

## Akerlof Ltd – Written Evidence (MMC0008)

*Akerlof is a leading consultancy specialising in Methods of Construction (MMC). Akerlof advises key spending departments on MMC strategy, supports the development of related policy (not least the Transforming Infrastructure Performance Roadmap to 2030) and is currently acting under the commission of the Department of Housing, Levelling Up and Communities (DLUHC) to research and develop a digital kit of parts for Categories 2 and 5 MMC.*

### 1. What are the major barriers to MMC development?

The volatility of macroeconomic conditions over the past 18 months, not least high inflation levels (with UK material prices 40.1% higher in Sept 2023 than January 2020<sup>1</sup>), has magnified vulnerabilities within the construction sector as a whole. In the year to August 2023, the sector had over 4200 construction insolvencies. These challenging conditions have equally stressed the MMC market, particularly impacting Category 1 providers, who typically operate with high capital investment and overhead levels. Recent declines in housebuilding activity have served only to compound matters further.

In addition to the economic climate, the major barriers to MMC as identified by the Housing, Communities and Local Government Committee (herein referred to as 'the Select Committee') MMC Review in 2019<sup>2</sup> persist. Recent studies<sup>3</sup> support many of the findings of the Select Committee, reiterating key issues such as:

- **Developers / Procurers perspective:**
  - **Perception:** There is a confidence deficit in MMC for housebuilding, linked to long-standing reputational issues. The recent demise of several modular providers (e.g. Caledonian, Urban Splash, Eco Modular, Ilke Homes, L&G and M-A-R) has further heightened a perception of risk despite the number of modular contractors going insolvent in the past three years being 80 times less than M&E businesses.
  - **Lack of Interoperability:** The perceived lack of interoperability across the sector adds to this risk profile, with concerns from both lenders and developers regarding the lack of alternative like-for-like solution in the event a supplier insolvency.
  - **Cost (per m2)** – Existing commercial models focus on immediate capital costs; the benefits of faster, better, green delivery, with reduced site attendance, are rarely monetised. Consequently Category 1 solutions, with duplicated physical structure, factory overheads and transportation costs are often higher than benchmark 'norms'.
- **Supplier perspective:**
  - **Inconsistent demand:** The operational efficiency of a manufacturing-led approach hinges on a consistent, stable pipeline. The aspiration for consistency is often undermined in the housing market, however by the:

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<sup>1</sup> Source: ONS

<sup>2</sup> Housing, Communities and Local Government Committee, Modern Methods of Construction. Fifteenth Report of Session 2017-2019.

<sup>3</sup> Notably Homes England report 'Creating a Sustainable Housing Market' (2020) and Akerlof's research on behalf of DLUHC

- **Fragmented market:** The public sector housing market is notably fragmented, with 353 local authorities and 1594 Registered Providers (RP's). While frameworks and alliances such as Building Better (backed by the National Housing Federation) have made strides in aggregating and harmonising demand, the public market remains segmented.
- **Planning System:** While the planning system is (and should remain) blind to the construction method, uncertainty in the process inadvertently encourages a bias towards the status quo of traditional methods and large-scale developers<sup>4</sup>.
- **Warranty and insurance challenges: (particularly for closed panel systems):** For manufacturers of 'closed panel' solutions, securing accreditation and warranties is notably more complex to secure than for traditionally built homes.

A further market issue is the notable tension between individual interests and the collective good– a scenario Harvard law professor Michael Heller described as the “tragedy of the anti-commons.” On the demand side, there is limited exchange of information to harmonise and standardise requirements. On the supply side, competitors are reluctant to share information (primarily for fear of losing intellectual property or competitive advantage). Inadvertently, these behaviours compound concerns relating to a lack of interoperable and interchangeable building components, reinforcing the status quo of a preference for traditional methods.

## 2. Are there different barriers for each category of MMC?

Some barriers apply universally, yet the extent to which they affect each category of MMC is variable. Like plants in a garden, the MMC categories share common features, but need to be cultivated in different ways to support growth:

- As noted earlier, Category 1 (modular) providers, are particularly sensitive to the consistency and certainty of pipeline and availability of working capital. As such, they attract heightened scrutiny regarding solvency and overall industry perception.
- In contrast, major house builders have successfully integrated open-panel Category 2 MMC and non-structural Category 5 components into their operations. Leveraging vertically integrated business models to aggregate and manage demand, and unencumbered by the accreditation challenges associated with closed panel solutions, they have reaped gains in productivity and efficiency. Persimmon for example used over 4440 timber frame and roof system kits from their Space4 manufacturing business in 2022, whilst Barratt's reported delivering over 4300 homes through Oregon (their MMC facility) a year earlier. The latter represents 21 times the amount delivered by Ilke Homes in the same period.

