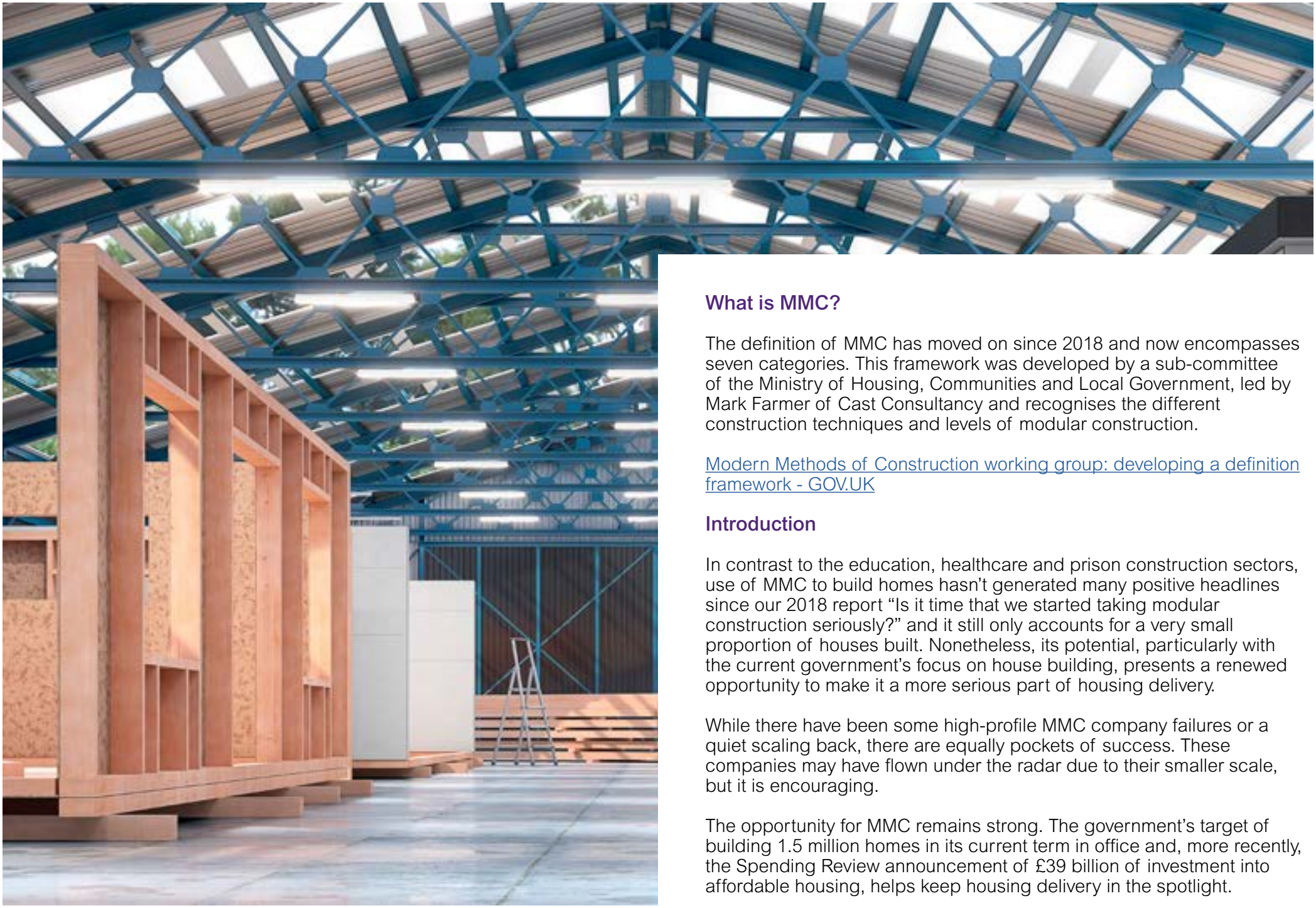
trowers & hamlins

Have the conditions for using modern methods and off-site construction to deliver new homes improved?

Trowers takes a retrospective look back at their 2018 analysis of the sector and considers the future for MMC in housing development



What is MMC?

The definition of MMC has moved on since 2018 and now encompasses seven categories. This framework was developed by a sub-committee of the Ministry of Housing, Communities and Local Government, led by Mark Farmer of Cast Consultancy and recognises the different construction techniques and levels of modular construction.

