

COMPANY

A.G. Coombs

LOCATION

Australia

SOFTWARE

Autodesk® Revit®
Autodesk® Navisworks® Manage
Autodesk® Fabrication CADmep
Autodesk® Building Design Suite

A.G. Coombs trusts in BIM for end-to-end building services delivery

Australian MEP services organisation leverages BIM to ensure smoother project delivery and collaboration with partners

"We aim to complete our transition to full BIM based workflows by 2014 to deliver significant time and cost savings and better project outcomes for our clients."

— **Warwick Stannus**
 Group Engineering Manager,
 A.G. Coombs



Using the Constructible Revit Model allows A.G. Coombs to make greater use of off-site pre-fabrication.

The organisation

A.G. Coombs is an end-to-end specialist building services provider offering clients building services from design, construction and commissioning through to service, maintenance, technical advice and support. With 65 years' experience, the company counts among its recent successes ANZ Bank's global headquarters, Melbourne's new Royal Children's Hospital, Melbourne Recital Centre, and many of Australia's largest data centre projects and upgrades.

The company uses Autodesk software, including Autodesk® Revit®, Autodesk® Fabrication CADmep, Autodesk® Navisworks® Manage and AutoCAD®, leveraging the Building Information Modeling (BIM) process to streamline project operations from the design phase to construction and site maintenance, managing workflows throughout.

A key link in the BIM chain

From 2009, A.G. Coombs was seeing increasing requests for construction projects to be documented and delivered using Building Information Modeling (BIM).

"We had been using the original Fabrication CADmep software that could be incorporated within a federated model since 2008," said Warwick Stannus, Group Engineering Manager, A.G. Coombs. "We increasingly found that

design consultants were documenting projects in Autodesk's® Revit® MEP, and recognised early the benefits of using this design model as the platform to develop a fully integrated Design-to-Fabrication workflow.

Realising the BIM Potential

The BIM model quickly emerged as a key project delivery platform that, together with project management and financial systems, allowed A.G. Coombs to deliver projects more effectively. The company recognized that the platform's potential moved beyond traditional design analysis and clash coordination activities to include a wide range of other processes such as tendering, scheduling, procure-to-pay, site installation, cost management, commissioning and maintenance.

Having achieved results from the implementation of its Design-to-Fabrication workflow, A.G. Coombs' attention has now turned to leveraging the "BIM Design to Commissioned As Built" workflow, which focuses on the development of the Autodesk Revit design model through to the Revit Construction Model that is used for the construction phase delivery including coordination, plant, equipment and fitting procurement, scheduling, commissioning and, ultimately, delivery of a commissioned "As-Built Revit Model" to clients.

Supporting the Air Conditioning and Mechanical Contractors Association of Australia's (AMCA) BIM-MEP^{AUS} initiative

The BIM-MEP^{AUS} initiative was initiated with the aim of facilitating the implementation of Building Information Modelling and Integrated Project Delivery within the Australian construction building services sector.

In 2010 AG Coombs found that the majority of MEP design firms the company dealt with were embracing Autodesk® Revit® software. Having seen rising client demands for as-built BIM models as project deliverables, the AMCA recognised that realising the potential of BIM through project delivery and into ongoing facility management was being prevented both by a lack of industry-based standards and workflows as well as a lack of understanding and engagement by the MEP supply chain. Establishing the necessary industry standards and workflows would be critical.

