

Apartments made to order

Construction hits the cutting edge, writes **Philip Hopkins**.

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NONDA Katsalidis has long made his mark in architecture, but the Melbourne designer is now making radical ground in the construction industry.

His invention — creating a way to build apartments in a factory and piecing them together into an apartment block on site — is cutting-edge technology.

"It's a fully patented system. We are doing things others are not doing. There is a lot of prefabrication happening in the world," he told BusinessDay.

Katsalidis is in a venture with partner Marc Johnson in the company Unitedised Building. UB builds the apartments in-house at its Brooklyn factory in Melbourne's west. "It basically turns construction into manufacturing," Katsalidis said.

The eight-storey Little Nero project in Russell Place in the CBD was their first commercial venture. It has since been followed by the 200-apartment, \$45 million The Nicholson in Coburg; the five-storey, 109-apartment, Penton in Plenty Road, Preston, valued at \$22 million; and the 11.5 million Pegasus Apartments in Whitehorse Road, Mitcham.

The catalyst for the concept was the rising cost of construction. "I was looking to make construction more efficient and reduce the cost, and improve the quality

and speed," Katsalidis said. "Concrete is now limited to small gains in efficiency, requires high energy, and contributes to waste and landfill." Steel, which can be recycled in a perpetual cycle, became the preferred material.

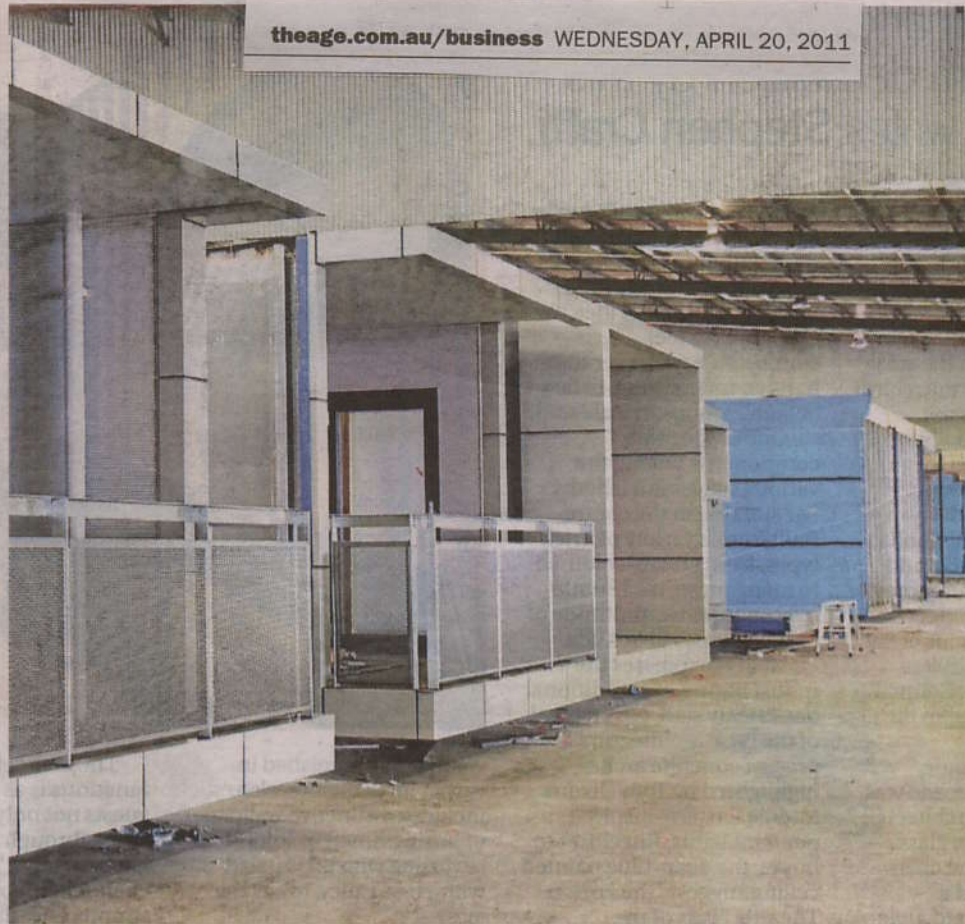
Katsalidis is proud of the results, and lists the benefits, which include: a typical project weighs less than 25 per cent of a normal concrete structure; its lightness means it can be moved easily; and it's safer and faster to erect, with construction time reduced by up to 50 per cent.

The large amount of recyclable materials, less waste and lower embodied energy have given the process lots of bonus points for sustainability, which prompted VicUrban to use it on the Nicholson Street project.

"We can manufacture a whole range of components. There are different fitouts for different clients, and no technical limits, no height limitations," Katsalidis said. "It's very accurate — the thing has been built in a manufacturing facility."

Katsalidis said the room-based technology was not suitable for open-plan offices or big spaces. "The walls are part of the structure," he said, making the building method ideal for hotels, apartment and hospitals.

"The furniture can be in there as well. It's like a



Architect Nonda Katsalidis is turning construction into manufacturing with prefabricated buildings.

moving van." There are no post and beam frames compared with a conventional concrete structure, with its big columns. "We have a structure, it's virtually earthquake-proof. Try to bring something like that down. Heavy things fall over and break up, light things are very robust."

Katsalidis emphasised that the units were not modular, but all "tailor

made" in factories. Architects had complete design freedom, unlike traditional prefabrication models.

Crucially, the process had many safety benefits. "You work on the ground floor, not at heights; there is better quality control, and a more inclusive labour force," he said.

"You retain people into older age, and have more women employees. Conventional building is

more for younger, strong men."

The future is looking good. "It's a wave — it's the way construction will go," he said. "We have a full book until the end of the year, and are talking to groups such as mining companies. They can't build fast enough in remote locations."

Brooklyn can work 24 hours a day if needed and may be setting up more factories interstate.