

ONE-ON-ONE

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## Warren McGregor is the CEO of PrefabAUS. He spoke to William Poole.

**WPO:** Tell us about PrefabAUS, how it was established, and what it constitutes as.

**WM:** Warren McGregor PrefabAUS is Australia's peak body for offsite construction. It was established in 2012 as a result of a future proofing strategy. It was formed in June 2012 when 54 delegates from manufacturing, architecture, government, education, and university research leaders agreed the future of offsite construction for the education sector. The main body was set up as an Australian Research Council Living Grant. One core mission that emerged from the Future Skills Strategy was the need for a peak body for Australia's prefabricated building industry to support collaboration, innovation and quality information sharing. PrefabAUS came into being in 2013.

**WPO:** Embedded in the PrefabAUS constitution is the primary objective to support, enhance and advance Australia's prefabricated building industry through collaboration, innovation and education. As part of this, PrefabAUS seeks to engage and address barriers to the uptake of building prefabrication, encourage research, increase government and academic awareness, and promote the manufacturing of offsite construction, and facilitate industry networking.

**WPO:** What is your membership made up of?

**WM:** In just our first year, membership is now well over 200 and continues to grow apace. PrefabAUS members include manufacturers of prefabricated buildings and modules, full pods, bathroom pods and sub-assemblies, as well as component suppliers, architects, engineers and other technical consultants, project managers, sub-contractors, allied industry associations, government and academic researchers. That breadth of membership reflects the multi-industry interest in prefabrication. It is also vital to achieving meaningful change in offsite construction. Above all the elements of the project team need to be on board with the industry to accept prefabrication as well as to be successful in that the potential benefits of off-site can be realised on the project.


Offsite construction can range from traditional materials and trades with the final fabrication being off-site, to the work site right through to highly specialised manufacturing. This knowledge we are seeing a wider range of prefabricated components and sub-assemblies being offered. These include wiring systems, services pods and automated manufacturing of precision building panels, often can be readily assembled on site into the complete building.

**WPO:** What level of collaboration does PrefabAUS engage in on behalf of its members?

**WM:** Providing leaders for our members to attend, such as networking events and national events, often with a view to spin-off projects from members and others on different levels. Last year PrefabAUS hosted a national meeting for the Arts Media and Information report from the US.

We have also been successful in promoting government awareness and interest in prefabrication and offsite construction, for example in the Victorian Government's Construction Technology Sector Strategy, released earlier this year. PrefabAUS also seeks to foster research and academic interest in the industry. At present, PrefabAUS is an industry partner to the Australian Research Council programs. One is the Innovation Manufacturing Cooperative Research Centre (IMCRC), for which PrefabAUS is also an industry partner organisation. The other is the Centre for Advanced Manufacturing of Prefabricated Housing (CAMP-H) being co-ordinated by the University of Melbourne.

16/08/2016



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### prefabAUS 2016 Conference

From: 10 October 2016 to 12 October 2016



Delivering next generation buildings

Our feature event each year is the PrefabAUS annual conference, which is held over three days including a site visit. We've very pleased that this conference has become Australia's premier conference for prefabrication and offsite construction industry. This year our conference will be held in Sydney from 10-12 October and will feature presentations and site visits, with site and workshop and discussion panels. Our Conference theme this year is "Delivering Next Generation Buildings". The site visit will be around Ryan Drive from the University of Melbourne an international high-rise apartment.

**WPO:** Prefabricated construction seems to be enjoying real growth at the moment. What factors are driving that trend?

**WM:** There is a mixture of factors at play that together are creating real momentum. Reducing the construction time on site can be a major factor and is particularly relevant for remote sites or those with difficult access or sensitive aesthetic nearby such as a hospital. Creating technologies such as BIM based parametric modelling or management, digital collaboration platforms to improve coordination and assembly (DMM) and Laser construction have been important facilitators by streamlining processes and providing greater assurance that elements of a project coordinated at different locations come together on site as intended.

Resilience around design for offsite construction are being broken down, with very progressive design outcomes now being achieved in residential, educational and healthcare applications. The growing hybridised base of projects has seen important in building awareness and understanding of what offsite construction can offer and expanding the number of project teams becoming experienced in understanding these projects. Large bodies like Lease and Fraser Property (previously Australian) are adopting offsite construction. And Monocore has been the leader partner for the CSR Wulco closed panel system.

On the government side, the US government has committed \$200m to lead local manufacturing hubs to produce 10,000 prefabricated homes, while Singapore is promoting prefabrication in its carbon neutral goal as part of its national construction productivity strategy. Highlighting modular bathroom pods in apartment projects. High-level awareness of the importance of sustainability through reduced waste owned and equitably at site has been a motivator for many of our members, especially from the architectural fraternity. More broadly, commonly cited advantages of prefabrication include shorter program times, increased construction productivity, reduced demolition waste, reduced site disruption, factory and off-site weather protection, reduced material wastage, and improved worker safety.

