

How modular homes could solve the housing crisis

Prefabricated houses are fast to build and of sound quality. 2018 could be the year they take off



A modular home in Highgate, north London, built by Facit Homes
In a factory just outside Bedford sits the answer to Britain's housing crisis. Here, workers inspect a line of containers — apartments in various stages of construction — and scribble on clipboards. Welcome to Vision Modular Systems' housing warehouse, a place where prefabricated homes are put together. It is a far cry from the dust and dirt of a traditional building site and looks more like something out of the futuristic movie Wall-E.

Entire homes are made here: ovens and radiators, even toilet-roll holders, are fitted and beds are topped with mattresses. When finished, the units are placed on trucks and driven 53 miles to Holloway in north London, where they will be homes for students.

Analysts predict that 2018 will be the breakthrough year for modular housing (the preferred name for prefabs). The notion was strengthened this week when Berkeley Homes, one of Britain's biggest luxury builders, announced that a new 160,000 sq ft factory in Ebsfleet, Kent, will produce 1,000 homes a year; the company eventually wants a quarter of its homes to be prefabricated.

More than 15,000 homes in Britain are built this way each year, but the government wants to increase access to finance for modular builders, with the aim of raising the figure to 100,000 a year by 2020.

Why is modular housing booming?

Factory building requires fewer builders at a time of chronic shortage in the industry (60 per cent less per property built, according to Vision); it is a much faster process, often taking as little as a month to build; and the technology is getting better, ensuring a quality product.

The modular housebuilder Nhouse is setting up a factory in Peterborough in Cambridgeshire and claims that it can build a house in 20 days. Meanwhile, Legal &

General has announced a new modular factory in Leeds that will churn out 3,000 homes a year. L&G are significant investors in the purpose-built rental sector (known as build-to-rent).

“It’s not necessarily the case that modular is cheaper, but it’s massively more efficient,” says Adam Challis, the head of residential research at JLL, the property consultant. “You can draw parallels with Jaguar Land Rover’s factory in Telford. Legal & General’s decision to hire the former Rolls-Royce boss [Rose Toogood, the car company’s former business development director] as its chief executive is very telling. It’s increasingly about bringing precision engineering to the construction market, which is long overdue.”

Nicky Gavron, the chairman of the London Assembly planning committee, says: “You wouldn’t buy a car made in a field, so why buy a house manufactured in one?” The mayor of London, Sadiq Khan, is a fan of using modular building to boost the supply of homes in the capital.



A bespoke home in Siegen, Germany, by Stommel Haus

Why is choice limited?

The majority of modular properties in Britain are apartments, because smaller units are more profitable for developers and are easier to transport.

“Land values are so high that everyone looks to increase their density,” says Mark Farmer, the chief executive of Cast, a construction consultant.

One of the companies that uses Vision’s factory in Bedford is Pocket Living, a specialist in affordable compact homes for first-time buyers. A recent development in Wandsworth, southwest London, contained 53 one-bedroom properties ranging from £225,000 to £330,000.

Vision, which produces 2,000 homes a year in partnership with its sister company Tide Construction, is working with the US company Greystar on the world's tallest modular tower, which will be made up of two buildings, one with 44 storeys and the other with 38, containing 550 rental flats in Croydon, southeast London. It will be completed in 24 months.

Farmer believes that more housebuilders will announce modular construction divisions this year because of concerns that the skills shortage will soon lead to diminishing quality in their on-site projects.

“They will act before the labour and skills crisis causes brand issues for them by producing poor-quality on-site homes,” he says. Farmer is the author of a report that was commissioned by the government in 2016 warning that a skills shortage would devastate the construction industry within a decade.

Are larger, luxury homes on the way?

There are family-sized modular properties being built, but these are in the minority. Some of the homes on Essential Living's Creekside Wharf development in Greenwich, southeast London, will be designed for families, with buggy storage, acoustic noise insulation and an on-site nursery, but most of its 632 modular flats — built at a rate of 20 a week — will be geared towards urban professionals.

Urban Splash, a large modular developer, has just sold 21 three-storey modular townhouses in the Irwell

Riverside neighbourhood in Manchester. Prices range from £380,000 for a one-bedroom property to £410,000 for four bedrooms.

However, the practical problem with building bigger properties is that you can't fit them on lorries — an abnormal load should not exceed a width of 4.3m or a height of 4.95m, according to Highways Agency rules. This means that modular houses have to be transported by road in components, which costs more and is not as environmentally friendly.

Alex Johnson, an architect at Assael Architecture who specialises in modular construction, says the practice needs to become more mainstream. "If it does it will generate confidence not only from the public, but also the lending community, who are waiting to see more of these developments."

Most modular houses remain upmarket. The most established brand is Huf Haus, known for its distinctive wood frame and glass luxury houses, which takes about a week to erect and cost about £300 a square foot. Other modular builders include Stommel Haus and Facit Homes.



This striking modular home is near Greenwich in London

Is anyone investing?

Modular is already backed by billions of pounds of Chinese money and expertise, and more foreign investment is on the way, particularly from Germany and Scandinavia.

The China National Building Material Company has partnered with the housing association Your Housing Group and the developer Welink Group in a £2.5 billion venture to build 25,000 modular homes over the next five years in Yorkshire, the northwest and the Midlands. China has some of the greatest expertise in this area, having built a 57-storey skyscraper in only 19 days in the city of Changsha, Hunan province, in 2015.

Is the quality good enough?

The bête noire for those working in the sector is the often-used shorthand description “flatpack homes”. The stigma of poorly made prefabricated postwar housing remains, explaining why some mortgage providers have, until recently, been reluctant to lend on modular homes. However, supporters argue that modern, modular homes have better energy efficiency and are more durable than their conventionally built counterparts. Farmer says that the “panellised systems delivered in a factory situation, in controlled conditions, provides a much better level of insulation” than those built on building sites.

Expect the explosion of modular to be one of this year’s big property trends.