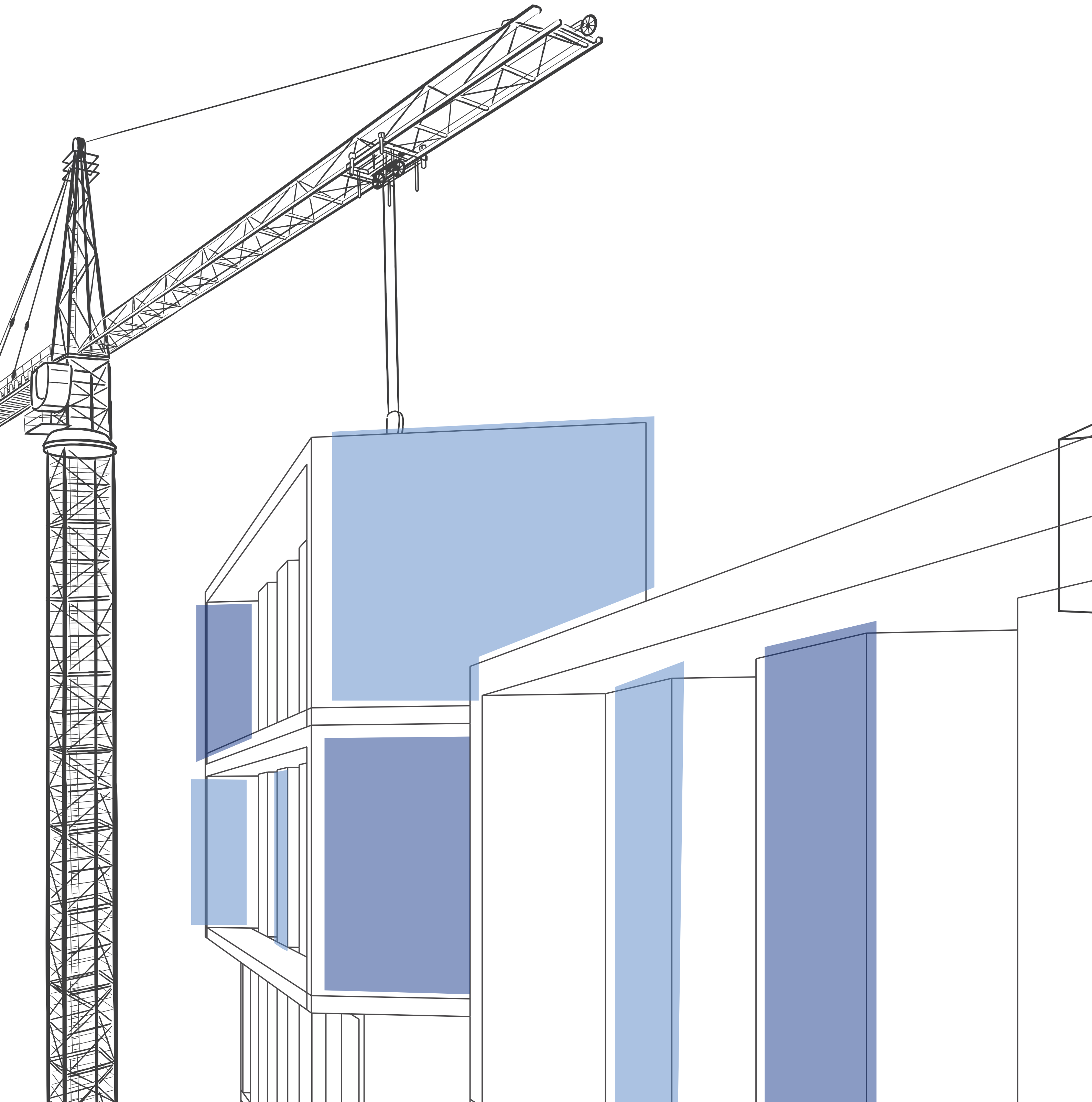
trowers & hamlins

# FUNDING BARRIERS TO OFFSITE HOUSING

## Separating fact from fiction



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# Foreword

Modern methods of construction (MMC) has the potential to be more productive than traditional methods of housebuilding and increase the pace of delivery of housing – helping the Government achieve their delivery ambition of 300,000 homes a year by mid-2020.

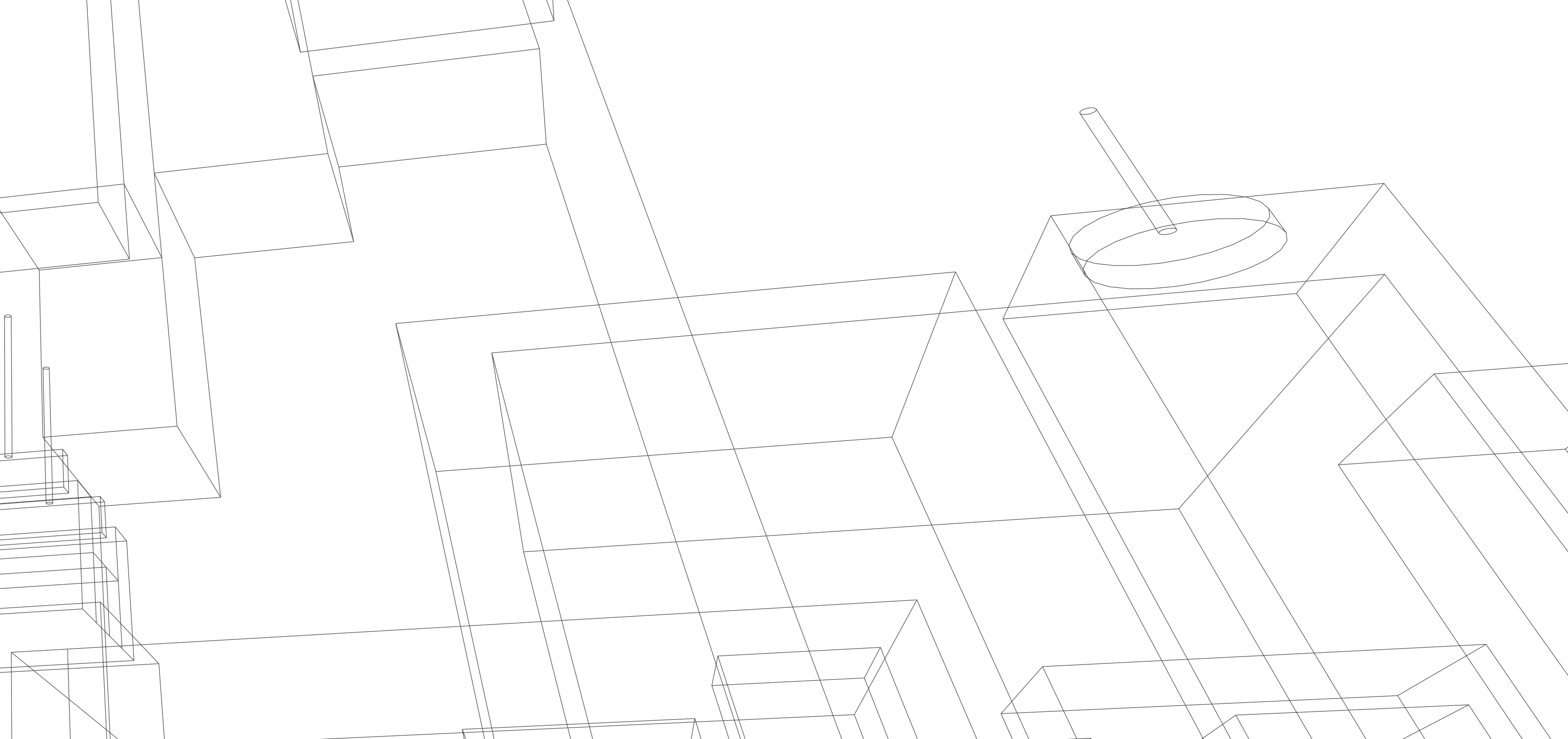
£2.5 billion of the £4.5 billion Home Building Fund is allocated to support builders including schemes using modern methods of construction. Additionally, there is high demand from the sector for direct MMC/factory funding, demonstrating the investment appetite to establish the capacity in this sector. Private equity capital is active in supporting modular manufacturers, ilke Homes is financed by TDR Capital, TopHat has recently closed £75 million from Goldman Sachs, Round Hill Capital are supporting Momodo. Homes England has also announced it has entered into a partnership between Sekisui House and Urban Splash, a UK-based SME.