**WPO:** With Australian manufacturing undergoing a period of innovation, what sort of opportunities does prefabric offer for manufacturing companies looking to diversify?

**WM:** We have seen relocation of manufacturing sites being successfully transferred into construction where time saving and manufacturing processes and timing for volume production of building modules and bathroom pods - sub-fitted bathroom manufacturers in a factory and delivered flat for a complete unit ready for rapid installation and connection to services. For example, a recent accommodation project can require 800 bathroom pods. In Europe it is now commonplace for all the major hotel chains to have their bathroom factories built for quality assurance to corporate brand standards and faster project completion on site.

With the demise of Australia's automotive manufacturing industry, I am aware of how well established Australian auto component manufacturers who have specifically identified building products as an area of opportunity (and there may well be more). One has already identified extensive material knowledge and manufacturing skills to develop some new products for the construction sector and to diversify into quantities.

**WPO:** What would you new advice be to an Australian manufacturing company hoping to enter those opportunities?

**WM:** Use any new entrants, the most important thing to my mind is to access practical skills in the business, practical, help identify the opportunities, and then to work through the industry's regulatory obstacles to the production of new products and processes. Collaboration by PrefabAUS can help players within our industry and I think it applies at least as much to those looking to engage with the industry from outside.

I would also suggest interested firms explore the Victorian Government Construction Technology Sector Strategy and the companion co-funding package available as part of the Victorian government's Future Industries Fund as they apply to the construction sector. While Victorian firms must be treated, these initiatives do not preclude the involvement of non-Victorian businesses.

**WPO:** What's your professional background, and how did you come to your role with PrefabAUS?

**WM:** Property has been my focus for the past 10 years or so, in a variety of forms including development projects, advisory roles, property sales management, and as a resident director with a major national valuation and advisory firm, one to that worked in investment banking theory and with PwC's management consulting business in Australia and Indonesia. I was fortunate to have 10 very interesting years being and working in South-East Asia, mainly Indonesia. During that time I was also fortunate to be an international executive search firm at the same time, serving for country head and regional executives were very strong as the South-East Asian regional economies experienced exciting growth and new industries sprouted up.

My interest in prefabrication dates back to 2010 when I met cost-reduced modular options for an apartment development, and was inspired in 2014 when I understood a subset of the many advances being made in offsite construction. This introduced me to the leading players in the industry and led to me attending the inaugural PrefabAUS Conference in 2014.

My role with PrefabAUS stems from that exposure to the industry and the PrefabAUS directors - my "heart" for my personalised interest in the prefabrication and offsite construction area. To round out my interest, I should mention that I've been on or heard of the Project - now "The Future of Tomorrow" - where I was part of the project advisory team. Like me, the team believes in offsite construction that offers an array of the state of play with offsite construction in order to realise the most informed decisions about their projects.

The advisory role is ongoing as my position with PrefabAUS is a part-time one. This role of mine provides me with a first-hand experience to the offsite construction industry and the PrefabAUS organisation as well as my practical project-specific involvement. I have Economics (Honours), Accounting, and Applied Finance qualifications.



16/08/2016

## Why Funding for Offsite Construction is Difficult



Prefabrication and offsite construction are making advances into the construction industry in a variety of ways, yet by almost all accounts, funding for these projects is extremely difficult to obtain, and many say it is impossible.

I'll outline five reasons contributing to the difficulties being experienced, but before doing so, I should acknowledge that this view of the difficulty in obtaining funding for offsite construction is not founded on hard evidence. Instead, it arises from conversations with offsite manufacturers, enquiries to PrefabAUS, and discussions at industry conferences.

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CONSTRUCTION AUG 24, 2016

### Australia's tallest prefabricated tower

Australia's tallest prefabricated tower, 323 La Trobe Tower, 'topped out' yesterday, with the final pieces trucked onto site and craned into place.



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The final prefabricated pods of La Trobe Tower were craned into place at night on August 24.