Modern Methods of Construction working group: developing a definition framework - GOV.UK

Introduction

In contrast to the education, healthcare and prison construction sectors, use of MMC to build homes hasn't generated many positive headlines since our 2018 report "Is it time that we started taking modular construction seriously?" and it still only accounts for a very small proportion of houses built. Nonetheless, its potential, particularly with the current government's focus on house building, presents a renewed opportunity to make it a more serious part of housing delivery.

While there have been some high-profile MMC company failures or a quiet scaling back, there are equally pockets of success. These companies may have flown under the radar due to their smaller scale, but it is encouraging.

The opportunity for MMC remains strong. The government's target of building 1.5 million homes in its current term in office and, more recently, the Spending Review announcement of £39 billion of investment into affordable housing, helps keep housing delivery in the spotlight.

Has MMC delivered on quality?

One key criticism of MMC in 2018 was that elements built off-site fail to meet the quality standards expected of traditional on-site methods. The challenge is that the volume of homes built using some form of MMC is proportionately small.

This creates a challenge. The efficiencies, research and development that come with economies of scale have yet to materialise, and without those, it is more difficult to drive up standards and quality.

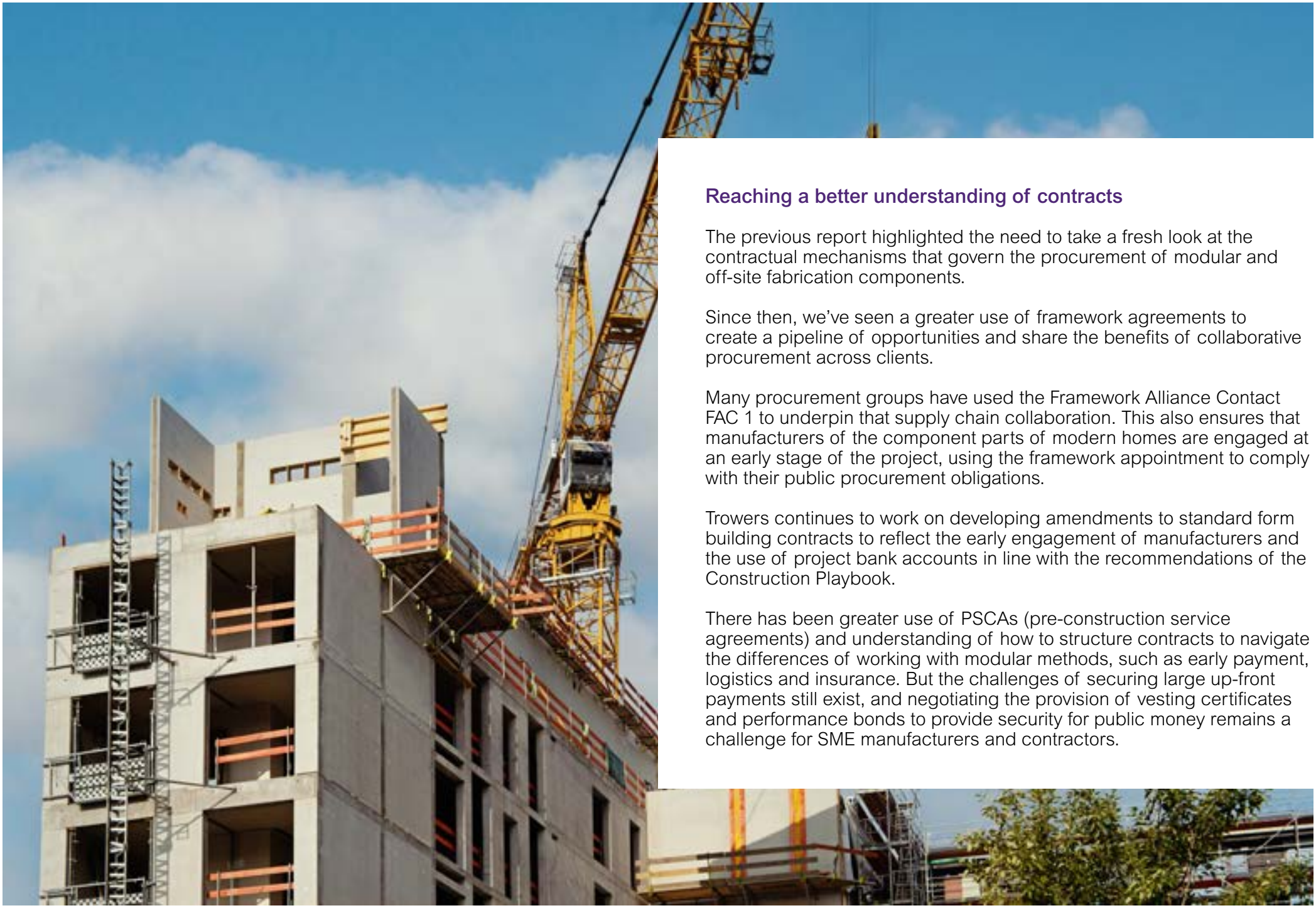
Technology has evolved over the past seven years and will continue to drive improvements. State-of-the-art factories such as Vistry Works are delivering quality homes economically and can deliver at scale.

