

Modular Houses

as a solution for housing crisis

The Government aim to tackle the housing crisis requires multiple solutions. Many developers, including Premier Modular, nHouse, Berkeley Homes, Urban Splash or Legal & General Homes are offering prefab houses as the option to provide high standard new builds across the UK quickly. The modular house estate by Legal & General Homes will be raised soon in Richmond, south-west London, where the housing association has ordered prefab homes with 15% saving in comparison to on-site construction.



Modular houses are by some taught to be of carton box quality, but as the technology improved the prefab house is the luxury building with fitted kitchen, bathroom, flooring and even furniture if required. All this is built in the automated factory where the eight production lines will be able to create around 3,500 houses and flats a year. The time required for the completion of a one-bed house is a week. The prefab homes are made

of modules, bolted together on site, with an external finish like for instance cladding installed on site too.

UK housing sector requires from the house builders to provide houses quickly and to the high quality. It is the perfect solution for young, single, urban workers earning between £20,000 and £40,000 who do not qualify for social housing or could not buy.

Modular homes are built in a much shorter timescale and that's why modular housing factories could transform the UK real estates market. The more significant volumes of offsite construction are becoming a real solution to the housing shortage.

The specialised factories can produce more housing units than in traditional construction, what drives down construction costs. Modular houses are designed to be highly energy efficient and can be fitted with solar panels and other renewable energy technologies. There is the option to upgrade to the Passive house standard if required.

Legal & General Homes have opted for Cross Laminated Timber (CLT) structures and will be able to supply any building type up to 20-storey high rise apartments. Modular houses arrive on site assembly ready, almost complete with carpets or furniture fitted and certified as a defect-free. There are various options for external facade from the brickwork or render to the cladding.

Steve Radley, director of policy at CITB, said: "Successful offsite management hinges on the effective integration of both onsite and offsite functions – and this requires a comprehensive understanding of both aspects.

The Government has also backed up the offsite construction housing strategy as the method for faster and efficient delivery of affordable homes. The successful delivery by Premier Modular of the 36,000m² buildings for Hinkley Point C has proved what advantages offer offsite construction. Moreover, last year CITB revealed plans to develop new offsite manufacturing courses.





The modular housing can revolutionise the UK house building. Mass production and the economy of scale plus the advanced manufacturing technology is the future of this industry. The key for volume modular housing to become a real solution in tackling the house building crisis in the UK is the high quality of design and finish.

Features of modular homes:

- Each unit of the modular house is built in the purpose-built factory and assembled on site when the foundation is ready.
- Modular homes can be easily customised. Their designs, styles, sizes varies.
- Pre-assembled components are delivered on site like precast beams, light gauge steel, floor cassettes, M&E modules, kitchen units etc. - installed on site by contractors.
- Houses are installed on site by skilled tradesmen and engineering operatives
- Construction process is run to the highest standards and exact quality standards
- The time of realisation is shorter then in the conventional building methods
- Modular house often comes with defect free certificate
- Modular homes often achieve BRE Green Guide Rating of B or above, a Code for Sustainable Housing Level 3 or above, the requirements of Life Time Homes, if required the Passivehouse standards

- Often exceeds current Building Regulation requirements
- Offers energy efficient design
- Lighter foundation requirements
- Cost certainty

According to the Lloyds Bank recent third annual housebuilding report, house-builders are keen on shifting to so-called 'modern methods of construction' to cut costs and increase profits. The survey found that 68% of firms are already investing in modular housing techniques and 56% reported investing in panel systems. The reasons why developers are looking into modular homes include improved efficiency, ease of construction process, higher standards or increased profits, better energy performance, elimination of waste and customer affordability.

Key report findings include:

- Housebuilders' five-year growth forecasts hold firm at an average 29% of current annual turnover
- 61% are investing in site-based modern methods of construction
- 44% say Brexit uncertainty is the most significant challenge for the industry
- 69% of housebuilding firms are investing in staff development
- Currently, it is the most difficult to recruit architects (50%), plumbers and planners (41%), bricklayers and joiners (35%) and site managers (32%).

David Cleary, regional director and national head of housebuilding, Lloyds Bank Commercial Banking, said: "The housebuilding industry remains upbeat despite issues that have weighed down the sector for some time including Brexit uncertainty which is contributing to a skills shortage and inflating the cost of raw materials.

"It is reassuring to see the sector confronting these challenges head-on by investing and planning for business growth, prioritising staff training and looking at more innovative new building techniques. This has the potential to boost productivity and, more importantly, increase the pipeline of new homes that the nation badly needs."

The modular house can be manufactured in the factory even within 20 days and erected on site within hours. British developers have already invested in the purpose-built factories to start prefabrication, and the expansion of off-site construction has already begun. It is emerging in the UK construction market as a solution to Britain's housing shortage.