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## Australia's tallest prefab tower tops out

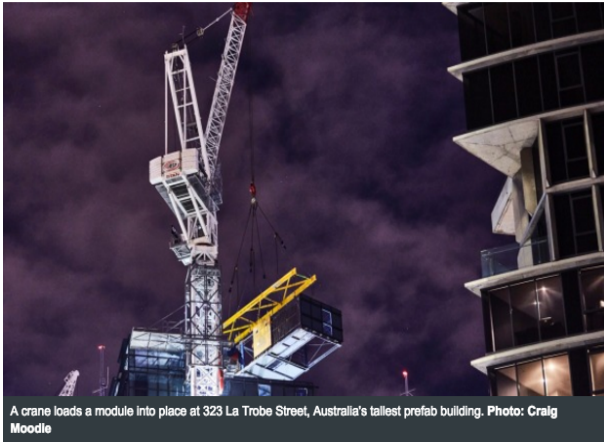
Nicholas Rider

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## FINANCIAL REVIEW

### Chinese group have Australia's tallest prefabricated tower reaching top level

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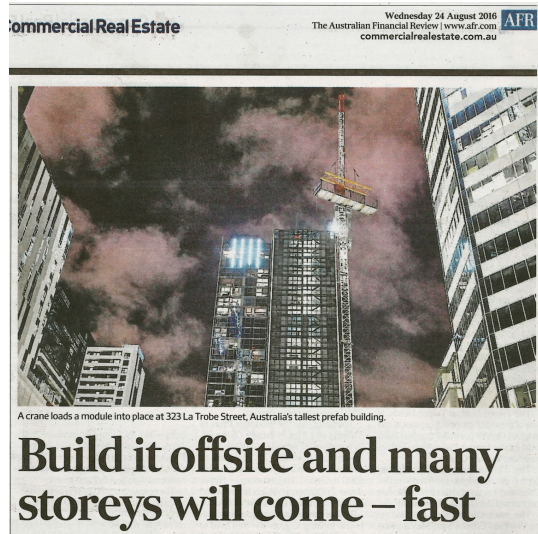


Australia's tallest prefabricated building has topped out at an impressive 44 levels, with the 323 La Trobe Street apartment tower rising 133 metres above the Melbourne city centre.

Developed by Chinese group Longriver, the main structure for the \$95 million high-rise was completed in eight months, twice as fast as a traditional build, leaving only the interior fit-out works to be completed.

It features modular bathroom pods, precast concrete slabs and pre-attached windows manufactured by off-site pioneers, the Hickory Group, in its Melbourne factory.

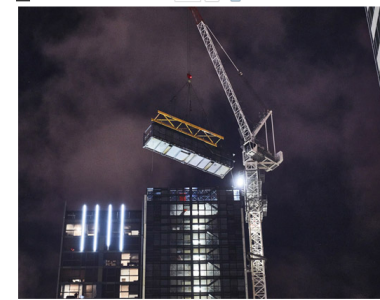
"The floors we are standing on were manufactured 16 kilometres away in our Brooklyn factory. We attached the facades, put them on the back of a truck and delivered them here," said Hickory managing director Michael Argyrou at the topping-out ceremony.



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### Australia's tallest prefab tower tops out at double speed

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Willow Aliento | 24 August 2016

Hickory Group's new method of high-rise prefab construction has seen Australia's tallest prefabricated building rise two floors a week – double the industry benchmark – to top out eight months earlier than if regular construction methods were employed.

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### PrefabAUS 2016 Conference To Reveal Opportunities, Challenges And Projected Future For Offsite Construction

5th August 2016 | Category: Australia, Construction, News, Sponsored Article | Staff Writer



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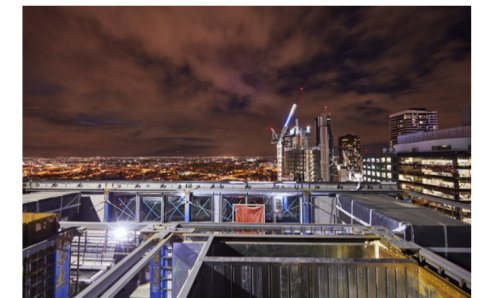


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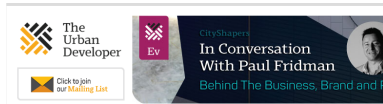


### Melbourne Home To Australia's Tallest Prefabricated Building

24th August 2016 | Category: Architecture, Companies, Construction, News, Residential, VIC | Staff Writer

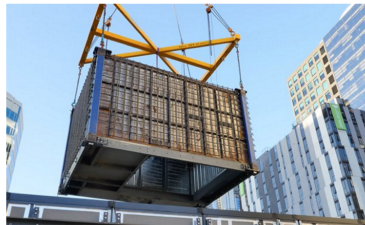


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## International Exhibition And Presentation To Feature At PrefabAUS Conference

# 20th September 2016 | Category: Commercial, Finance, News, NSW, People, Residential, Sponsored Article, Sustainability, Town Planning | Staff Writer



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# FINANCIAL REVIEW

## Big projects put spotlight on prefab construction

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Aveo's retirement village in Sydney will be built entirely out of the timber product, CLT. Supplied



by **Larry Schlesinger**

Projects by Lendlease, Hickory Group and Aveo has helped propel Australia's off-site construction sector into the spotlight, ahead of its third annual national conference in Sydney.

