

Loggo's low-cost framing system could short circuit housing crisis

Australian inventor Pat Thornton says his small-log framing concept can deliver genuinely affordable mid-rise housing — with ROIs running into the hundreds of per cent

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Loggo, the Australian-invented engineered wood building system built from peeler cores and forest thinnings, will make its international debut at the International Mass Timber Conference (IMTC) in Portland, Oregon, from March 31 to April 2 — and its developer says the global timber industry has never seen anything like it.

"As an industry we cannot and should not keep fooling ourselves that we are producing 'affordable' buildings any longer," said Pat Thornton, inventor and owner of the Loggo building system. "Depending on an interested company's level of integration along the value chain, there will be ROIs of hundreds of percentages in the offing that will still be lower cost than the incumbents."

Thornton will present at Booth 770 alongside mass timber machinery developer Cliff Chang of SK Global Co. Ltd in Taiwan and Peter Blair of Structured Projects Australia, Loggo's consulting engineer, who will introduce a 20-to-1 scale model of a three-storey mid-rise American multi-residential apartment block.

"The model is small, but the legacy will be lasting," Thornton said.

The system uses laminated beams and columns fabricated from small-diameter waste logs — peeler cores and forest thinnings from 50 to 90 millimetres in diameter — assembled on site via a rapid bolt-and-unbolt column and cassette system in spans of 2.4 to six metres. Thornton argues it directly addresses the housing affordability crisis in urban and regional mid-rise zones, where Loggo structures of two to eight storeys can be built from an already low-cost feedstock with minimal energy input.

"If we built the same 15-unit, three-storey walk-up from CLT, we'd need to use more than 190 cubic metres of timber. The 3D model suggests that we would use 41 cubic metres of Loggo timber. If that's not food for thought, what is? We'll let the engineers do the maths." — **Pat Thornton, inventor and owner, Loggo**

Thornton says Loggo buildings can be engineered for greater earthquake and fire resistance than concrete and steel, and the system hybridises well with CLT, glulam

and concrete. Carbon lock-up in the built environment of 50 years or more — combined with the round log's natural structural efficiency — underpins the environmental case.

Rather than competing for high-grade plantation timber, Loggo draws on material that would otherwise supply landscaping, grape posts, tomato stakes or the pallet industry. Re-purposing that waste stream into mid-rise framing supports local and regional circular economies and, where best-practice silviculture is applied, can at least double plantation fibre yield while mitigating fire risk.

Thornton says the concept aligns directly with President Trump's recent offer of US\$95 million in competitive grants under his Executive Order on Immediate Expansion of American Timber Production. "We based the Loggo concept's development on these principles 15 years ago," he said.

The IMTC appearance follows formal recognition by the Australian Research Council-funded Advance Timber Hub — led by Professor Keith Crews — at the World Conference on Timber Engineering in Brisbane in June 2025. Loggo is now finalising materials testing of *Pinus radiata* beams at the Department of Primary Industries laboratories in Brisbane.

Loggo says it is open to licensed manufacturers, joint venture partners, IP buy-outs, or any other beneficial proposals.

About Loggo

Loggo is an Australian-invented multi-patented building system developed by Pat Thornton. It uses laminated beams and columns made from small-diameter peeler cores and forest thinnings to deliver low-cost engineered wood framing for mid-rise construction of two to eight storeys. The system is designed to hybridise with CLT, glulam and concrete, and draws on waste material that would otherwise supply the landscaping and pallet industries. Loggo received formal recognition from the ARC-funded Advance Timber Hub at the World Conference on Timber Engineering in Brisbane in 2025 and is currently finalising materials testing at the Department of Primary Industries laboratories in Brisbane. More information: loggo.com.au

Media enquiries Jason Ross, Director, Central PR Group P: 0448 190 055 E: jason@woodcentral.com.au