The main theme of this report is to consider the barriers to the wider adoption of MMC, specifically the concerns around the funding and assurances attached to systems and technologies, some of which are relatively new to the housebuilding industry. The Government is playing a key role in addressing these concerns through the creation of its working group chaired by Mark Farmer, looking at the assurance, insurance and mortgage issues that MMC faces. We hope that these interventions will provide further confidence to customers, lenders, builders and others to continue to invest in the growth of the MMC sector.

**Stephen Kinsella**

Chief Land and Development Officer, Homes England

> *“We can’t build 300,000 homes a year with the supply chain we have got in this country so ultimately we need to do something different.”*
>
> Stephen Kinsella, Homes England



# Introduction

It seems that the whole industry is talking about offsite and modern methods of construction and there is a huge amount of momentum to drive real change in the housing sector.

In the 18 months since our first roundtable examining the challenges faced by those wanting to adopt offsite and modular methods of construction, we have seen the industry take a large step forward in overcoming those obstacles.

One area though that continues to be quoted as a source of concern in both the social housing sector and the private for sale market (as opposed to the private rented sector) is the funding for offsite residential schemes.

There is no doubt that the conversations around modular and offsite methods of procurement are well and truly underway, whilst a huge amount of progress has been made in understanding and resolving the issues preventing wide-scale adoption of this approach, a major issue still cited amongst those involved that is causing concern is how to secure funding for development.

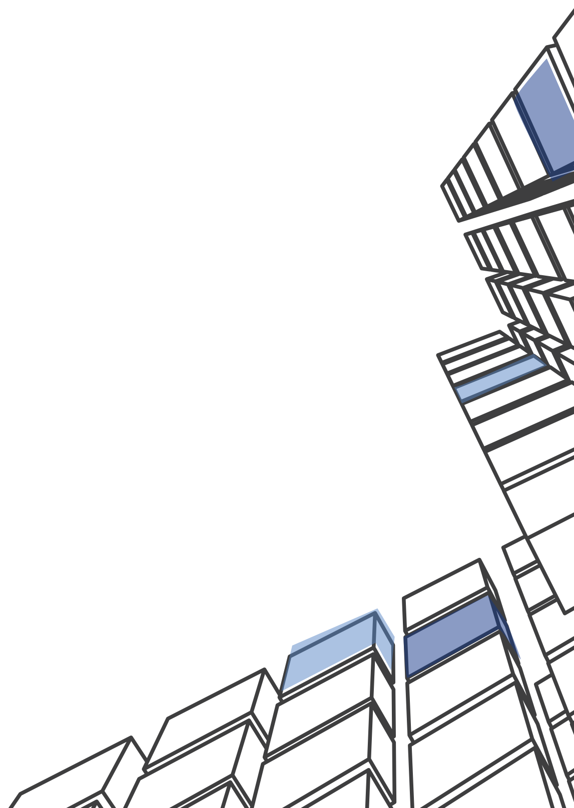
Housing associations and developers often talk anecdotally about funders' reluctance to fund projects which rely heavily on large elements of the works being constructed offsite. Equally, people have been looking at whether the existing house warranty schemes, such as NHBC, Premier Guarantee, BLP and Checkmate, are suitable for buildings constructed using "non-traditional" methods and that purchasers will have difficulties or a lack of choice when it comes to obtaining mortgages.

However, we have also heard from warranty providers that their existing warranty schemes are suitable for modern method of construction and from funders who have suggested that they have no such reluctance to fund and that they are perfectly aware of the challenges and risks of offsite construction and have the understanding and flexibility to address them. This report separates fact from fiction and looks at the perception of funder reluctance from the reality of the market experiences in practice.

**Paul Bartter**
Partner
Trowers & Hamlins

*"So, a lot of this is a perception issue, individual properties can be charged without problems, it's when we are asked to charge say 1,500 and what the maintenance regime is that sits behind them that issues can arise."*