Location is a further variable to the cost barrier, noting that MMC schemes in the Southeast are often more financially viable than parts of the North, where labour rates are lower for key trades.

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<sup>4</sup> The Home Builders Federation 2023 report “State of Play” outlines the impact of the planning system on SME housebuilders – noting that SME housebuilders are now responsible for only circa 10%

### 3. What specific steps should be taken to address the barriers?

The recommended steps to address the barriers are drawn predominantly from the Select Committee review in 2019 and the Construction Playbook.

A. **Data / Digital Technologies** – The Select Committee previously recommended that:

- (a) Homebuilders should use more digital technology, such as Building Information Modelling and
- (b) Government should develop a digital database that records the design, processes and materials used in the construction of buildings.

Through the 'Building a Safer Future' consultation, the Government put forward proposals for a golden thread of digital information to support building safety in higher-risk residential buildings. For low-rise housing, we would encourage:

- (i) Policy that builds towards a golden thread, beginning with the use of standard data templates and digital information for products. This will simultaneously drive the adoption of digital technologies and encourage interoperability between manufacturers.
- (ii) Development of a product database to support designers and developers make early, informed decisions. Its form and content could be complimentary to development of the Built Environment Carbon Database ([www.becd.co.uk](http://www.becd.co.uk)) – offering insights into data and reassuring stakeholders of a stable supply chain.

B. **Definition Framework** – in addition to the above, we would also encourage the expansion of DLUHC's definition framework to include 'Category 0' to ensure that the adoption of standard (platform) designs and use digital technologies, as advocated by the Construction Playbook, are recognised. This tact has been successfully applied in other sectors, namely healthcare, to drive greater MMC adoption through design.

C. **Common Assessment Standard** – The Select Committee previously advocated for the development of an 'MMC Scheme', creating a common assessment standard for warranty providers. The Government acknowledged that the 'Scheme' would make a major contribution towards increasing lender confidence in MMC however its implementation has faltered. The reinvigoration of a common standard is strongly encouraged.

D. **Shared requirements and standards** – the Construction Playbook outlines that shared requirements and standards will encourage investment into readily available, interoperable components, encouraging contracting authorities to "seek opportunities to collaborate in order to develop and adopt shared requirements and common standards".

Research projects, such as AIMCH<sup>5</sup>, have demonstrated that common standards are not mutually exclusive with value adding variety that reflects

local needs and, vernacular. To achieve this in a considered manner, we recommend a two-pronged approach:

- (a) Support the creation of open, digital Pattern Books by both local authorities and housing associations. The harmonisation of requirements across a borough will support local rationalisation, whilst an open approach will enable wider adoption.
- (b) Developing 'Joint Borough Funding Initiatives' or 'Harmonisation Grants' to support the funding of the Pattern Books. To encourage common standards, eligibility for these grants should be based on either direct collaboration between local authorities or demonstration of alignment with pre-existing design standards.

E. **Whole Life Carbon Targets** – the Select Committee advocated for setting carbon reduction targets for embodied and in-use carbon, to encourage the use of MMC in delivering more efficient homes now to avoid legacy homes of the future.

Whilst the Future Homes Standard comes into force in 2025, the Carbon Emissions (Buildings) Bill, mirroring the content of an industry-proposed Part Z amendment to the building regulations, was declined at its second reading. We would encourage this Inquiry to reaffirm the importance of measuring and transparently reporting whole-life carbon performance (among other data points). This includes supporting reforms recommended by the Skidmore Review<sup>6</sup> in relation to the planning system to ensure it properly supports net zero. These are expected to drive improved environmental outcomes and simultaneously encourage a market shift towards MMC.

**4. The Government provides both direct support to MMC companies as well as using programmes such as the Affordable Homes Programme to drive up the use of MMC more broadly across the sector. Do you believe these schemes are working and if not what should be changed about them?**

The Affordable Homes Programme (AHP) clearly signals the Government's commitment towards MMC and supports market adoption. While the stimulus has undoubtedly catalysed activity, it remains small in scale relative to its original ambitions of 40,000 home starts by March 2022. In the past three years, the AHP has delivered circa 6,400 homes across 409 projects, via 106 different developers<sup>7</sup>.