Whilst the underlying quality of modular housing is an issue that many in the industry have been grappling with, there was a more superficial reaction from the average home buyer back in 2018, such as: Aren't they all the same? Mainstream press coverage often used uninspiring terms such as "pre-fabricated" or "factory housing".

However, where modular homes have been built and occupied, there has been a positive response. 2025 research by the University of Leeds, University of Greenwich and UK Research and Innovation (UKRI) canvassed residents of MMC homes and found "no evidence of a stigma or anxiety about living in a MMC home". Indeed, the environmental benefits and potential for lower energy bills were deemed a selling point.

The sharp rise in energy bills in recent years has no doubt played a part in sharpening focus on energy efficiency, but there is still a need to sell the idea to a population used to traditionally built homes.

In 2018, a new vocabulary of "smart homes" or "precision-manufactured homes" was suggested. More recently, industrialised construction has been used in reference to MMC. These sorts of terms imply quality, high engineering standards and the integration of smart features such as climate control, audio-visual equipment and energy efficiency. This technology can all be designed, tested and integrated within the factory environment.



Reaching a better understanding of contracts

The previous report highlighted the need to take a fresh look at the contractual mechanisms that govern the procurement of modular and off-site fabrication components.

Since then, we've seen a greater use of framework agreements to create a pipeline of opportunities and share the benefits of collaborative procurement across clients.

Many procurement groups have used the Framework Alliance Contact FAC 1 to underpin that supply chain collaboration. This also ensures that manufacturers of the component parts of modern homes are engaged at an early stage of the project, using the framework appointment to comply with their public procurement obligations.

Trowers continues to work on developing amendments to standard form building contracts to reflect the early engagement of manufacturers and the use of project bank accounts in line with the recommendations of the Construction Playbook.

There has been greater use of PSCAs (pre-construction service agreements) and understanding of how to structure contracts to navigate the differences of working with modular methods, such as early payment, logistics and insurance. But the challenges of securing large up-front payments still exist, and negotiating the provision of vesting certificates and performance bonds to provide security for public money remains a challenge for SME manufacturers and contractors.