Andy Smith, Savills



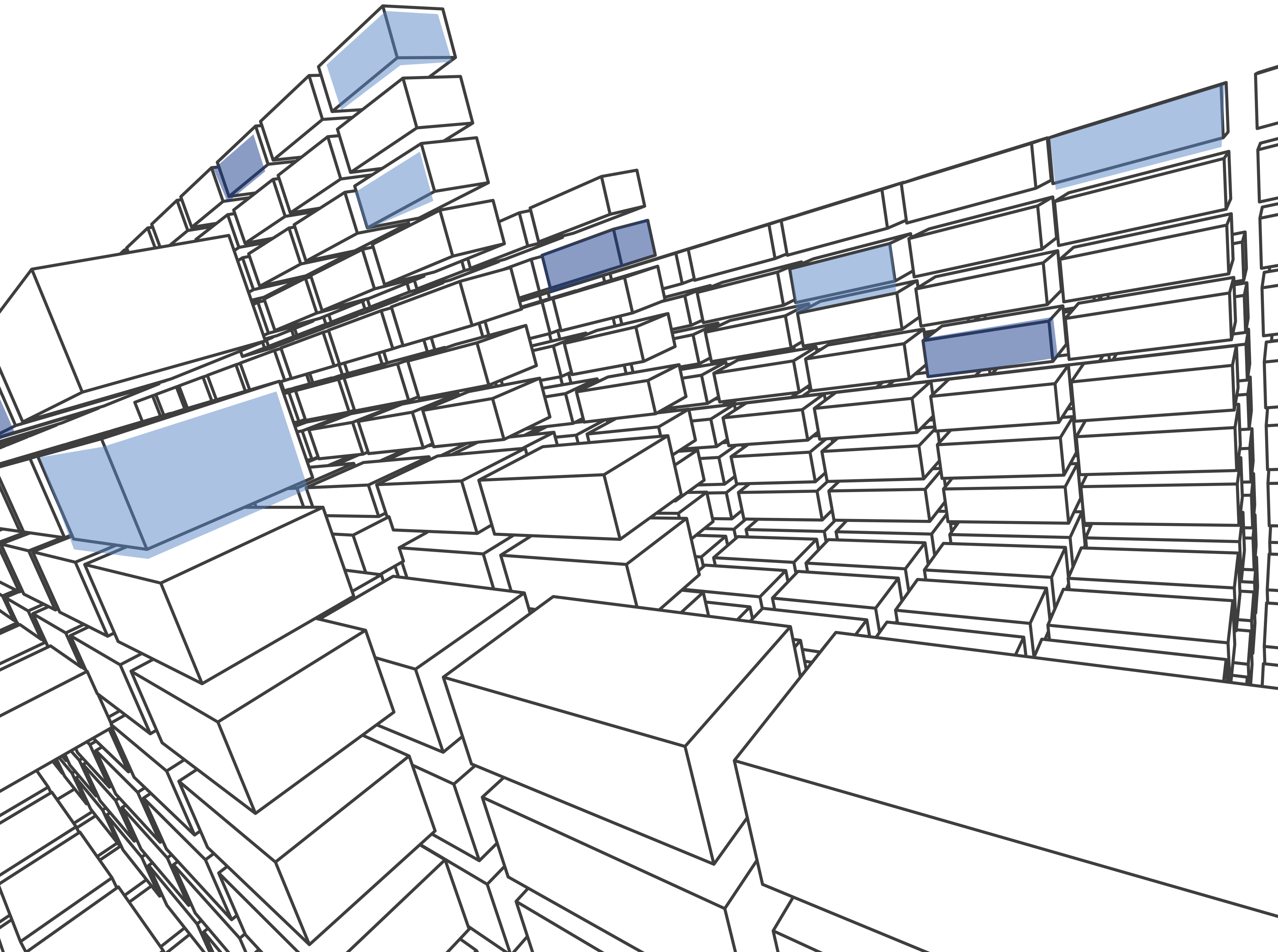
# Why is there a lack of funding?

The following will be familiar to anyone involved in conversations about funding offsite manufactured homes. We would, however, like to challenge these (mis)beliefs to see if they really are issues which need to be addressed (perhaps by Government intervention or new insurance products, for example, coming to the market) or whether it is simply about messaging and getting the right factual data to the right people.

## True or false?

There is a lack of funding for offsite housing because:

- Offsite housing (unlike traditionally built homes) is a depreciating asset?
- Offsite housing provides inadequate security to charge against because of quality and longevity concerns making saleability on enforcement harder?
- Existing options for performance security from offsite housing manufacturers/suppliers (such as vesting certificates, performance and advance payment bonds) are not appropriate and, coupled with an inability to transfer the manufacture of modules to alternative manufacturers/suppliers, make lending too risky?
- Warranty providers are reluctant to provide new home warranties in respect of offsite housing?



# Roundtable

## Attendees

| | |
|---|---|
| **Homes England** | Stephen Kinsella - Executive Director for Land (Chair) |
| **Apex Airspace** | Graeme Alfille-Cook - Consultant |
| **Trowers & Hamlins** | Anna Clark - Partner |
| **Trowers & Hamlins** | David Cordery - Senior Associate |
| **The Housing Finance Corporation** | Melissa Gheerawo Skilbeck - Security Asset Manager |
| **Trowers & Hamlins** | Yvonne Mao - Managing Associate |
| **MHCLG** | Mohied Miah - Head of Policy |
| **NHBC** | Andy Mullins FCIOB, C. Build E FCABE - Head of Business Development |
| **Gardiner & Theobald LLP** | Andrew Munford - Partner |
| **L&Q Housing Trust** | Yogeta Partridge - Treasury Solicitor |
| **HSBC** | Terence Pearce - Relationship Director |
| **Centrus Advisors** | Tony Oakley - Director |
| **NHBC** | Graham Sibley - Head of Market Development |
| **Savills** | Andy Smith Bsc MRICS IRRV - Director, London Valuations |
| **JLL** | Nick Whitten - Director, Head of UK Living Research |

*"With a traditional build, you may benefit from the flexibility to adapt, modernise and consider alternative use, whereas modular/ pods are efficient but less malleable and potentially limit evolution."*

Terence Pearce, HSBC














# What type of security is needed for funding modular?

One of the issues that we explored in our previous modular reports is the need to procure development finance for offsite manufactured projects. Whilst a few of the leading housing associations and housebuilders are able to build a viable business case for owning and operating their own factories and investing heavily in product research and development, this is an option simply not available to the vast majority of housing associations and SME developers in the market. It is those housing associations and developers that will be the litmus test of whether these modern methods of construction can become mainstream, rather than the preserve of the larger players.

Graeme Alfille-Cook, consultant at Apex Airspace and formerly manging director - corporate markets at Lloyds Bank, has experience on both sides of the funding debate. Apex, says Graeme, is hit by a triple whammy of issues with which funders are traditionally uncomfortable: operating in airspace; using unconventional methods of construction; and being an SME. It is difficult, he says, to pinpoint which of these factors concerns lenders the most, but notwithstanding this, Apex has managed to secure a mix of funding for its modular developments from both the private sector and the GLA.

Despite criticism that Government is not doing enough to plug the funding gap to allow SMEs to enter the MMC market (discussed in more detail later in this report), policy-makers are increasingly interested in exploring how they can assist. However, like any sensible lender, they are interested in making sure their investment is properly secured. Mohied Miah, head of policy for MMC at the Ministry of Housing, Communities & Local Government (MHCLG), says the government is keen to explore what more can be done to address the funding barriers faced by the sector, and investigate further whether the traditional forms of performance security are suited to the challenges of offsite manufacture.

