

INTERACTIVE REPORT

Prefabs Sprouting: Modern Methods of Construction (MMC) and the English Housing Crisis

Cite as: Wallace, A. et al. (2025) Prefabs Sprouting: Modern Methods of Construction (MMC) and the English Housing Crisis. Interactive report.

For more information and resources visit our [website](#) or contact Dr Andrew Wallace, a.wallace@greenwich.ac.uk.

Full report: [‘Modern Methods of Construction: an answer to the housing crisis?’](#)

Our 30-month research project was funded by the Economic and Social Research Council (ES/V015923/2).

Interactive
menu

1

Introduction

2

Mapping
the MMC
sector

3

Resident
perspectives
on MMC

Part 1 | Part 2

4

MMC
challenges

5

Questions
and dialogue

Introduction

Modern methods of construction (MMC) is a collective term for building methods which include an element of off-site manufacture. Could it contribute to addressing England's housing crisis?

Research overview

**84**

survey responses from residents in 12 different MMC housing schemes (private and social)

**72**

interviews with housing industry stakeholders

**40**

interviews with residents living in MMC homes



We compiled an **MMC housing development database**, visited MMC factories and sites and attended construction and MMC industry events

MMC housebuilding involves prefabrication or premanufacture of housing components in factories. It is claimed to offer better designed, less carbon/labour intensive homes delivered at a faster pace than the on-site masonry methods used by legacy housebuilders.

Over the last decade, politicians have begun to grapple with interlocking agendas around construction productivity, industrial strategy and the housing crisis. MMC is typically framed as a solution to these issues, cited as being a faster and more sustainable way of building homes.¹

Given the extent of investment in MMC firms, and the urgent questions around housing delivery and planning reform in England, the dearth of independent evidence around the operations and impact of MMC housebuilding is glaring.

- There has been little mapping of the sector
- The government has not instituted robust reporting or evaluation mechanisms
- The dominant research framework around MMC is limited to 'uptake'

- Experts express ongoing concerns about the safety and performance of MMC homes
- There are significant gaps in understanding MMC residents' experience
- We know little about the jobs or conditions inside MMC housebuilding factories

Our research is the first one to address some of these gaps by providing a picture of the MMC sector in England, its condition and how it intersects with a housing system routinely described as being in 'crisis'.

¹ (e.g., Farmer, 2016; DCLG, 2017; HLBEC, 2022; 2024)

Mapping the MMC sector

Publicly available data on the scale of MMC housebuilding across the UK is limited and the sector has not been adequately mapped.

Our research attempts to fill in some of these gaps. We compiled databases which triangulated contractor and client website information, industry media articles and online resources such as NHBC Accepted Systems. We found:

- 104 MMC firms active in the residential housebuilding market with factories in England. By September 2024, nine high-profile category one² manufacturers were no longer trading, creating uncertainty around the sector.
- We broke down the remaining 95 by MMC category and key assembly material.

²MMC category one denotes 'volumetric' construction, involving the production of whole modules. MMC category two denotes the manufacture of frame or flat panels for basic wall, floor or roof structures.

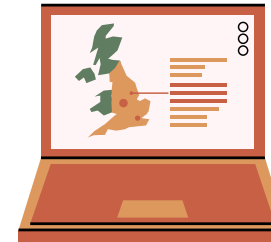
- Timber-based category two² is the dominant manufacturing profile.
- The majority of MMC firms are small or medium-sized enterprises (SMEs).
- MMC firms are involved in a wide range of housing schemes, including social housing estates, private brownfield developments and large apartment blocks.
- Many construction experts are unhappy with how MMC is defined by lobbyists as 'modern':