The Government has also provided direct support via the Home Building Fund, which included funding the now insolvent Urban Splash House and Ilke Homes, the investment between October 2021 to September 2022, was expected to deliver 7691 units of unlocked housing capacity and 8939 homes<sup>8</sup>.

Both schemes help to build momentum. To drive transformative impact, deeper links with policy, funding, infrastructure and skills are needed. For example, the Government could use its portfolio and fiscal incentives to embed the principles

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<sup>5</sup> Advanced Industrialised Methods for the Construction of Homes project, led by Barratt Homes, L&Q and Stewart Milne

<sup>6</sup> Misson Zero – Independent Review of Net Zero, Rt Hon Chris Skidmore MP

<sup>7</sup> Based upon data provided by Homes England (October 2023) via FOI request

<sup>8</sup> Based upon FOI request

of the Construction Playbook, that will ultimately support and enable MMC, not least by:

- **Embedding digital technologies** – to underpin design, supply chain engagement, and delivery, using the UK BIM Framework and adoption of the Information Management Framework
- **Harmonising, digitising and rationalising demand** – as outlined earlier
- **Sharing learning and continuous improvement** – through structured feedback loops and performance measurement.

## 5. What needs to happen for the sector to be able to deliver without active Government support?

For the construction sector to deliver effectively without direct government support, it must embrace a future-focused approach that values long-term sustainability, quality and productivity over short-term cost targets. To achieve this requires the Government to:

- **Unified Strategic Vision:** To articulate a compelling vision that clearly positions digital technologies and MMC as catalysts for improved social and environmental outcomes.
- **Consistent Standards:** To set robust environmental and carbon standards. Policy consistency is key; shifting and conflicting policies disrupt progress.
- **Digital Strategy Execution:** To implement a comprehensive digitisation strategy that:
  - Integrates disparate property data, aligning with legislative outputs.
  - Adopts best practices for data standardisation.
  - Reviews commercial models to encourage open data exchange while effectively managing intellectual property, risk, and liability.
- **Planning Reform:** To innovate in the planning process by digitising existing procedures and harnessing new technological opportunities, which streamline and improve planning outcomes.
- **Delivery Frameworks:** To establish frameworks that reflect 'Constructing the Gold Standard'<sup>9</sup> to drive enhanced performance in housing delivery.
- **Supportive Commercial Models:** To ensure publicly funded development appraisals and commercial models reflect whole life cost, the benefits of earlier delivery / income and / or the hidden costs of poor quality, reduced productivity, cost certainty and risk of traditional methods.
- **Educate Stakeholders:** Educating stakeholders, such as clients, is key to supporting MMC uptake. This will help the value chain to understand the nuances and changes to business as usual associated with MMC adoption, enabling informed decision-making and risk management.
- **Active Celebration of Best Practice:** To actively collaborate with the industry to promote best practice and re-frame the language associated with MMC. Simply put, build an evidence base and vernacular that links MMC to increased certainty and enhanced quality rather than a model of innovation, which affirms perceptions of risk and uncertainty.
- **Engage the Customer** – lobby Rightmove (amongst other real estate portals) to include EPC Ratings as a filter / search criterion for new home

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<sup>9</sup> Constructing the Gold Standard (2021), Cabinet Office

selection. This forms part of a broader recommendation to engage with the Behavioural Insights Team to move beyond technological and economical solutions and instead explore psychological and behavioural opportunities.

The construction industry has persistently required Government support; the MMC sector may achieve greater autonomy however by actively pursuing these steps with a focus on collaboration and a shared commitment to a higher standard of building and living environments.

**6. Are the existing training programmes in the construction industry adequate to equip the workforce to use MMC effectively?**

No. The CITB's 2019 report "Faster, Smarter, More Efficient: Building Skills for Offsite Construction" identified the need for re-skilling and training, however existing training programmes require significant further development to meet this.

While the need to deliver more, better quality training for the workforce is key to the long-term health of the sector, training for those that influence decisions should be perceived as equally important. Notably, the education and training of key decision makers, such as planners, policy makers, and procurers is at best ad-hoc, yet vital to enabling MMC adoption. In addition to a continued focus on training for industry, the Government should consider key competency requirements and existing skills gaps related to MMC at a local and national government level.

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