Most traditional forms of performance security, such as performance bonds, retentions and advance payment bonds, focus on providing cashflow for the project when prescribed events occur (i.e. contractor insolvency), effectively providing funds to mitigate the additional costs of engaging an alternative contractor or supplier to complete unfinished work. The problem with MMC manufacturing is that, chances are, even if your performance security pays out, due to a lack of commonality in design, there may be no alternative supplier to pick up production of a bespoke offsite manufactured product. Or, even if there is an alternative supplier available, they simply may not have a production slot in their factory soon enough to maintain the viability of the project.

Unfortunately, currently it is not the case that production can be switched to any number of alternative manufacturers that can pick up the production from where a defaulting supplier stopped manufacture. Other forms of security such as parent company guarantees, vesting certificates and step-in rights may also not be adequate. A parent company guarantee obliging a parent to perform the obligation of a defaulting subsidiary is worthless if the parent has gone insolvent too. Vesting certificates are only really appropriate for vesting the title in finished modules and it is unlikely that, on insolvency say, a manufacturer will have finished all the modules for a particular development for the developer to take possession of all the modules it needs to complete the project. Step-in rights, so beloved by institutional funders as a means of maintaining continuity when a contractor or their supplier is in default, are simply not practical in the context of offsite manufacture where the manufacturer is in financial difficulties and not paying its supply chain; what bank is going to step-in to operate a factory (even if possible given the likelihood of other secured creditors taking enforcement action over the manufacturer's assets)?

Instead the answer may potentially lie in directly working with the manufacturer's secured creditors and funding the factory or paying suppliers direct to maintain production if it starts to have difficulties. The lenders would still need to co-ordinate their security, but arguably it would be much simpler for the interested parties to charge the assets of a modular manufacturer rather than maintain the fiction that they might ever themselves step in to operate the factory. Another option that is worth exploring is insurance. Whilst traditional performance security allows access to money it does not remedy the delays caused to the project. This gap could potentially be covered by insurance, such as delay in start-up insurance, which could pay out to cover the developer's debt repayments until the project is completed.

Housing associations experience additional issues when it comes to funding where existing stock is used as security in order to raise finance. This approach has worked fine where the existing stock has been traditionally constructed. However, questions have been raised as to whether manufactured homes are of a sufficient quality and robustness (and therefore saleable on enforcement) so as to be worthwhile charging. As explored in the following articles, third party accreditation schemes (such as the Build-Off-Site Property Assurance Scheme (BOPAS)) and the willingness of warranty providers to offer warranties on the same terms as those for traditionally built homes will determine whether such homes represent adequate security for funders.

Ultimately, the greatest security you can have is confidence in the borrower and its product. As Terence Pearce, Relationship Director at HSBC, who has funded a number of projects, particularly in the hotels sector said "When I am considering financing a project, one of the factors I am assessing is the quality of the end product: it's got to be appealing, saleable and of an acceptable building standard. As a lender we are committed to providing sustainable financing however, if the end product is high quality, how many home owners or end users ask how it was built?"

> *"Government and industry recognise the need to increase the use of MMC in new home development, to speed up delivery and to overcome the growing skills and capacity gap in house building. Housing associations and build to rent developers are at the forefront of using new construction technologies, as fast construction suits their needs to complete rental homes quickly. However investors, lenders and the public are seeking greater confidence that homes built offsite components are of suitable quality, and can stand the test of time."*
>
> Graham Sibley, NHBC

# Mortgageability of offsite manufactured housing

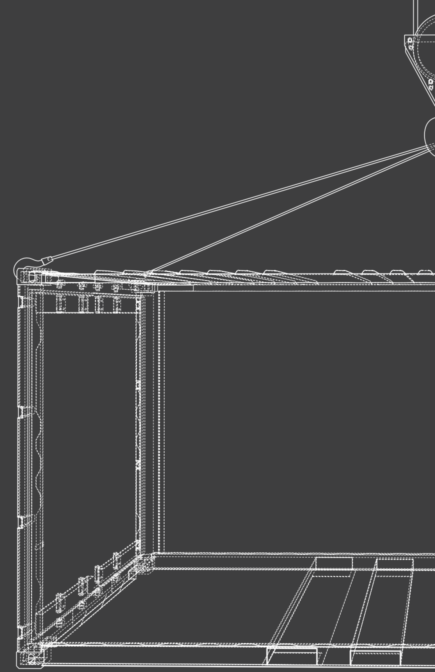
In their jointly produced November 2018 publication, Modern methods of construction - Who's doing what?, NHBC and Cast identified, based on survey data from a specially selected group of 36 active MMC developers, that mortgageability of buildings constructed using MMC was one of the major barriers to engagement. Based on the feedback from our roundtable, progress has been made in the past seven months and the view from most was that the Council of Mortgage Lenders (CML) appeared to be getting slowly more comfortable that offsite manufactured housing could provide adequate security for loans, but there is still some way to go to reassure the market.

In the affordable housing sector in particular, private funding in addition to government funding will still be necessary to ensure the success of the offsite construction sector. Andy Smith, director of London valuations at Savills confirmed his view that MMC units "will trade" and have value. There is no reason, in Andy's view, that MMC units should be valued on any other basis than traditionally built units and that the industry's reluctance resulted from a "perception" issue surrounding the product, rather than ascertainable data.

To address some of the concerns about quality and confidence of MMC products resulting in difficulties in accessing finance, insurance, and mortgages MHCLG has set up a sector led MMC working group with lenders, valuers and warranty providers to look into these issues and ensure MMC homes have access to mortgages and insurance on the same basis as homes built using traditional construction methods.

Chaired by Mark Farmer, the group is considering existing uncertainties about overall performance and durability of MMC homes, their acceptability for warranty and insurance and to identify measures that could give greater confidence on the quality of MMC homes allowing lenders to overcome their caution about granting mortgages on these homes.

The group, which includes NHBC and BOPAS, has been working on developing a unified quality assurance scheme, which is expected to launch in the coming months, for assessing all new technologies for their acceptability to mortgages and warranties. This will make a huge change to the way new technologies can be brought to the market, and help increase confidence in MMC and increase its uptake in house building.



This is a complex piece of work examining how various assurance, warranty and insurance products interact with each other, with Trowers proving the legal advice.

The barriers to mortgageability remain the barriers that affect broader concerns around MMC:

- Quality of the product
- Lifespan
- Maintenance

Third party accreditation of the design and manufacturing process will be necessary to give assurance on quality and Tony Oakley, director of Centrus Financial Advisors Limited and formerly of Lloyds Bank, confirmed that in his experience banks would generally insist on a combination of BOPAS accreditation and a ten-year structural warranty (such as NHBC's or BLP's) when lending on individual residential market units. It is worth noting however, that of the 123 lenders listed in the UK Finance Mortgage Lenders' Handbook for conveyancers only 10 name BOPAS as being acceptable to them, which is indicative (albeit not conclusive) of mortgagees take-up of offsite manufacture or, as they term it, "non-traditional construction".

