

## BOLT-ON BUILDING

New technology for apartment modules might revolutionise the industry. **Report: Gina McColl**

● Risky, exposed and dangling hundreds of feet in the air no more. The high-rise building site of the future is indoors, highly automated and available for toiling on around the clock, according to new Australian construction technology company Unitised Building.

Developers and investors take note: the local construction industry may just have found its Henry Ford.

The company's technologies halve construction times as well as reduce costs such as transport, waste and energy use, and they are suitable for apartments, hotels and any other building that does not need large clear-span areas.

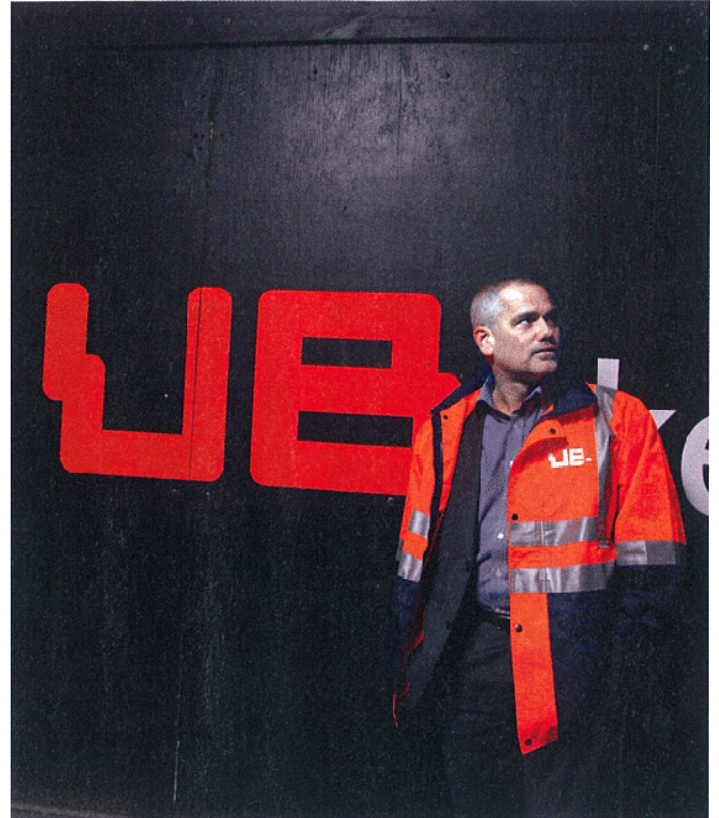
Unitised Building relies on a patented technology that enables the construction of buildings in modules. This means they can be manufactured with all fixtures, fittings and facades offsite. Services such as water, power, even dishwashers and alarm systems, are installed, connected and tested in the factory, then permanently connected onsite.

"In general, a bit of caulking and window washing is all that's needed," Unitised Building chief executive Marc Johnson says. "We can test everything in the factory, then no one has to go back in before someone moves in."

Residents are moving in to "Little Hero" in Melbourne, the first building constructed using the technology and having a finished prototype has given the private company momentum. With its factory booked out for the rest of 2010, Unitised Building is scaling up, opening a second Melbourne factory and looking for sites in Sydney and Brisbane. International patents have been filed in 70 countries, where the company may either set up new operations or license the technology to large construction companies.

"This is a bit of a killer app in the construction industry," Johnson says. From revenue of \$16 million in 2009-10, Unitised Building is predicting \$80 million to \$100 million in 2010-11. The only constraints to growth, Johnson believes, will be manufacturing capacity – and the bank financing problems that have

**A whole new construct:**  
Unitised Building chief executive Marc Johnson



plagued property developers since the credit crunch.

In the United States, Europe and increasingly China, prefabrication is an important part of the construction industry. This trend is making its way into Australia. Last year, Quicksmart Homes, founded by Tom Lane, scion of the family behind the Orotan leather-goods brand, constructed an accommodation block at Canberra's Australian National University entirely out of shipping containers outfitted in China with bathrooms, kitchens and balconies.

To date, prefabrication has been limited by its use of walls as structural elements, and by the need to transport units in containers. As a result, designs have been limited to container-size rooms – restricting the method to the construction of accommodation at the lower end of the market.

Unitised Building, in contrast, uses steel structural units – columns and connecting plates that are stacked and bolted onsite, with accuracy to one millimetre. Unlike other modular systems, the size of the unit can vary. "We say, just give us the building exactly how you have designed it and sold it," Johnson says.

The cost of the technology means that despite the savings in time and materials, construction margins are no higher than in a conventional project – although this may change, Johnson says. Nor is the technology a way of bypassing the notoriously powerful building unions, with which the company has agreements.

Rather, savings are in the reduction of risks that can dog construction – bad weather, injuries, or one trade falling behind and having a knock-on effect.

"We can achieve margins with more confidence and reduce the market risk that something will change in the economy that will make it hard for people to settle," Johnson says. "That's a dramatic advantage."

The construction technology is the brainchild of entrepreneurial architect and property developer Nonda Katsalidis, who has a stake in Unitised Building, along with former JPMorgan investment banker Johnson, and Hickory Developments, a Victorian residential construction company. Hickory's involvement has not been a barrier to talks with other construction companies including Grocon and Probuild; nor is Katsalidis' involvement a barrier to working with other architects. Unitised Building operates as a stand-alone construction company and large subcontractor.

Probuild's Victorian state manager Peter Southwell says the national construction company has not committed to the technology but is excited about the opportunities it offers.

"At the moment, there is no clear cost advantage that ... makes changing the current technologies worthwhile," Southwell says. "The real benefit is time saving. Whether that outweighs the cost of establishing the offsite construction infrastructure is not fully resolved. But I think that will change." **BRW**