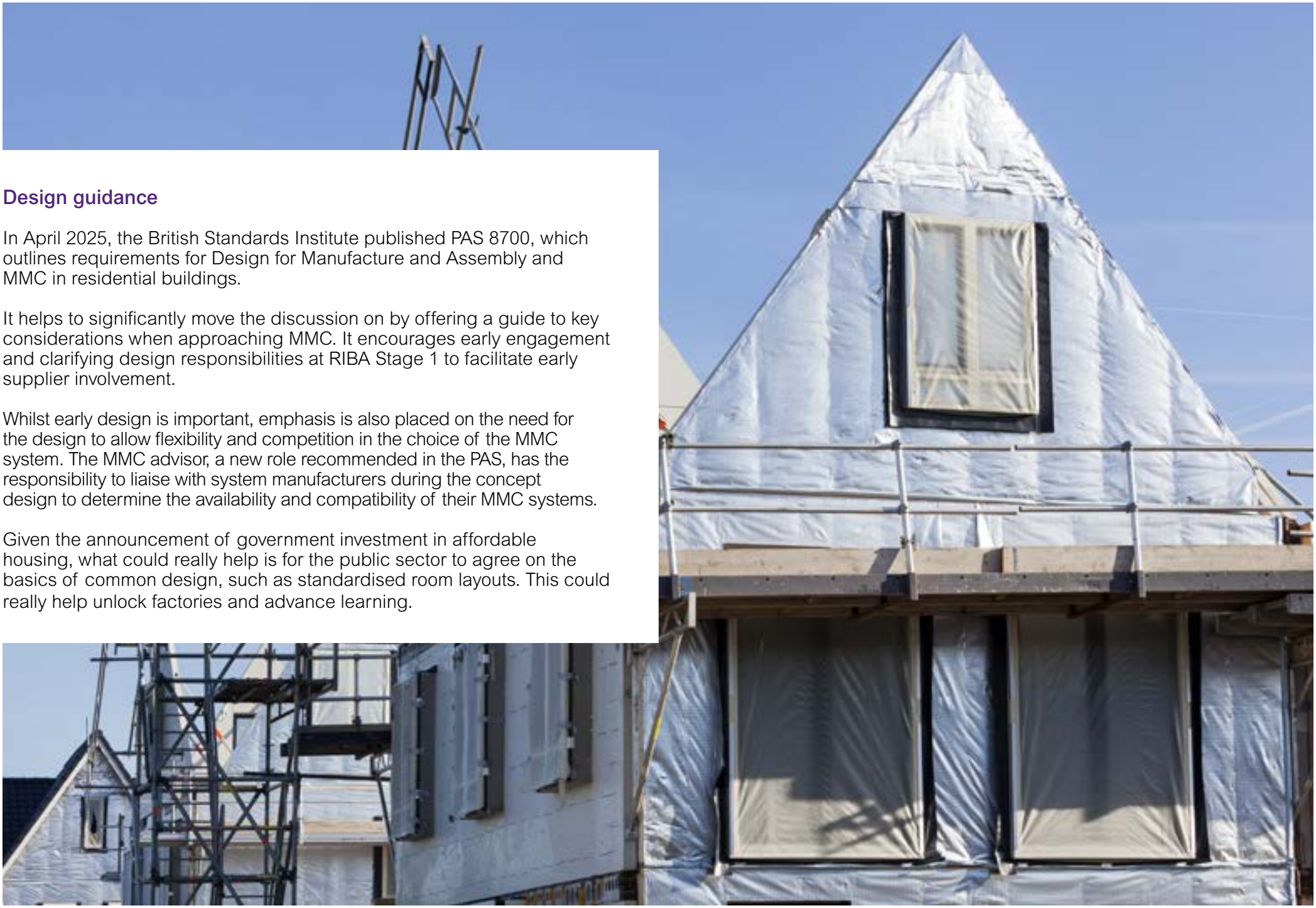
Design guidance

In April 2025, the British Standards Institute published PAS 8700, which outlines requirements for Design for Manufacture and Assembly and MMC in residential buildings.

It helps to significantly move the discussion on by offering a guide to key considerations when approaching MMC. It encourages early engagement and clarifying design responsibilities at RIBA Stage 1 to facilitate early supplier involvement.

Whilst early design is important, emphasis is also placed on the need for the design to allow flexibility and competition in the choice of the MMC system. The MMC advisor, a new role recommended in the PAS, has the responsibility to liaise with system manufacturers during the concept design to determine the availability and compatibility of their MMC systems.

Given the announcement of government investment in affordable housing, what could really help is for the public sector to agree on the basics of common design, such as standardised room layouts. This could really help unlock factories and advance learning.



The importance of standardisation

PAS 8700 also helps with consistency and standardisation of the approach to MMC and the benefits of standardisation in an industry such as construction are clear.

Tide Construction's and HTA Design's modular towers, the tallest in the world, at 101 George Street, Croydon, have now been completed. HTA believes that many developers are knowledgeable and enthusiastic about the benefits of going volumetric, but are hamstrung by fears around committing too early in the design process to a particular manufacturer.

Factory manufacture and sign-off

Once in the factory, there are a number of legal issues that need to be addressed by amending standard building contracts. Although some forms anticipate that the client may visit, inspect and even test materials on a contractor's, sub-contractor's or supplier's premises, none of them contain a bespoke inspection and sign-off regime that suits the modular process.

Since 2018, processes have changed. There is a realisation that factory inspection is an important part of the process, as once the modular elements are on site, they are harder to inspect.

In 2020, the NHBC officially introduced NHBC Accepted Systems (NHBC Accepts), a fast-track warranty approval scheme for homes built using MMC, which includes factory inspections.