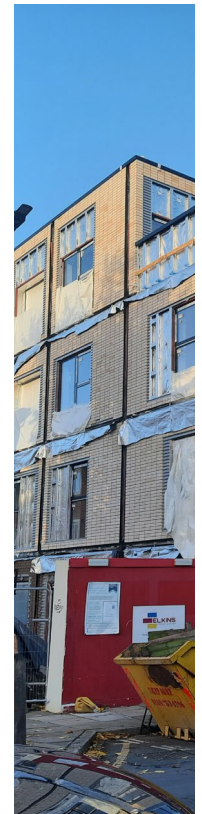
When are...[MMC lobbyists] going to stop saying 'modernise or die', when all these companies that are trying to modernise just keep dying and... in the background you've got companies like us who quietly innovate, move things forward, new systems, a little bit more advanced, put a bit more premanufactured value in it, we're still going."

- a category two manufacturer

What have MMC firms built?



During our project we identified 215 housing schemes in England, where MMC firms are explicitly named as delivery contractors (see [interactive map](#)).



Resident perspectives on MMC

We noted a troubling lack of data regarding how residents experience MMC homes.

To understand some of the lived realities of MMC housing schemes, we surveyed and interviewed residents living in a range of built and 'in progress' MMC housing developments across England.

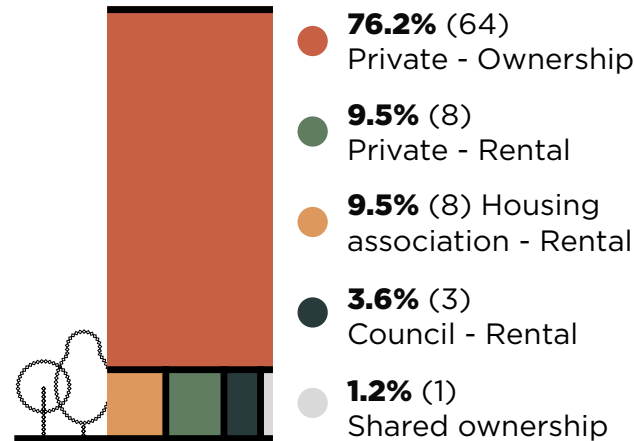
We got **84 survey responses** from residents living in 12 different MMC housing schemes (private and social).



We recruited **40 households** for follow-up interviews:

- five lived in social rental homes
- 35 lived in private rented and mortgaged homes

Tenure mix of survey respondents:



What residents told us

1. We found no evidence of stigma or anxiety about living in an MMC home; it was a selling point when linked with environmental sustainability, 'innovation' and good quality design and social renters welcomed the possibility of lower energy bills.
2. Many residents experienced significant problems with MMC project delivery:
 - Almost all the residents interviewed experienced delays moving into their homes.
 - The finish and performance of homes was variable and unpredictable when MMC factory production did not align with installation.

- Some MMC residential schemes lacked effective governance on the ground, creating unclear lines of accountability for residents when raising concerns.
- Poor aftercare by MMC firms and their partners reinforced problems for residents dealing with snagging and defects, making them feel disregarded.
- Contractors were widely criticised for their poor communication, aftercare and repair processes.



I needed to do Airbnb because they were saying the house will be soon, soon, soon. And that wasn't the case...I needed to remortgage because they give you only for six months and obviously because they were postponing so much every time the deal...expired... The whole (MMC) concept looks very beautiful. It was like affordable houses delivered in the short term and very friendly for the environment, but...it was completely opposite to what they delivered...it almost took them like they were actually building from the scratch...it took them that long.”

– resident

3. These delivery and structural issues exacerbated the uneven and unpredictable quality of MMC homes.

- Resident satisfaction was uneven. Some are proud of their homes and have few complaints.
- Other residents reported long snagging lists which were poorly addressed, wide variations in their capacity to warm and cool their homes, specific mechanical problems, and difficulties with overheating.
- Some appreciated the level of accessibility of the houses, however, some tenants with specific needs who needed their homes adapted suggested that adaptations should have been made earlier.

Both residents' and clients' perspectives on MMC housebuilding have been a neglected part of the research landscape to date.

