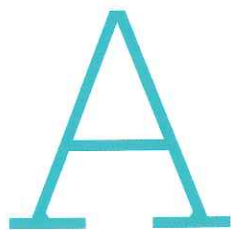


Jeff Maxted says now is the right time to embrace modular construction and precision manufacture

Off-site insight



As *The Farmer Review of the UK Construction Labour Model* makes clear, the UK housing sector is facing a crisis that

requires a radical rethink of construction and procurement techniques (see *Building Surveying Journal* July/August 2017, p.4).

We must increase housing supply at a time when the average age of the construction workforce is increasing: over the next 10 years, this will result in the net loss of 25% of the workforce and it is likely to be exacerbated by Brexit. Not only are these factors reducing output and increasing cost, quality is suffering as well, with a rise in construction defects and the failure of buildings to perform as they were designed to do.

The gap must be filled with housing that is both sustainable and of the highest quality – yet the traditional housebuilding community is neither able nor willing to change its business processes and increase output to solve the problem.

New players

It is time that industry embraced off-site or precision-manufactured construction to bring new players into the housing market. We must modernise the industry in a way that will make it more attractive to new entrants, and offset attrition and shrinkage

while improving productivity to increase output even while labour is constrained.

Factory prefabrication is by no means a new concept, and the benefits are clear: it ensures speed of construction, reliable materials and manufacture as well as improved performance, and can lower construction costs if units can be completed at scale to repeatable designs.

Most build-to-rent and housing association projects coming to market can be replicated at scale, for instance, so are suited to off-site construction. Funding will come predominantly from institutional investors looking to put their money into secure, large-scale developments, where the economic benefits will be matched by the consistency and sustainability that off-site manufacturing provides.

Precision manufacture will also become mainstream in other sectors such as hotels and low-cost homeownership through registered social landlords.

Quality

One of the main advantages of precision manufacture is its quality. A YouGov survey for housing charity Shelter found that 51% of homeowners of recent new builds in England said they had had major problems including construction issues, unfinished fittings and utilities faults. Properties built in a factory enable more quality control than those put together on site. Their subsequent improved performance should reduce energy and maintenance costs.

We are already seeing major developers such as Essential Living and Pocket Living using modular manufacturers including Elements Europe and Vision Modular Systems for large-scale projects. Both firms have gained Buildoffsite Property Assurance Scheme (BOPAS) accreditation, giving the developers the confidence to adopt this method of construction.

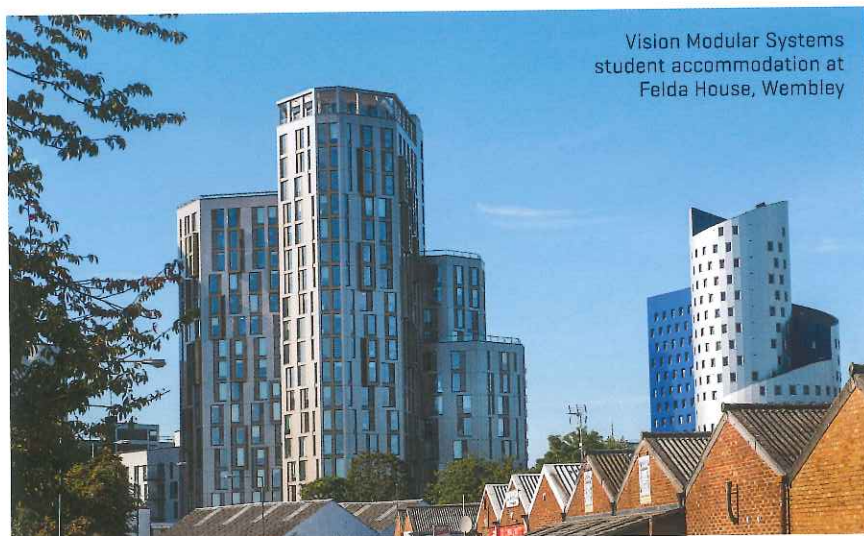
The most attractive features of modular housing are the speed of construction and the potentially lower cost of development. Another is the particular suitability of this approach for infill sites where traditional construction set-up is difficult.

BOPAS

Launched in March 2013, BOPAS was developed by Buildoffsite, Lloyd's Register and BLP Insurance with RICS, the Council of Mortgage Lenders and the Building Societies Association. The BOPAS process gives an independent, 60-year minimum assessment of quality and provides reassurance for investors, developers and owners alike (www.bopas.org).

The BOPAS website can be valuable to surveyors who might not be familiar with some of these modern construction techniques. It contains detailed information on the methodology, materials and maintenance required for all systems that have been assured by the scheme. If surveyors with a design or maintenance brief are on a site they think has been built with non-traditional techniques, they can enter the postcode into the website search engine and see whether it uses a BOPAS-approved system.

A number of traditional housebuilders are starting to adopt modular construction techniques and forming partnerships with manufacturers that have been accredited by BOPAS. The UK government is also now funding schemes that include off-site fabrication, which will help to kick-start precision-manufactured construction and move it into the mainstream. ●



Vision Modular Systems student accommodation at Felde House, Wembley



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