Lenders also need to know that the value of an offsite manufactured home will last at least for the term of the loan and probably longer, as discussed in more detail later in this report. We may start to see obligations such as a requirement for a robust maintenance programme and a requirement for regular inspections and valuations being written into loan covenants for MMC projects. Concerns still exist, however, regarding the availability of the necessary maintenance skills and replacement parts during the design life, although if designed and manufactured properly, maintenance skills should not be too different from those required to maintain traditionally build housing and parts that need replacing should be readily available, again, as with traditionally built housing.

Modular construction is very popular and successful abroad, and funding in many countries is not an issue. It was noted that those countries, including Germany, have a large rental market. Their modular schemes tend to be build to rent funded with income-based loans. The possibility of this being a way forward here was discussed by the attendees at our roundtable but there was a reluctance to have a special product for modular. It is possible that lenders may want adopt a similar approach to that taken by European operators in relation to shared ownership units and limit the percentage of the MMC-element of their property portfolios, at least in the short term. Although this type of strategy could further hinder the growth of this type of construction at a time when it will need lender support to prosper.

As with so many issues surrounding modular, we continue to face a chicken-and-egg scenario of confidence only following proven success. In an industry as conservative as the institutional lending market, perhaps the answer lies in alternative forms of funding. The build to rent market in the UK is finally becoming an established form of home ownership and this lends itself well to alternative forms of funding, with many disruptors already emerging. Whilst an MMC-specific form of mortgage product does not appear to be on the horizon, perhaps traditional CML mortgage lending may not be needed for offsite manufactured buildings to succeed.

> *“Hopefully they’ll be producing good, long term kit with good, high quality homes that people want to live in for a long period of time. The fact is there is a lot of money out there that is investing and modular manufacturers investing in house building because we’ve got a massive shortage of supply. So that dynamic is not going away.”*

Graeme Alfie-Cook, Apex Airspace

# Is modular a depreciating asset?

It is often said that, for offsite construction to really gather pace in the UK, the building industry could learn a lot from other manufacturing industries, such as the car or aeronautical industries. If we treated our homes more like we treat our cars - constructed quickly but to a very high standard, fully customisable, incorporating the latest technological features – then we can really excite a market looking for a modern, factory-built future.

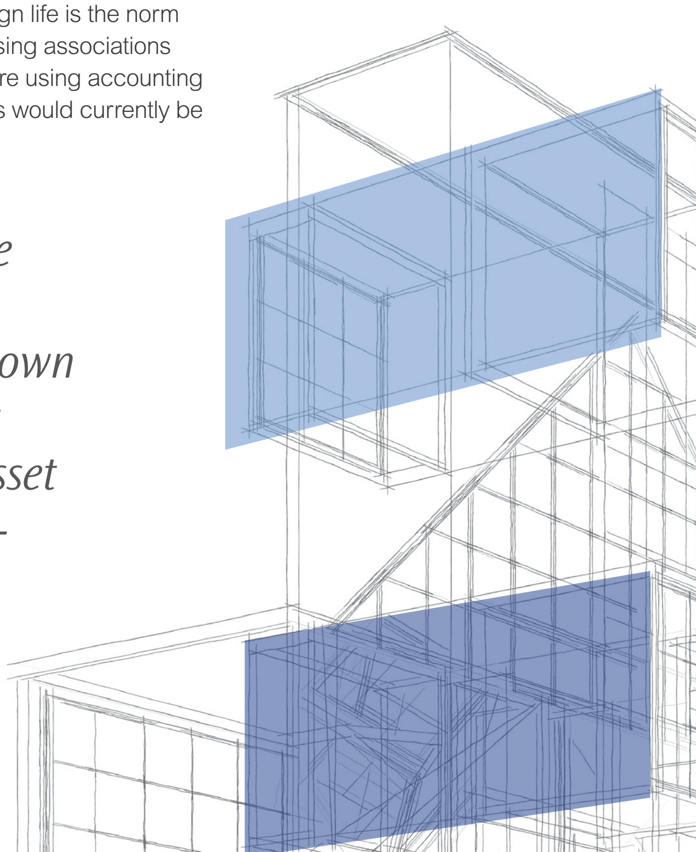
Perhaps the other logical conclusion to this approach is that, when a home has served its purpose, we might consider disposing of it before it starts to look weathered and worn. Andy Mullins, head of business development at NHBC, points out that this would follow an approach adopted by one of the world's great manufacturing nations: Japan, where the idea that one might demolish and re-build units on a regular basis is more readily accepted. It would take quite a mind shift for the UK consumer to consider buying a new home in the same way as they might buy a new car because, as every car buyer knows, from the moment you drive a new car off the forecourt, its value will have already dropped. By the end of the first year, according to the AA, the average new car will have lost around 40 per cent of its value.

The average British homeowner, and the property industry as a whole, is unlikely to accept this type of depreciation, but is it accurate to say that offsite manufactured buildings will depreciate at all? Hard data for valuations of assets sorted by construction method is not easy to come by, although according to Savills and JLL the raw valuation data is available; it just needs to be collated and packaged in a way that can be presented to the public and, more importantly, those making decisions on how to procure new buildings. In April this year, JLL published a report entitled Industrial Scale Housing Solutions which presented an optimistic view of the potential benefits of offsite manufacturing based on the review of its statistical data around the manufacturing process. It has been suggested that a similar in-depth analysis of the built and operating asset would be possible and that the data already exists to achieve this. It remains to be seen who might take up that mantle, although it is an area that we at Trowers are actively exploring.

It is true to say that the common perception of the design life of offsite manufactured buildings is that it is far shorter than that of traditionally constructed projects. Although the truth of this claim is difficult to verify, it is certainly not safe to assume that a 60-year design life is the norm even in traditional construction. Whilst we have heard from a number of housing associations that, for new housing stock that will meet their long term future needs, they are using accounting assumptions based on a 100-year design life, it is unlikely that many projects would currently be capable of fulfilling such criteria, regardless of construction methods.

