Story: Laura Valic

bottoms **up**

An innovator in Western Australia is turning conventional building on its head, with a lifting system that offers numerous benefits when building multiple storeys.

What is innovation if not an answer to a problem? As a builder of 30 years, HIA member Philip Jenner from Great Living Homes in Western Australia understands the importance of innovation, having come across his fair share of issues to resolve on a job. He's the type to shake up traditional building methods when he can see a better, more effective way – and he's done just that with the development of the J-Jack Building System.

'With standard construction you build the ground floor first, then you erect the scaffold and work off it to build the upper floor,' Phil says.

'With the J-Jack system you build the upper floor first. So, you lay the ground slab, build the upper floor on top, and once the external of the upper floor is complete, you jack it up and build the ground floor underneath.'

After spending a few hours with set up, the mechanics then takes just eight minutes to lift the whole upper floor 2.6 metres. Phil says that while it sounds simple enough, the process is actually a series of complicated steps.

'If any of those steps have errors that compound, then it becomes dangerous, but fortunately we've got very stringent safety measures in place,' he says. 'We always have a safety representative as part of our team and he completes all the checking. There's a lot of redundancy built into the whole system, so it's been very safe.'

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And since it's not a common sight to see half a house suspended in the air, the process tends to draw a crowd.

'When we build this way, the whole neighbourhood is onto what's going on because it's different,' Phil says. 'Our clients are always excited and say, "Don't do the lift without letting us know!"

'They tell their friends, post on social media and it becomes a real event. It's great because the build becomes more of an experience than just delivering a product.'

PHIL JENNER, DIRECTOR OF GREAT LIVING HOMES (CENTRE) WITH NEW HOMEOWNERS, CAM AND DONNA

The J-Jack is the culmination of years of investigation, huge investment, trials and industry collaboration since Phil began working on the concept in 2012. His career has followed a path that was just 'a bit to the side of where everyone was working in the market' and Great Living Homes would pick up the clients who weren't a fit for the major builders. This divergence gave him the freedom and confidence to explore new products and construction methods, with one in particular leading him to where he is today.

'In 2007, we came up with a combination of lightweight materials to reduce building costs and even when the GFC came along we signed nearly 100 deals that year,' Phil says. 'We'd been doing about 30 a year before.'

But then he had supply problems, with the product sometimes coming to site wrong and delaying the job. So, Phil decided his business would make the product instead.

'We started manufacturing and that solved that problem, but we soon realised there was a bottle neck around scaffolding, hoists and working at heights,' he says. 'When trades leave site they have to wait for the scaffold to be raised, materials loaded and then they come back and start work again. That can happen three times on the job for a standard two-storey house.

'That's why we came up with this new lift system and have now solved that problem!'

Without the need for cranes, hoists or scaffolding, speed of construction and safety onsite are significantly improved. After the upper storey(s) is jacked up, temporary props and braces go underneath for the trades to begin framework. A grout goes in (to take the weight off the props), it expands and the props come out a day later.

Phil says build time is reduced by about 30 per cent while the technology also means supervision onsite is a lot easier: 'You don't have to be there all the time when people are changing scaffold. When we build we have eight site visits to build an upper floor; when you build with scaffold you have 31.'

Trades aren't as affected by the weather, and a roomier, cleaner site also helps to improve logistics and worker productivity. Phil adds that the J-Jack suits most house types.

'The structural integrity is a lot different from a normal building because the whole of the upper floor is tied together very rigidly. Structurally it's very resilient and we've found our maintenance has just about been eliminated. It's great for use in cyclone zones…or anywhere there's a lot of movement in the ground because we engineer that into the build.'

The business is completing a three-storey house this year and has done a concept engineering design on a five-storey building, which Phil says 'is probably about as high as we'd want to go'.

Being presented with the 2018 HIA–CSR Western Australian Industry and Product Innovation award was a big personal achievement, and the recognition has helped to get word out about the J-Jack.

'It gives you credibility because someone objective has judged it to be a good product. I've won HIA awards before, but this one meant more to me because there was so much more time and energy involved in getting there.'

With Channel Seven covering the J-Jack earlier in the year, the business has been inundated with interest.

'We literally had thousands of enquiries from the East Coast and all over the world,' Phil says. 'We're in discussions about moving east and hopefully that will all be planned out by the end of the year. I'm really looking forward to expanding.

'It's wonderful and scary at the same time,' he laughs.

www.jjack.com.au H

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