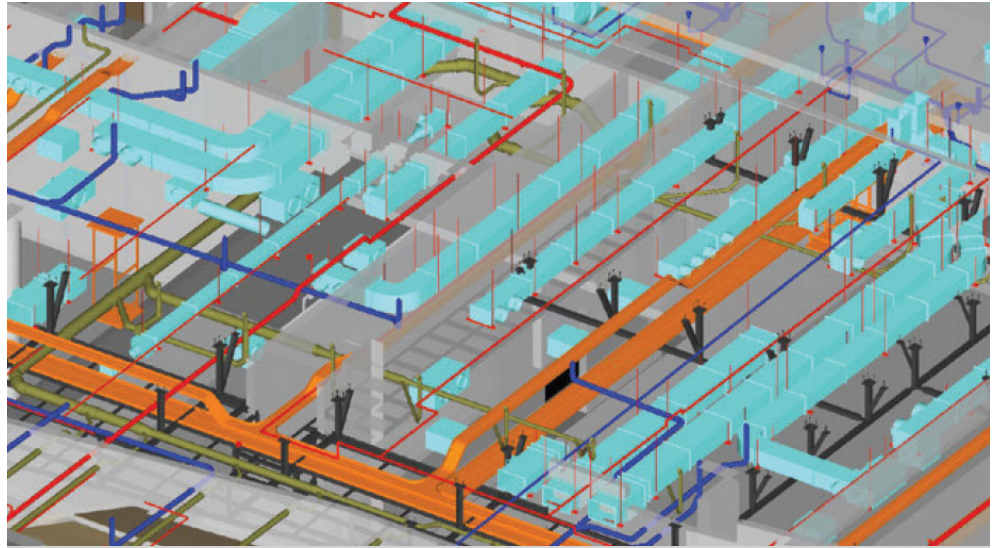
"The BIM-MEP^{AUS} initiative is something that is very much in line with our own business objectives and A.G. Coombs has made a significant contribution to the initiative," said Warwick. "We have adopted the viewpoint that if it's good for the industry, it's ultimately good for us".

The majority of AG Coombs' large projects now begin with provision of the Revit MEP model from the design stage onwards, and application of the BIM-MEP^{AUS} Revit template significantly improves the program's conversion efficiency. It is also critical for AG Coombs that the supply chain create content to agreed standards and levels of functionality. BIM-MEP^{AUS} builds on proven industry workflows to provide the data sets to support construction delivery and supply chain integration.

"Most people working on BIM based projects are not modellers," said Warwick. "So the models and the data within them need to be easy to access and use; if it is complex, people won't buy into it. With this in mind, leveraging BIM with our supply commissioning teams."



A.G. Coombs Site Teams actively use BIM 360 Glue to improve site safety, productivity and track progress.



Supporting the MEP supply chain

A.G. Coombs is supporting the establishment of industry standards, driven primarily by the AMCA's BIM-MEP^{AUS} initiative, by providing technical support to the establishment of design, procurement and commissioning data sets. Where standards have been developed, A.G. Coombs requires suppliers to provide the necessary BIM-MEP^{AUS} models as part of the order. The company is now looking to pilot procure-to-pay workflows with a number of key suppliers with the aim of achieving seamless integration of supplier cost tables into estimating and cost planning systems.

Reaping the competitive advantage

The implementation of a BIM strategy is one of the most significant change strategies that the organisation has initiated in its 65 year history and has seen the engagement of every part of the business including estimating, project management, engineering, drafting, commissioning, pre-fabrication and site teams. ROI is realised at many levels within the organisation, beyond the benefits normally associated with BIM.

Exciting innovation is being generated throughout the business as people start to realise the opportunities BIM creates; whilst scheduling is principally used as a powerful construction planning tool, A.G. Coombs staff are increasingly using it to support a range of other activities such as site inductions, and staff training and mentoring. The development of "procure-to-pay" workflows allows orders to be placed from the fabrication model.

"The software will become a key part of managing the supply chain," said Warwick. "We're already seeing that using Revit to manage the tender process has brought about some significant improvements in the form of providing accurate schedules for suppliers as well as the opportunity to review designs and identify value adding opportunities."

"Most people working on BIM projects are not modellers. So the models and the data within them need to be easy to access and use if the wider project team is to fully embrace the benefits of BIM. With Autodesk products addressing this key accessibility issue we are seeing increased innovation as people find ways to leverage the model for a whole range of new purposes."

— Warwick Stannus
Group Engineering Manager,
A.G. Coombs

Future savings

"We aim to complete our transition to full BIM based workflows by 2014 with the principal objectives being significant time and cost savings and better project outcomes for our clients," said Warwick. A.G. Coombs is currently piloting the BIM-MEP^{AUS} "BIM Design to Commissioned As Built" and "Design-to-Fabrication" workflows on a number of projects.

By using the BIM-MEP^{AUS} template and the latest Fabrication workflow the company is already realising significant design-documentation savings as well as on-site savings through site positioning and reduced site clashes.