PAS 8700 also calls for robust quality assurance processes throughout the project, including factory inspections and on-site testing to ensure compliance with safety standards.

There may be several key stages, even within the initial manufacturing process, that the client, or more likely its representative/agent, will want to attend and certify. Over the last few years, access to factories and understanding of the process have grown, which means clients are more familiar with how they can maintain and repair off-site manufactured component parts.

Vesting and step-in

Another risk scenario to be considered is where the modular provider has gone out of business or is otherwise unable to deliver. Vesting is one obvious answer – ensuring that the units and other modular elements being produced, once paid for, are the property of the client and are set aside and clearly marked as such. This means that if the modular provider goes bust, the client can take positive action to reclaim goods that rightfully (and, more importantly, legally) belong to it.

This works well in situations where the goods in question are fully complete, but it is less helpful when talking about a half-finished bathroom pod or 25 per cent of the precision-cut CLT panels required to build a complete house.

In those circumstances, seizing materials that are bespoke to a certain factory and project will be of limited assistance. Vesting is also subject to additional risks and issues of enforcement where the factory is abroad, especially outside the EU.

Step-in rights are often raised as a potential solution to the breach or insolvency of the modular provider, but it is difficult to envisage in practice how multiple clients (each with competing interests in running the factory to produce the units for their own developments) would manage the process when it all goes wrong.

Put simply, they cannot all step in and operate the same factory at the same time. The answer may come in the form of a new industry standard practice, whereby each client signs up to a "participation and co-operation" deed.

Given that one would expect any modular provider to have a manageable number of orders at any one time, a new client could be joined into the multi-party deed by a supplemental participation deed.

Such an agreement could operate where the modular provider is running into difficulties. This would give early warnings of any issues to all the then-current clients who could then convene to mutually agree a nominee to take over the running of the particular factory.

The options could be either finishing the current production run and then shutting down or, if completing the orders would be sufficient to "jump-start" the business, operating it for a future order book.

Each of the participants could mutually agree to fund the remaining orders to help all existing orders be fulfilled. This approach would be at the top end of the co-operation that the Construction Leadership Council and others are seeking, but could well be if properly structured and in a natural progression of more collaborative contractual approaches (such as the FAC-1 form of contract).

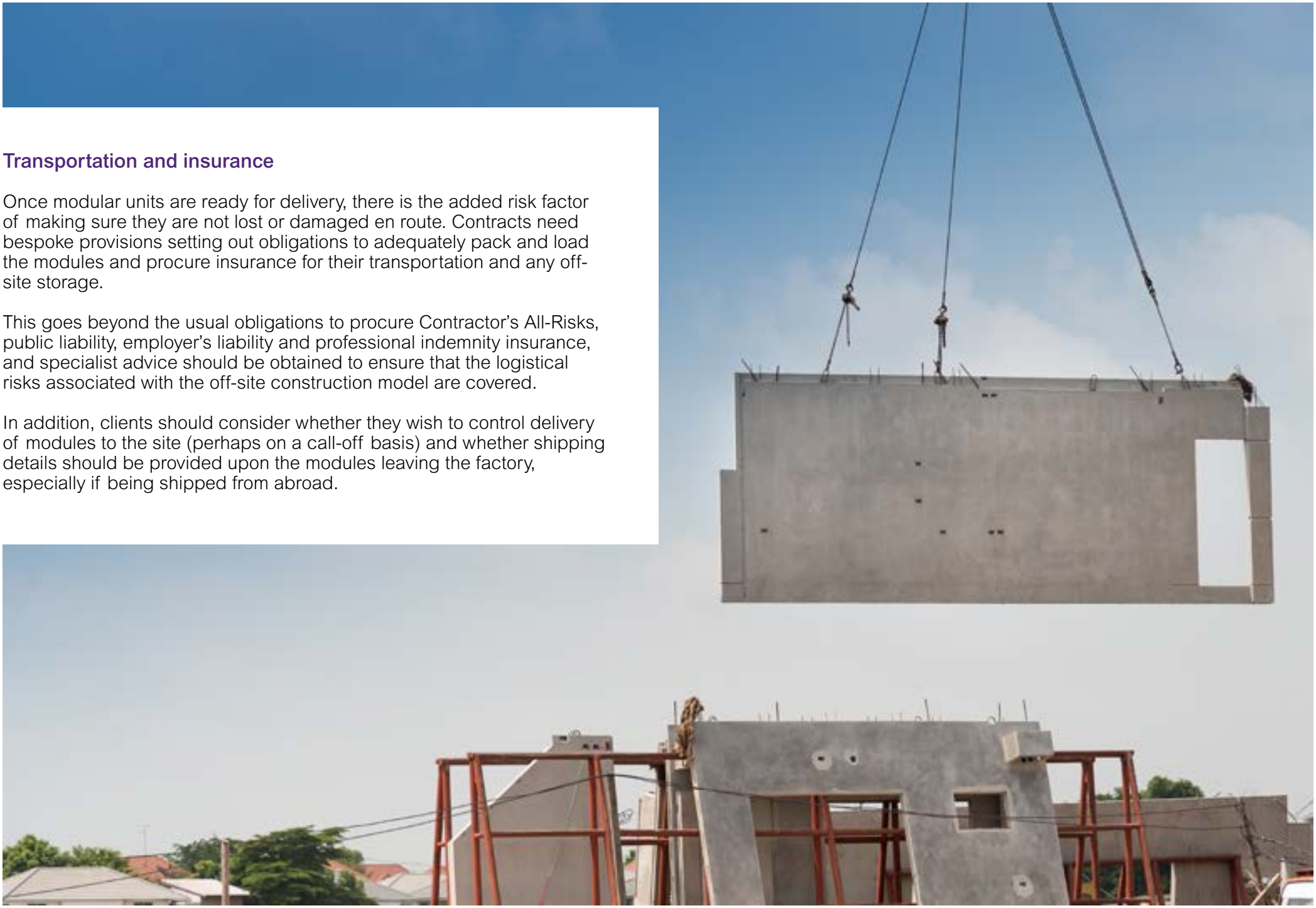
> **Modular can reduce carbon footprint by 60%**
>
> HTA Design LLP