We found:

- no satisfactory data on the proportion of social housing schemes that were both started and completed to clients' satisfaction by MMC contractors;
- insufficient consideration by researchers to date of the challenges MMC brings to project delivery;
- and no cross-sector surveys of resident experience.

An industry-friendly research framework which only considers the “barriers to enabling MMC to build homes” is not sufficient.

“

Because this property is a metal, steel inside, and basically is not made from brick...There's nothing to put the grab rails on the wall with, because it's hollow. It wouldn't be able to take the weight...They're supposed to be designing some metal frames to be putting up to be able to get the grab rails in, but I've still got no further with that, and I've still got no grab rail. I've already had an accident.”

– resident



MMC challenges

1. We found many housing association clients and local government decision-makers have poor perceptions of, or low confidence in, MMC following the collapse of several category one contractors.

- One social housing client representative told us that stepping away from MMC was now a 'no-brainer' for their organisation.
- Some housing associations have been left with costly, unfinished MMC projects which needed to be completed using traditional methods.



2. England's planning system and land economy can undermine MMC housebuilding. The large factory model used by most MMC category one manufacturers is constrained by scarce access to developable land:



If you are opening a car factory, you know where the cars are going to go...If you've got a mobile phone factory your phones are going to go in people's hands and their pockets. If you are opening a house factory, you need to know where those houses are going to go. The houses are going to go on land that your client needs to buy, or you need to buy as a manufacturer...RPs [registered providers] are going out and trying to buy the same land that Plcs are trying to buy and the Plcs have got much deeper pockets."

– client stakeholder

3. Volume housebuilders dominate the open land market in England and MMC firms must compete for land access. While some large housebuilders have opened their own MMC factories, developers have few incentives to improve build quality or innovate their supply chain unless government intervenes:



Housebuilders don't really make money on the construction process. So, if you're selling an average house for £250,000 and it costs you £180,000 to build it, if somebody comes along and says I can completely change the way you do things and I'll save you another £10,000, they don't care. They're still going to make £70,000 or £80,000 on that plot because they've converted that land into a dwelling that somebody wants to buy. So the housebuilders aren't really that motivated into refining the construction process and throwing out everything that they know, and there are huge risks with doing that as well."

– housing industry stakeholder

4. MMC requires new, additional and different skills than traditional construction and there is a skills gap. There are gaps in evidence around what kinds of jobs MMC factories are creating and how traditional skills can be aligned with factory production. There appear to be insufficient training opportunities in MMC.

Questions and dialogue

England's dominant housing system is dysfunctional and there is a social rental housing crisis.

MMC can appear a seductive solution to build new homes rapidly and efficiently, but:



Some industry stakeholders' faith that MMC enables safe, high-quality residential housebuilding is not supported by robust, independent evidence



Inconsistent government policies and frameworks have also hindered MMC progress



Fire safety and build standards remain unclear



Government intervention is required if the MMC sector is to make a meaningful contribution to building the homes we need. Policymakers should engage with these questions:

- What independent and public testing and inspection structures do we need to certify and enforce safe MMC residential environments?
- Do we need MMC-specific construction standards? How can we address MMC-specific risks around fire safety and ensure that they are understood and mitigated?
- What regulations and enforcements are necessary to ensure MMC housebuilding is contributing to government net zero targets?
- How can government release land and finance so housebuilders are incentivised to use MMC to build social rental housing?
- What kind of programmes could be introduced to support circular and community-focused building methodologies?
- How might government and local authorities incentivise growth in community self-build MMC schemes?
- If MMC is scaled up in the social sector, what steps could redress power imbalances between landlords and tenants?



MMC is likely to remain a 'neutral' technology solution to the housing crisis unless these points are addressed. Clear policies, effective regulation and targeted investment are needed for the sector to reach its full potential to deliver the social and alternative housebuilding models we need.