"In the last 12 months there's been a real gathering of momentum, with more adoption of construction automation technologies, and some breakthrough projects," said Warren McGregor, chief executive of PrefabAUS, the peak industry body.



## prefabAUS 2016 photos and hint of what's to come

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Speaker, Tamara DiMattina, who bills herself as 'chief everything officer: Trumpet, founder, The New Joneses, and creator, Buy Nothing New Month

14 October 2016

The mood from the speakers and delegates at the prefabAUS event in Sydney this week was strong, as you'd expect from a national conference celebrating pretty much the first serious revolution in construction, pretty much since lifts arrived on the scene and enabled high rise.

*The Fifth Estate* dipped in to parts of the three day event hosted by the University of Sydney Department of Architecture, Planning and Design at the Seymour Centre, just across the park from our Glebe offices. But while the content on the floor was engaging, with expectations that the industry could jump from 3 per cent of construction now to 10 per cent by 2020 and other upbeat sentiment, just as interesting were the background briefings, that hinted at big commercial contracts about to be signed and large developers tapping the upmarket housing product. We covered some of the industry participants, established and new, earlier this week, (See [prefabAUS conference shows industry on a roll](#)). Also on the scene were the Caroline Pidcock, of Pidcock Architects, an sustainability leader in design and a Living Building Institute director, Ken McBryde, a principal at HASSELL and Damien Crough, a founding director of prefabAUS.

We were also alerted to an interesting piece of research that had been quietly sitting on the Forest and Wood Products website, largely unpublished. We've covered *Overcoming Psychological Barriers to Widespread Acceptance of Mass Timber Construction in Australia*, by Dr Paul Kremer and Dr Mark Symmons, in this article, [How to convince people massive timber is not a massive risk](#)

The presence of Tamara DiMattina on the speakers list, with her Buy Nothing New and The New Joneses concepts, both of which have had huge publicity, will certainly add to the magnet of interest around this sector.



Speaker, Tamara DiMattina, who bills herself as 'chief everythin

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## Construction News

### The Ever-changing World of Offsite Construction



**We will all have our own view as to what we think prefabrication and offsite construction is, and whatever your view is, I suggest that it is unlikely to be wrong.**

However, I am equally confident in saying that it is increasingly likely to be incomplete or outdated. And that's a good thing, because new elements are being added to the spectrum of offsite construction all the time.

Factory built complete homes, fully fitted apartment and hotel modules captured a lot of the attention early on. And rightly so, as they represented a dramatically different way of achieving the desired built form outcome, with reduced systems form (MILEX) and even a modular bridge system form (LIVING POINT) are now all part of the mix.

Engineered timber products like Glulam, LVL, and cross laminated timber (CLT) provide exciting new design opportunities, as do the recent changes to the national construction code which now allows timber structures up to 25 metres (eight stories). XLam has announced that next year it will open Australia's first CLT manufacturing plant in Wodonga Victoria (for clarity, the Lend Lease Design Make factory in Sydney transforms imported CLT blanks into precision cut elements for rapid installation at site.)

Bathroom pods – bathroom modules complete with all wiring and plumbing, fixtures and fittings, tilings, glass screens, towel rails, and so on – are being adopted for more residential and student housing projects. They are delivered to site ready to be placed in location and connected of to the building services.



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### Designing Affordability presentation

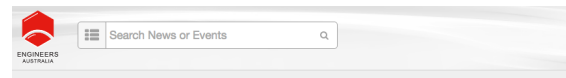


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An international exhibition and presentation on challenges and opportunities in solving housing affordability will be presented at this year's annual prefabAUS 2016 Conference, at University of Sydney's Department of Architecture, Planning and Design.

Professor Marc Norman from the Harvard University Graduate School of Design is Director of UPSTATE, a Centre for Design Research and Real Estate at Syracuse University School of Architecture.

An affordable housing advocate, he supports mechanisms that reduce the cost of housing and has dedicated his career to finding remedies to inequality.



### Analysing the benefits of off-site construction

Thursday, 18 August 2016



Offsite construction is a growing trend as more companies work to make construction more efficient and safer.

But while the benefits of the construction method, such as reducing construction times, providing more consistent builds, and improving safety on-site, are widely acknowledged, evidence-based research about these benefits has been lacking.

Ryan Smith is looking to change that.



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### PrefabAUS

12 Jul 2016 358



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### Prefab conference explores the future of the built environment in Sydney



The annual conference of Australia's prefabrication and offsite construction industry, PrefabAUS 2016 opens in Sydney on Monday 10 October.

Over a period of three days from 10 October till 12 October, the 2016 conference will explore the theme of Delivering Next Generation Buildings through a packed program featuring a host of confirmed speakers as well as technology workshops, technical discussions and site visits.