Transportation and insurance

Once modular units are ready for delivery, there is the added risk factor of making sure they are not lost or damaged en route. Contracts need bespoke provisions setting out obligations to adequately pack and load the modules and procure insurance for their transportation and any off-site storage.

This goes beyond the usual obligations to procure Contractor's All-Risks, public liability, employer's liability and professional indemnity insurance, and specialist advice should be obtained to ensure that the logistical risks associated with the off-site construction model are covered.

In addition, clients should consider whether they wish to control delivery of modules to the site (perhaps on a call-off basis) and whether shipping details should be provided upon the modules leaving the factory, especially if being shipped from abroad.



Skills shortage challenge remains, but there are solutions

One of the key issues facing the construction industry in 2018 that remains, is how to address the shrinking workforce numbers and availability of skills.

Alongside the challenge of Brexit, which led to an exodus of a large proportion of the foreign workforce back to the EU, we have an ageing workforce that is not being replenished. The younger generation simply doesn't see construction as an attractive career.

In the past year, employer national insurance contributions have been raised, adding further cost pressure to construction firms, particularly SMEs, which had been showing signs of recovery.

The Immigration White Paper in May 2025 announced changes to work visas, which could make it harder for tradespeople to come to the UK to work.

The CITB forecasts that between 2025 and 2029, an extra 47,860 workers a year will be required to meet UK construction needs.

