

BIM Down Under

This paper explores how Revit Architecture is being adopted by Australia's building industry - characterized by its hands-on, can-do approach to new technology - and profiles why some firms 'down under' are discovering the competitive advantages of building information modeling.

Snapshot of Australia's Building Industry

Australia has a prosperous economy. Their business and consumer confidence remains strong despite the recent global slump and their building industry is similarly robust. Although the land size of the Australia is vast (just slightly smaller than the United States) its population (twenty million) is relatively small – approximately 7% of the population of the United States. And most of country's inhabitants live along its southeastern coast, near Sydney and Melbourne. This population concentration has produced a tightly knit architectural community.

In such close quarters, companies are always on the lookout for techniques, products or technology that can help to distinguish them over their competition. Such is the case with building information modeling - early adopters realized the competitive advantage it provided in a tight market and the word quickly spread.

Today, Revit building information modeling has a strong presence in the region - with some of the most sophisticated, innovative users in the world. Australian firms are currently using the Revit® Architecture software for a wide variety of applications: building design and documentation, facilities management, tenancy planning, coordination of large complex projects, and even highly detailed construction planning.

Design-Led Documentation

With offices throughout the Pacific region, Architectus (www.architectus.com.au) includes 160 architects, designers and planners. Spanning all types of commercial, industrial, leisure, education, and institutional projects, Architectus has adopted Revit Architecture as its main platform for building modeling and CAD.

Their current Revit-based projects include a 120,000 square foot office and warehouse development, student housing, apartment buildings, and several mid-rise and high-rise projects in China.

Architectus has always been forward thinking about technology. One of the first firms in Australia to fully implement object CAD technology using AutoCAD® Architecture, they saw the immediate advantages of moving to the Revit purpose-built platform for building information modeling when it became available. Architectus believes that with Revit Architecture, building modeling is now a mature, reliable, and complete technology, suited to all parts of the design and documentation process.

"Revit allows us to embed design and detailing decisions into the building model, so that the designer's vision is carried through into the construction documents," reports Rodd Perey, CAD Manager for Architectus. "With design-led documentation such as this, the changes flow through the whole project - there is no need to make decisions before the information is fully available, and no penalty for modifications at any time."



Figure 1

Architectus uses Revit to their competitive advantage on projects such as this 57-apartment complex located in College Crescent, Hornsby, New South Wales.

Cutting Production Time in Half

Charles Glanville Architects (CGA), based in Parramatta, is the one of the largest architectural practices in the western Sydney area. Established in 1976, they used 2D design technology for decades but realized their technology vision needed to match their architectural vision, so they moved to Revit Architecture in one bold step.

According to the firm's principal, Charles Glanville, "Ideally we wanted design changes to only happen once in our new system and thereafter to be reflected throughout the design document, saving time and increasing accuracy." The actual results were dramatic, with CGA reporting that they have cut the time required for complicated design processes in half.



Figure 2

Revit Architecture image of a proposed \$32M dollar mixed-use complex located in the Western Sydney region of Quakers Hill. Courtesy of Charles Glanville Architects.

And although this productivity gain has delivered accelerated ROI (return on investment), it's also led to a less tangible but more significant competitive edge. "Interacting and designing with clients is a vital process for any architect. The Revit building information modeling solution has transformed this process for us and our client communication has increased to new levels," reports Glanville.

Competitive Advantage

Hayball Leonard Stent Architects (HLS) (www.hayball.com.au) is an architectural and interior design firm based in Melbourne with representative offices in Beijing and Shanghai. The firm undertakes projects of varying sizes, construction types, and overall budgets. These include high-rise residential, corporate, educational, and urban planning projects with project budgets between \$350K to \$175M.

Focusing on architectural innovation, HLS continuously investigates and implements new technologies to tackle its diverse requirements - and they've recently adopted Revit Architecture. "Revit is the most-accurate representation of building information modeling. It is our design tool of choice to achieve competitive advantage," reports Bilal Succar, the firm's CAD Development Coordinator.



Figure 3

Just two architects from HLS used Revit Architecture to produce 95% of the documentation for this on-time, within-budget, fast track project: a six-story student apartment building in Melbourne.

Increasing Project Throughput

Benn Design, located in North Sydney, has been using Revit Architecture for almost four years on projects of all size: from small \$200,000 renovations to a large \$700M dollar religious center. Building information modeling has allowed the firm to handle more jobs, with higher quality deliverables, in less time – enabling them to grow from a one person practice to a five-person firm today, with more expansion anticipated.

Principal Wesley Benn reports that they recouped their capital and retraining costs on the first project in which Revit Architecture was implemented. "Revit offered us a program that thinks and works the way we do, rather than expecting us to change to work the way it does," states Benn. "It has become, finally, a pleasure to use design software."



Figure 4

Just one person from Benn Design used Revit Architecture to draw and document the tall building complex superimposed on this photograph of the existing site, a downtown street in Liverpool, NSW.

Lessons Learned

Firms who have been frustrated by model-based architectural design software will be pleasantly surprised by the maturity of the Revit platform for building information modeling. The successes of firms in Australia underscore the fact that building information modeling is more than a competitive edge – it's a competitive leap. As Charles Glanville puts it, "Revit has shown us benefits I did not expect. It's brilliant!"

About Revit

The Revit platform is Autodesk's purpose-built solution for building information modeling. Applications such as Revit Architecture, Revit® Structure, and Revit® MEP built on the Revit platform are complete, discipline-specific building design and documentation systems supporting all phases of design and construction documentation. From conceptual studies through the most detailed construction drawings and schedules, applications built on Revit help provide immediate competitive advantage, better coordination and quality, and can contribute to higher profitability for architects and the rest of the building team.

At the heart of the Revit platform is the Revit parametric change engine, which automatically coordinates changes made anywhere — in model views or drawing sheets, schedules, sections, plans... you name it.

For more information about building information modeling please visit us at <http://www.autodesk.com/bim>. For more information about Revit and the discipline-specific applications built on Revit please visit us at <http://www.autodesk.com/revit>.

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