

ArcHaus

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Wellington, New Zealand

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—Jason Howden

Associate – IT Systems Manager

ArcHaus Architects Limited

On Top, Down Under.

New Zealand's ArcHaus Using Autodesk® Revit® Architecture and Autodesk® 3ds Max® Design Software to Create Larger, More Sustainable Building Projects.



Image courtesy of ArcHaus Architects Limited.

Summary

New Zealand architectural and design firm ArcHaus, with offices in Wellington and Auckland is headed up by company directors Mike Cole and Dennis Burns and supported by an award-winning team of 30. Always interested and involved in a wide variety of architectural and interior design projects for commercial, industrial, and residential, the company's projects have been trending upwards in size over the last few years.

Looking for an innovative way to handle larger projects more efficiently while satisfying their creative impulses, the ArcHaus team began working with Autodesk® Revit® Architecture and Autodesk® 3ds Max® Design software a few years ago. To speed things along, they also hired Jason Howden, an experienced Revit-based software user on large-scale projects in both the United Kingdom and his native New Zealand.

Howden spoke with Autodesk about life at ArcHaus, sustainable design, and a challenging project known as Metropol.

The Challenge: Metropol

"I've been using Revit-based software a lot in the last eight years or so," says Howden. "I worked on some quite large correctional and hospital projects in the UK and in New Zealand, and have been very enthusiastic about what the software can do. ArcHaus made it quite clear that they wanted to lead the Revit charge in New Zealand."

Moving development to Autodesk 3ds Max Design and Revit Architecture is already paying dividends. ArcHaus is now bidding, winning, and completing projects that would previously have required a significant increase in staff. With a struggling economy making efficiency more important than ever, the company is enthusiastic about offering their client cutting-edge services such as building information modeling, 3D design visualization, and 4D construction planning through Autodesk Navisworks.

Fortuitously for ArcHaus, shortly after Howden's arrival the New Zealand government began strongly promoting sustainable design for building projects. Particularly over the last 18 months, the company has been working hard to encourage and ensure sustainable design on their projects. Nowhere is this more evident than on Metropol, the spectacular, multi-story, "mixed use" residential building project currently occupying the talents of architect Huw Parslow -- BA, DipArch, DipBRS -- and the ArcHaus team.

"Metropol has been a significant challenge in a variety of areas," says Howden. "It has also been extremely exciting to be associated with. So far as we know, Metropol is the first mixed use, multi-story residential building expected to receive a green rating in the New Zealand Green Star Rating system. The building will employ wind generators – to harness 'Windy Wellington's' famous airstream – as well as regenerative elevators, low emission lighting, green roofs, solar collectors, solar-powered water heating, and more. Even the paint being used is low emission."

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Also challenging Parslow and the ArcHaus team was Metropol's location at the heart of Wellington's Cuba Character area, which borders many historic, heritage areas. While the building's proposed height promised spectacular, 360 degree views of the Wellington Basin, surrounding hills, and more, the prospect of a tall modern building did not exactly thrill Wellington city planners.

"It was clear from the outset that the planners would need some convincing," admits Howden. The ArcHaus team got right to work to do just that.

The Solutions

In order to convince both their clients and the Wellington city planners of Metropol's viability as both an aesthetically acceptable and an environmentally responsible building, ArcHaus began by modeling the entire project in Revit Architecture.

"Revit Architecture was a critical design tool in the early stages of Metropol," says Howden. "We were able to try all kinds of possibilities in 3D in a short space of time. In fact, we were able to turn out 4 overall designs of the project inside of one week. That simply wouldn't have been possible before. The flexibility and speed of the software really helped us test options and scenarios. Needless to say, Autodesk software is tightly integrated into our entire design process."

Having modeled and tested possibilities in Revit Architecture, the ArcHaus team made heavy use of Autodesk 3ds Max Design, using DWG formatted files before switching to Autodesk® FBX® software files in order to export files out of Revit Architecture.

The Results

"We were able to link directly with 3ds Max Design and apply material and lighting calculations across our specifications," says Howden. "We were then able to produce these great renderings. Initially, we created many simple conceptual, white, glass-like models to describe the overall bulk and form of the buildings to the client. As the design firmed up, we started applying more life-like materials, scanning real tile and wood samples and even making our own 3D plants for the rooftop scenes."

With some added help from the integrated mental ray® software renderer in both Revit Architecture and 3ds Max Design, Howden transformed what had been a pipedream into a confirmed \$60 million project.



Image courtesy of ArcHaus Architects Limited.



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"I was trying to convince people how easy these renders could be," he says with a smile. "One evening, I used Revit to create 4 renderings. It only took me about 30 minutes, but my boss was duly impressed the next morning. On the spot, he asked me to create 6 more for a planning meeting that day. When the city planners saw these renderings that proved that Metropol would be an asset, not a blight, on the heritage neighborhood, they said: 'We have to have this building in our city!' That was very gratifying."

While the Metropol site consists of a full-scale prototype of one of the proposed apartments, the project is proceeding apace despite these troubling economic times. Meanwhile, the integrated workflow facilitated by Autodesk software continues to influence most aspects of ArcHaus' daily operations.

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"The integrated workflow has taken our performance up several notches," says Howden. "For one thing, we've managed to reduce rendering times from a week to a day, and we can produce high-end conceptual imagery that clients can use for various marketing purposes. The depth and flexibility of Autodesk software has evolved to the point that is completely natural to the way we work. That is simply huge for us."