

# Preparing for the paperless world

While it is universally recognised that integrated digital 3D-rich building models are the future of the industry, there is much work to be done in developing the framework for the development of these systems in Australia and overseas.

Currently, there are many different systems used by designers, constructors and facility managers. Developing and adopting common standards for the sharing and exchange of information will significantly reduce errors and data re-entry.

It is estimated that the same information is entered on average seven times in different systems before a facility is handed over to the owner organisation.

The same information is often re-created several times in different software. This is an enormous impost on the property and construction business – and an area where Australia can take the lead at an international level.

The potential is so great that it is difficult to quantify the impact that integrated, intelligent building information and database systems will have on the construction industry. Currently some 60-90 per cent of all variations are due to poor project design documentation.

A “rich” digital model offers coordinated, consistent, computable information about the design of a facility (infrastructure or building), which yields reliable digital representations of the building or infrastructure element.

These representations can be used for design and fabrication decision-making, performance predictions (including safety and sustainability), cost-estimating and construction planning and facility management.

The outcomes of Construction Innovation’s recent Sydney Opera House FM Exemplar research project (see <http://www.construction-innovation.info>) demonstrated that such a digital model can also incorporate facilities management information – such as condition reporting, energy consumption and room bookings.

This approach enables different disciplines – the property developer, architect, structural engineer, cost planner, constructor and facility manager – to link into a single, distributed digital model.

As the lead research organisation for Australia’s property, design, construction and facilities management industry, Construction Innovation plays a vital role in developing standards and protocols and enhancing industry capacities for the digital future.

Construction Innovation is working with industry to identify ways to reduce re-work and inefficiencies across the supply chain through common standards for integrated digital models.

Together, we reduce the triple bottom line costs of buildings and infrastructure during design, construction, operation and renewal and improve industry skills in the developing integrated digital and online collaborative environment.