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Hudson Architects' Prefab

Hudson Architects' most recent foray into prefab is this two-bedroom private house in Norfolk, England, which was built for a photographer and his family. As such, the Cedar House pilots a new prototype for cost-effective new-build modern housing, with innovative off-site construction, which simplifies the building process without compromising the architecture of the house according to architect Anthony Hudson.

"Being prefab gave us cost savings and space," says Hudson, whose four-year-old practice is based in London and Norfolk. "Traditional build with its trusses wouldn't have given us the space. The main living room has a fantastic barn-like feel. And because it was so quick to build on site, the contractor costs were less." He says his two-week build process would have been six weeks if it had been done conventionally.

Its simple form allowed Hudson to explore construction techniques, working with structural engineers Alan Conisbee Associates and off-site construction specialists Framework CDM. Hudson's solution was to adopt Framework's system of prefabricated timber panel floors, walls and roofing, which made the whole building extremely quick to assemble on-site and gave good insulation.

The house went up in just one week at approximately £1000 per sqm (excluding external works). The final value £245,000 came well within the original budget of £275,000 and was delivered on time.

Doing so much off-site meant Hudson could be much more economical in use of materials. There was no site wastage from the frame. "Doing factory drawings you make the most of your materials," he says. "On site, inaccuracies are built in and you have to be more tolerant, so there's more wastage."

The result is unexpectedly complex and spacious interiors from a prefabricated system. Having such a lightweight roof structure meant roof beams could be eliminated, giving the place an even greater open-plan feel.

The whole thing is clad in 15,000 untreated cedar shingles, belying the prefabricated system beneath, and cheaper than conventional weatherboarding.

"We are thinking of using a similar system in Scotland because there's less of a skilled labour force available there and this system would allow us to control the quality better," says Hudson.

His aim is to develop it into larger scale developments. "It was surprisingly easy architecturally to get the space," he adds.



space, large gardens, and all in a good location. Interestingly some of these kits are still standing; giving the lie to the perception that prefab is synonymous with temporary.

However, since those halcyon days, the UK's prefab movement seems to have lost its way, or at least run out of steam. "Prefab in the UK is miles behind Europe and the US in terms of technology," says Anthony Hudson, who is behind the new and interesting prefab construction Cedar House in Norfolk. "The UK's building methods are still based on the traditional on-site timber frame and rafter system which builders know all about."

The Holy Grail of prefab is to come up with a cost-effective, aesthetically pleasing design which will wow the audience long enough to have a decent resale value. These factors have then to be married with the intricacies of construction,

most of which happens off-site.

The Nordic nations are now pass-masters at this. Prefab is increasingly the housing style of choice in design-savvy countries such as Finland and Denmark. And as Hudson says: "The Dutch have been developing mass production techniques that are far more sophisticated than the UK." In the US, manufactured housing is big business, accounting for one-third of all new individual family homes sold.

However, the American prefabs cannot all be described as fabulous contemporary structures; far from it. "Tens of thousands of traditional-style homes across the US are built with prefabricated building parts," explains Marmol. For traditional style read gables, porches and pitched roofs.

"Wall panels and roof-truss systems are included as part of the cost-cutting strategy," he explains.

However, Marmol points out that American

tastes are changing; "In recent years we have seen a rebirth of interest in modern prefab homes that embrace modern lifestyles, open floor plans and indoor-outdoor living."

Dull, pastiche designs give housing of any type a bad name, and there's no doubt that prefab has to fend off more slurs than most. What's more it suffers from the stigma of mass production, another dirty word in this era of aspirational bespoke hand-crafting. On top of this, it's no mean feat to develop a clever design into a workable, financially viable scheme. There are a lot of so-called systems and kits on the market which are nothing more than an architect trying to jump on a prefab housing gravy train that might offer them an income stream. No wonder many a prefab scheme has fallen by the wayside. But the tide seems to be turning, and prefabrication techniques are likely to be taken up in increasing numbers.



The UK Government certainly seems keen, if John Prescott's Homes For All strategy, and the £60 000 house competition launched last spring is anything to go by. For the Deputy Prime Minister's purposes, modern methods of construction are defined in terms of products, process and outcomes. The National Audit Office (NAO) in its recent report on the subject considered 'Panelised, volumetric, and hybrid products and examined the behaviours and processes necessary to maximise efficiency for each one.'

And according to the NAO, 'The use of modern methods of construction, rather than more established techniques, should make it possible to build up to four times as many homes with the same amount of on-site labour.'

As well as keeping labour costs down, prefab's methods should have other benefits for the time-

conscious. A recent report says; 'Purchasing a prefab home is a much quicker process than commissioning an architect to design a site-specific home. Unlike a site-built home, prefab house construction and site preparation occur simultaneously, significantly reducing construction time. By keeping the entire manufacturing process under one roof, we streamline production while ensuring that structures and details meet our high standards.'

It's already been taken up by the UK's more enlightened Housing Associations. Peabody Trust's £11 million Raines Dairy in London's Old Street is a six-storey, 26-unit block designed by Allford Hall Monaghan Morris. The modules were manufactured by Portakabin's sister company Yorkon.

The steel-frame boxes are 3.8m wide, so just two are required for each two-bed apartment.

It was the brainchild of Peabody's development director Dickon Robinson, who is a great advocate for the benefits of prefabrication. The Raines Dairy development follows Peabody's Murray Grove prefab scheme, also in London, which was the work of architect Cartwright Pickard. And this summer, the highly successful BoKlok (literally translated as 'live smart') scheme created by Ikea and Skanska for Scandinavia is coming to the UK. These prefab 'villages' already are a modern form of social housing, with over 1500 Scandinavian families buying into the idea. It will be intriguing to see if they can mirror that success across the Channel. The developments are low-rise, with each block housing half a dozen affordable apartments. The first developments of UK BoKlok homes are likely to be in Newcastle, Edinburgh, Brighton and the New Forest. They will be offered to first-time