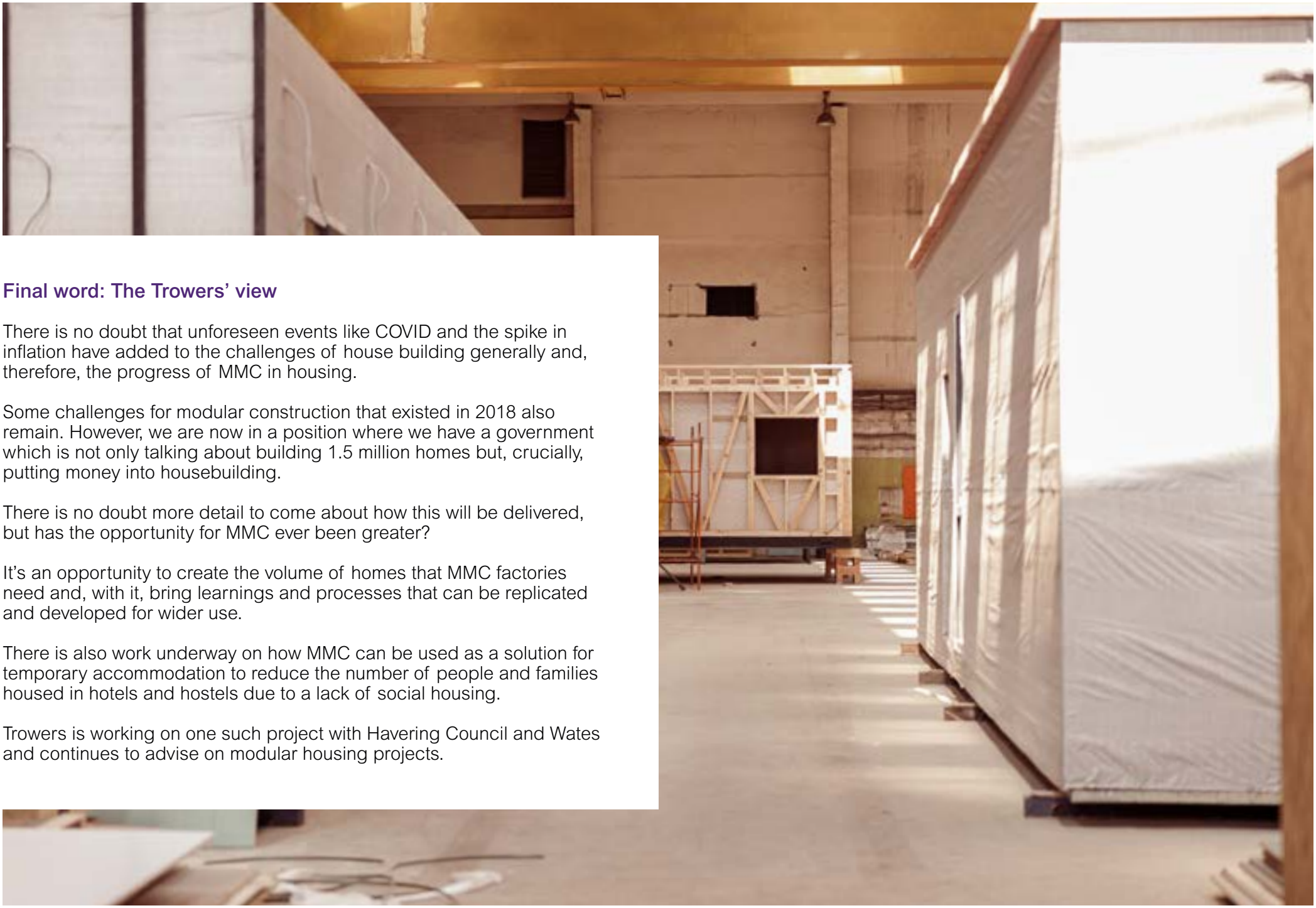
Modular construction still offers part of the solution for a number of reasons.

In a competitive recruitment environment, the career of a construction worker travelling to site in inclement weather is losing out to the more comfortable existence of an office job.

Working in a technologically progressive industry but without the upheaval of a job being constantly exposed to the elements and travelling to a new workplace for the next project might make modular factory work more attractive.

From an industry perspective, workers do not need to come from existing construction jobs but can come from a broader manufacturing background. Given that the government wants to encourage home-grown recruitment, there is an opportunity to reskill from sectors such as the armed forces or even create opportunities for ex-offenders.

A consistency in demand for MMC could help with training and apprenticeships at factories.



Final word: The Trowers' view

There is no doubt that unforeseen events like COVID and the spike in inflation have added to the challenges of house building generally and, therefore, the progress of MMC in housing.

Some challenges for modular construction that existed in 2018 also remain. However, we are now in a position where we have a government which is not only talking about building 1.5 million homes but, crucially, putting money into housebuilding.

There is no doubt more detail to come about how this will be delivered, but has the opportunity for MMC ever been greater?

It's an opportunity to create the volume of homes that MMC factories need and, with it, bring learnings and processes that can be replicated and developed for wider use.

There is also work underway on how MMC can be used as a solution for temporary accommodation to reduce the number of people and families housed in hotels and hostels due to a lack of social housing.

Trowers is working on one such project with Havering Council and Wates and continues to advise on modular housing projects.

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