*"We want to make sure that the value doesn't get eroded as time moves on. We're not expecting the house to fall down after 30 years, however we don't want maintenance costs to depreciate the asset value of a modular unit - or any unit - which we're lending against."*

Melissa Gheerawo, The Housing Finance Corporation



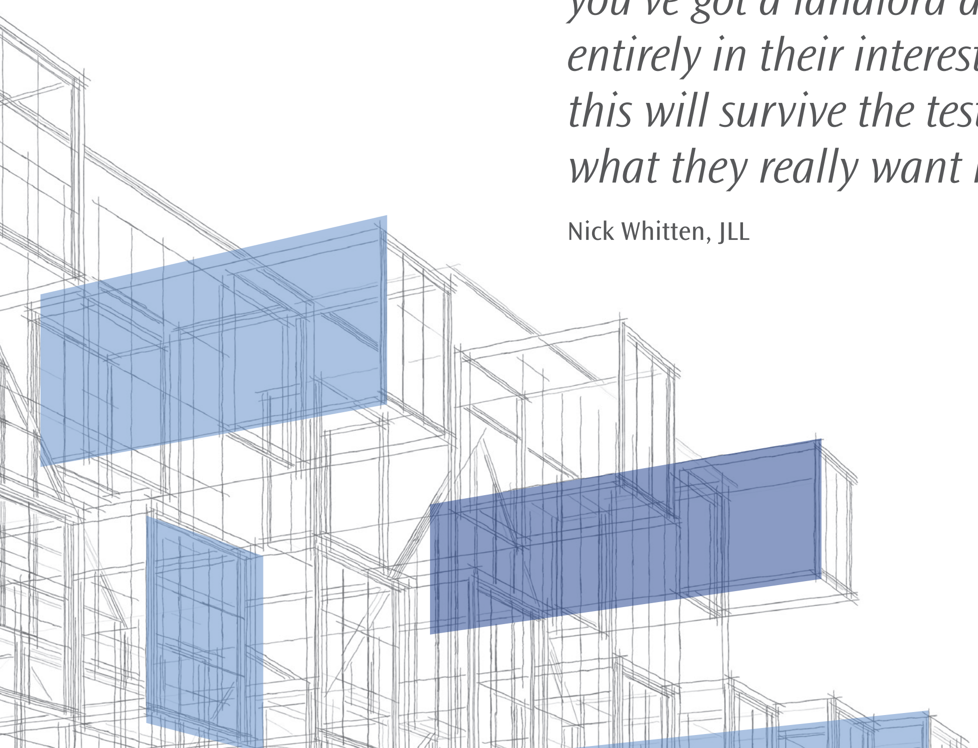
Over a decade ago, BRE Scotland, on behalf of the Scottish Building Standards Agency investigated whether a design life and performance test could be written in to Regulation 8 of the Scottish Building Regulations. Given the nature of the industry at the time, this naturally focused more on traditionally built schemes and the report drew some interesting conclusions. The report found that, whilst the structural elements (e.g. structural walls made up of masonry, steel or timber frame) would in most cases last a minimum of sixty years, the non-structural elements (including cladding, windows, internal finishes and mechanical, engineering and plumbing (MEP) services) would need replacing far more frequently. The main factors affecting all structural elements will be moisture ingress and movement in the building. There is no reason therefore to consider that a building built with offsite light-gauge steel, concrete or timber (CLT) frame would not have the same, if not superior, design life, given that the potential for enhanced quality means that the building can be engineered to be wind and weather-tight to greater tolerances than a traditional building. In addition the internal and external non-structural elements such as fittings, MEP and cladding, can be replaced in an offsite manufactured building to the same extent as any other.

It is worth noting here also that BOPAS' accreditation scheme, whilst aiming to assure mortgage lenders that a property will be readily mortgageable for at least 60 years and providing accreditation for components based on that criterion, does not warrant that all components of an offsite manufactured building will have a 60-year design life. Simple BOPAS accreditation backed by a home warranty scheme, whilst seen by most lenders as a pre-requisite to mortgageability, does not guarantee or warrant a 60-year design life for the building.

If it is accurate to say that investors' and funders' reluctance to embrace offsite manufacture is related to worries about design life, perhaps this is one area where we can dispel some of the misconceptions and re-focus the debate around increasing quality.

*"Other countries are pretty comfortable with the quality of modular building. We are of the opinion that it should be superior in quality, you should have reduced snagging and all those kind of issues. If you've got a landlord driven model it's entirely in their interests to make sure that this will survive the test of time because what they really want is the infinite."*

Nick Whitten, JLL



# Can Government help plug the gap?

With the number of issues that have been raised through our roundtable and wider discussions, policy-makers and government bodies have naturally been asking the question: what can we do to help?

The enthusiasm shown by government in the years since Mark Farmer's Modernise or Die report has been palpable and there have been (and continue to be) a number of initiatives aimed at kick-starting investment in offsite manufactured homes. In London, the Mayor's Innovation Fund, as its name suggests, is aimed at promoting innovative ways of delivering affordable housing, including making funds available for offsite and precision manufactured homes. Save for limited exceptions, any MMC units, as with all new London Development, must still comply with the existing GLA funding criteria, the London Plan and the Housing Supplementary Planning Guidance, which sets out, amongst other things, minimum room sizes.

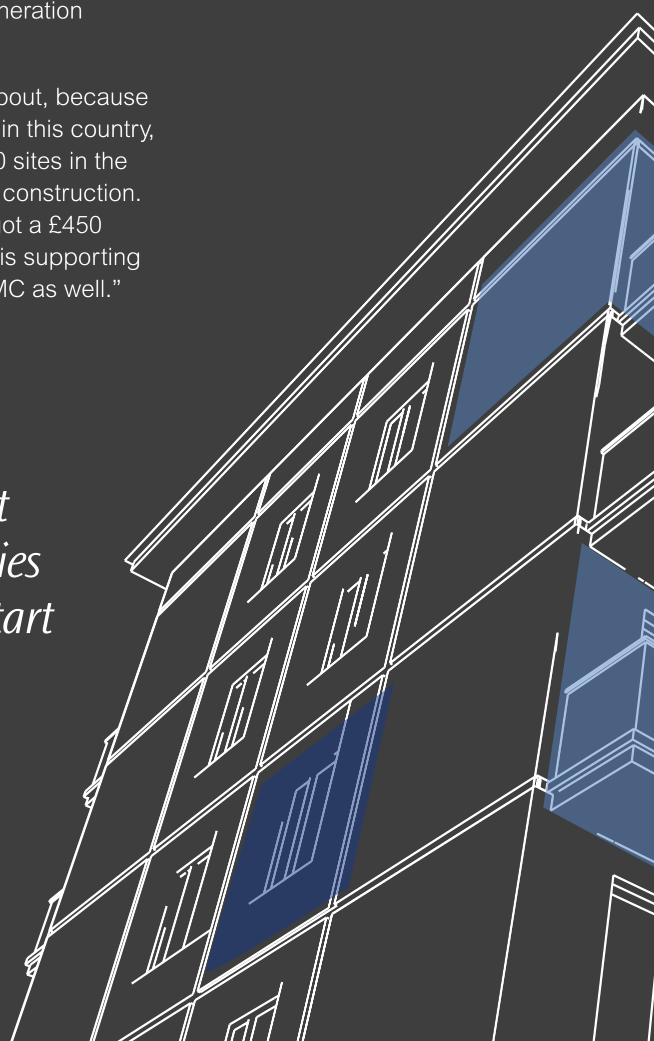
Homes England is similarly keen to assist where it can. As Stephen Kinsella, Chief Land and Development Officer at Homes England, stated: "There are a whole range of options here and I have always taken a view that Homes England is agnostic on systems and we should let industry lead the way. As long as it's mortgageable and it's going to be built to the appropriate quality then we can provide them with relevant financing. A good outcome for me would be that we are supportive but that we're not in it, and you're not depending on us, forever. As the market matures, someone else is going to take over."

