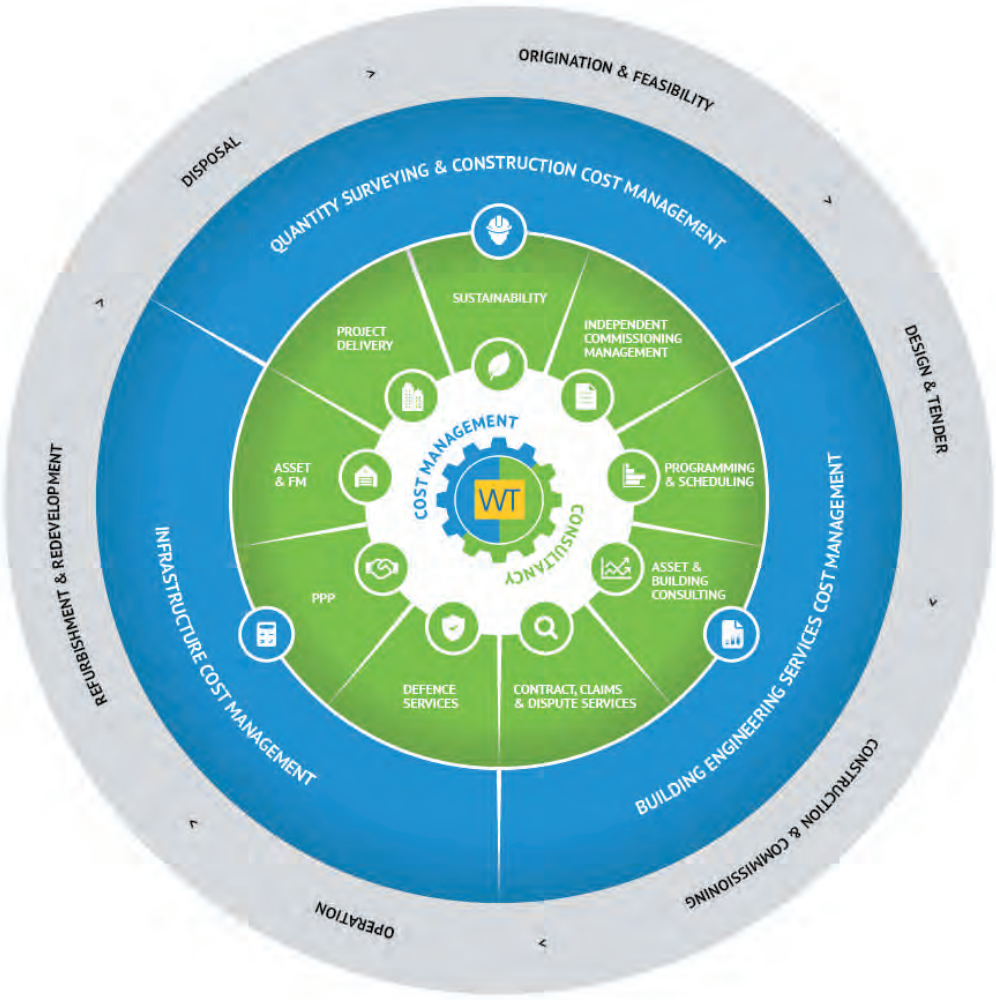
**Step 1 – Manage your defects liability period (DLP)**

DLP maintenance is often assumed to be a fully comprehensive, planned and reactive maintenance service, when in reality the builder sees this as a warranty period. Generally, with the exception of statutory maintenance, no planned preventative or reactive maintenance is undertaken during the first 12 months following practical completion.

**Step 2 – Develop an asset register**

Unbelievably, asset registers are not generally provided as part of the as-built documentation or operation and maintenance (O&M) manuals. WT sees projects where O&M information consists of product brochures and marketing material, rather than asset-specific user guides or manuals. Without a complete asset register, the builder is in no position to deliver regular maintenance to the installed assets






during DLP. It is very difficult to produce a maintenance plan without first having an asset register to apply maintenance tasks and frequencies to.

WT is regularly approached by building owners to develop asset registers and finish schedules for new buildings. This can be a prolonged exercise due to working restrictions caused by the occupied building and having to source as-built documents to gather information on assets that are concealed behind walls, and in ceilings and raised floor voids.

WT advises clients to enforce the completion of asset registers to a simple template and place this requirement on the builder as part of the construction contract. The best approach is to use a simple template to collect key information including sizing (rating and capacity) data of assets. If asset registers are developed correctly, this can feed into good maintenance and life cycle management.

**Step 3 – Nominate the procurement of key assets**

Builders are generally given the option of which manufacturers and suppliers they will procure equipment from. In many cases, this leads to either a predetermined supplier based on existing purchasing agreements, or to the most cost-effective supply and install option. In either case, the ongoing costs of maintenance and replacement are not considered, leaving the future building owner with operational headaches to resolve.

WT advises our clients to nominate/novate the supply, install and first-year maintenance of key assets (such as chillers, boilers, air-handling units and fire systems). This approach ensures clients have control over the key assets that are to be installed at the property.

Procurement of assets and equipment for new buildings should include design, supply, installation, commissioning, DLP warranty, DLP maintenance and post-DLP maintenance (one-, three- and five-year options). This can enable the cost of asset ownership to be considered prior to committing to a particular manufacturer or supplier.

**Step 4 – Facilities management**

When the 12-month DLP expires, maintenance and repairs become the responsibility of the building owner or building operator. With limited information, it is difficult for clients to prepare (and for FM suppliers to submit) tenders for maintenance contracts with any certainty, as the extent of assets is not known. It is also very difficult to administer maintenance contracts due to this lack of information. Engaging with the FM supplier market early, and involving the preferred FM partner during DLP, allows a smooth transition to the operating phase of a project.

If BIM is done right, the benefits realised during the operating phase of a project are invaluable. When time, cost or collaboration of the various project parties obstructs or limits the use of BIM in design and construction, there are alternative steps we can take as an industry to maintain a level of knowledge about our built environment.

**ABOUT THE AUTHOR**

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