Homes England is hugely invested in what Stephen describes as its MMC "journey". Only the day before our roundtable, news broke that Sekisui House, Japan's biggest housebuilder, had invested £22 million into delivering modular homes in the UK, with £30 million of equity and debt funding coming from the Government's Home Building Fund, administered through Homes England. The funding goes to supporting regeneration company Urban Splash's 'House' development business.

According to Stephen: "We need to be constructive and that's what it is all about, because we can't build 300,000 plus homes a year with the supply chain we have got in this country, so ultimately we need to do something different. Homes England is selling 70 sites in the next 12 months with a requirement for all of them to use modern methods of construction. We have got 40 sites already in contract with this requirement and we have got a £450 million grant programme, the local authority construction programme, which is supporting local authorities with difficult sites and, as a consequence, looking to use MMC as well."

*"People over time will, once they can see it and touch it, get comfortable with properties that are built using MMC and then it will start to become more mainstream."*

Tony Oakley, Centrus Advisors

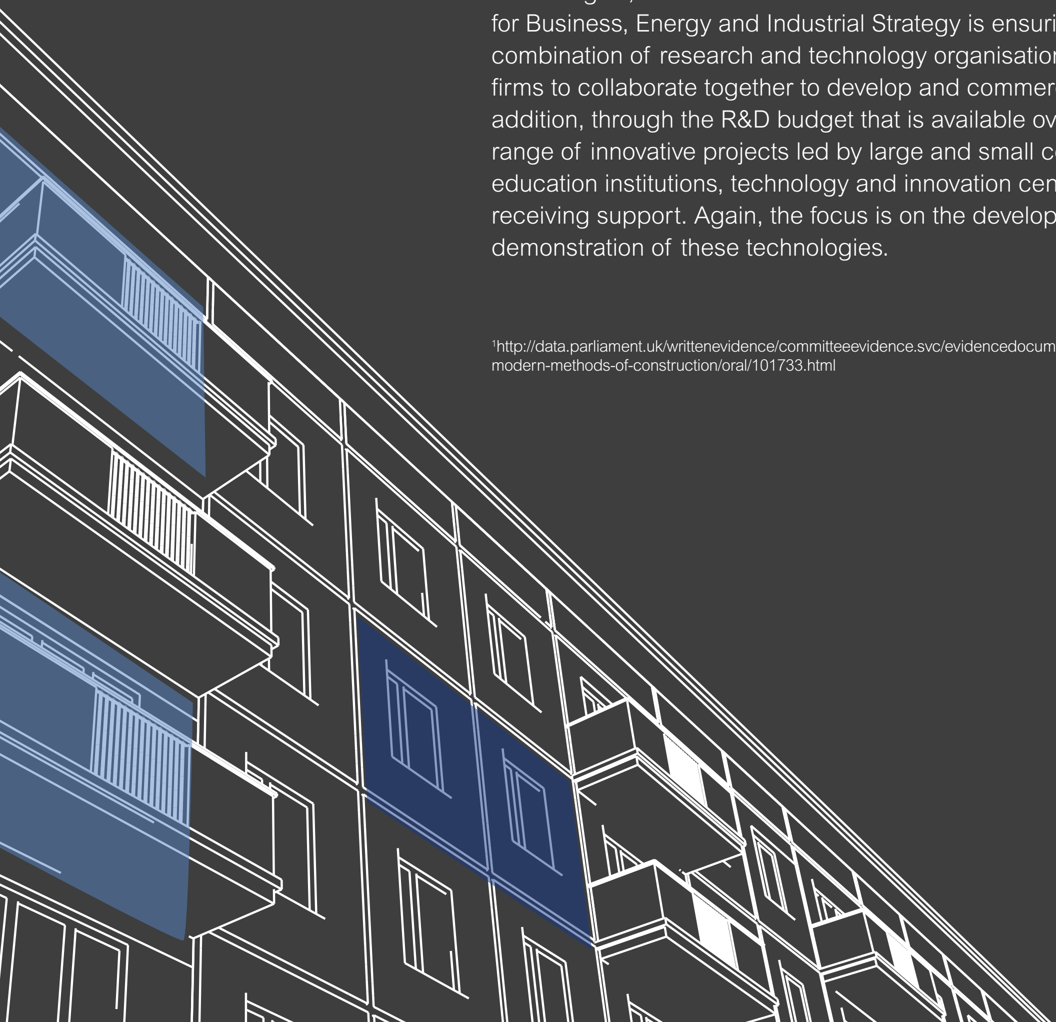


Mohied Miah is the lead official responsible for MMC and also has oversight of the Brent Cross Regeneration Project. His policy remit is to support a more diverse and resilient housebuilding industry through MMC, which provides greater choice and better quality for the consumer. This includes providing access to finance through Homes England and working, including with the sector, to address the barriers to support improved productivity through offsite construction. MHCLG is keen to do what it can to promote the sector and has been actively meeting with many industry representatives to look at options for Government support.

The Housing White Paper focuses on tackling the barriers to increasing use of MMC and working with the sector to deliver more homes using these methods. Since its publication in 2017, MHCLG has established a housing specific MMC Working Group to address barriers to assurance, insurance and finance for MMC homes; delivered a standardised definition framework for MMC classification; explored how the planning system works for MMC through a cross sector roundtable; encouraged the use of MMC through the Affordable Homes Programme; invested over £236 million in MMC developments from the £4.5 billion Home Building Fund; used their commissioning power through the accelerated construction (AC) programme to showcase MMC as a way to drive build out pace and strengthen the supply chain on local authority owned land and are considering options for further interventions. They continue to work with the sector, Homes England and across Central Government to support and drive this agenda further.

In oral evidence given to the MHCLG on 7 May 2019, Housing Minister Kit Malthouse stated: "One of the issues with MMC, like all new technologies, is creating an atmosphere of acceptability in terms of not just the industry that is using it, but the various other industries that underpin it: the insurance industry, the finance industry and indeed the consumer."[1]. Government is doing more to stimulate the sector by supporting the businesses that supply it. The £170 million Transforming Construction programme, introduced through the construction sector deal, is primarily focussed on developing supply chains geared to make best use of modern construction technologies, digital and offsite manufacturing technologies, to deliver the homes and infrastructure the UK needs. The Department for Business, Energy and Industrial Strategy is ensuring that money is invested in a combination of research and technology organisations, which are centres that will enable firms to collaborate together to develop and commercialise innovative new technologies. In addition, through the R&D budget that is available over the four years of the programme, a range of innovative projects led by large and small companies in collaboration with higher education institutions, technology and innovation centres and other organisations are receiving support. Again, the focus is on the development, the commercialisation and the demonstration of these technologies.

[1]http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/housing-communities-and-local-government-committee/modern-methods-of-construction/oral/101733.html



# A few key words…

*“The focus on better quality is paramount. Not just because MMC has the potential to reduce defects, but because if quality is not delivered, then the benefits of productivity or efficiency are not achieved as projects are then delayed on site while defects are rectified.”*

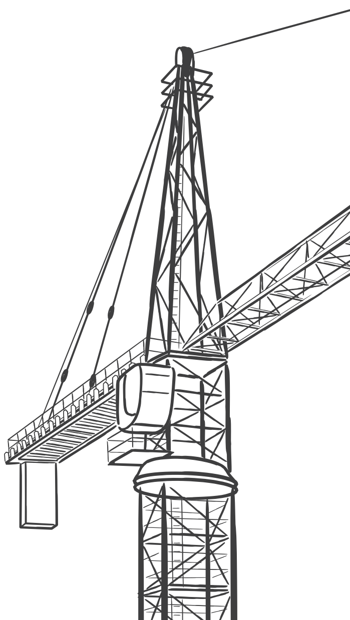
Andy Mullins, NHBC

*“It’s really hard not to see the progress everyone is making. There are lots of these kind of initiatives going on where people are getting together and around the table I see enthusiasm and a sense that we are actually making some real progress.”*

Stephen Kinsella, Homes England

*“With the drive to create more homes and with modular construction well underway, we need to work collaboratively with all stakeholders to create clarity on requirements for these sites and work with lenders to ensure that we can secure the best possible funding value on these sites.”*

Yogeta Partridge, L&Q Housing Trust



*"You need to educate everybody, from the people who are going to buy, to the mortgage lenders, all the way down the chain that in actual fact these units are being built from all the same materials as traditional builds, they are just as robust, and they will last just as long if they are maintained in the correct way."*

Andrew Munford, Gardiner & Theobald LLP

*"It is great to see the progress the sector is making. MHCLG will continue to deliver interventions to positively disrupt the housing market and support the growth of MMC in housebuilding by creating the right conditions for a diverse, well-functioning market which innovates to accelerate supply, improve products, techniques, productivity and efficiencies, whilst offering a competitive product for consumers."*

Mohied Miah, MHCLG

# Final word – the Trowers view

At the start of this report we set out some common assumptions as to why funders have been reluctant to finance offsite manufactured residential projects. Some of these assumptions are in our view (and the view of many actively involved in the sector) incorrect. Provided these homes are properly designed and manufactured and installed to a high standard, there is no reason why they should be viewed as a depreciating asset or considered to be inadequate for the purposes of charging. In this regard, they should be treated no less favourably than traditionally built homes. As has been evident in the press recently, there are many traditionally built homes which, through poor design and/or workmanship, are not worth their original sale price, in some cases are not habitable, and would offer inadequate security for lenders.

There is also a strong argument that a properly designed precision manufactured home represents an opportunity to achieve a design life that exceeds that of a traditionally built home. The 60 year design life is a standard applied by warranty providers to both traditionally built homes and those delivered by MMC. We know a number of manufacturers in discussions with warranty providers to see if they are willing to assess their products against a much longer design life. If this is done, it should go a long way in changing people's perception of the quality and longevity of offsite manufactured homes.

An assumption which is correct however is that the usual approaches to performance security which would be put in place by clients/borrowers on traditionally built projects do not provide the right level of protection for offsite manufactured projects. Bonds and retentions will give access to money (although query whether the amounts paid out would be enough) and vesting certificates will give access to the products they cover but (unlike on traditional projects) it is much much harder to find alternative suppliers to finish manufacturing and complete the project. Just like on a traditional project where the main contractor goes insolvent, a manufacturer insolvency would cause significant delays but it would not be possible to 'walk down the road' and find another contractor (or multiple trade contractors) to pick up from where the insolvent one left off. A lack of commonality in design remains an issue although this is something which government and others are working on resolving. It is possible that a combination the usual bonds, parent company guarantees, vesting certificates and collateral warranties with step-in rights could be used alongside insurance products, such as delay in start-up insurance, to better protect clients/borrowers from cost and delay consequences of manufacturer default although this requires lenders to have an open mind and be pragmatic when considering the options available to them. Homes England are doing their bit and some lenders are being more open minded than others but more need to step up and actively work with the sector to find viable solutions in order to truly allow offsite housing to take off. It is telling that a number of clients of ours have sought development finance from overseas banks as opposed to UK lenders.

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# Key risk factors around MMC identified by NHBC

Quality is both a benefit and a risk in the use of MMC systems. As more of the work is done in a controlled factory environment, this should help to improve the quality of construction. However, the absence of an established track record of use means the risk of potential failure is high.

There are well publicised examples, both in the UK and around the world, of failures from previous generations of innovation in house building. The NHBC Standards and NHBC process of reviewing MMC systems are based on lessons learned from past problems and failures. NHBC continue to put the home or asset owner at the heart of our decision making.

Each MMC system needs to be assessed carefully against familiar key criteria such as: structure; behaviour in relation to fire; resistance to moisture; acoustic performance and thermal performance. The NHBC Standards alongside the Approved Documents to the Building Regulations, provide the baseline and useful guidance to undertake these assessments.

Based on the assessments of many systems undertaken by NHBC to date investors, lenders and developers should focus on the following points are in place when considering MMC:

## Factory production controls

In order to manage the risk of systemic defects, NHBC requires an audited, approved Quality Management System. This helps to ensure that the materials and manufacturing are of consistent quality.

## Early design freeze

The specification of components and proof of their performance needs to be fully demonstrated before manufacture begins. This is different to the procurement of materials for traditional house building where products can be substituted for alternatives much later during design and construction.

Appreciation of the complexity of the construction details that need to be considered with off-site manufacture.

NHBC expects manufacturers to take design responsibility for interfaces with other elements of construction. The design responsibility for MMC systems needs to be clearly defined and the manufacturer should advise builders how their product works on-site.

## On-site issues

Special equipment may be needed on-site to lift panels and modules into place and new skills may be required to make connections between units and to ensure that issues such as firestopping have been properly looked after. Accordingly, it is essential that construction/erection teams are fully trained and supervised.

## A full-home warranty

NHBC's ethos is based upon all homes being built to a finished standard that enables the issuing of a warranty for each home – such that homes are mortgageable and insurable under normal terms. Investors, developers and lenders need to be sure that such warranty and insurance is available on any MMC approach they are considering.

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