Not drowning, but waving— message(s) to policymakers: Modern Methods of Construction (MMC)

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A MESSAGE FROM CONSTRUCTING EXCELLENCE

Alison Nicholl
Head of Constructing Excellence

In my view, we need to move our thinking away from MMC versus traditional to a more nuanced approach to delivering the outcomes we need from built environment assets. The old arguments about whether the future is traditional or MMC ignore the complexity of delivering and maintaining a high performing built environment, that better supports the society it serves.

The need to focus on productivity has never been more apparent. Between 1997 and 2019 figures from the Construction Productivity Taskforce construction productivity fell by 0.6% compared with 2.6% growth in the wider economy. Since I joined the industry over 20 years ago the narrative has been around declining workforce, lack of skills and failure to embrace technologies. Standardisation and adopting Industrialised Construction could create a step-change in productivity.

MMC has had a turbulent few years of boom bust, where considerable investment was followed by high profile failures. As an industry we, are always looking for that one thing that is going to fix all our problems, and then are hugely disappointed when it fails to deliver a seismic shift in performance.

If one compares it to the Gartner Technology Hype Cycle, we have experienced the Peak of Inflated Expectations, hopefully the Trough of Disillusionment is behind us, and we are scaling the Slope of Enlightenment to reach the Plateau of Productivity. We need to find more effective ways to deliver projects, making the best use of the natural, human, and financial resources available to us. These challenges are not technical, they are far more complex and require changes to culture, business models and delivery models.

Constructing Excellence has long been at the forefront of collaborative delivery models. We know that transactional delivery models based on time and cost do not deliver the right outcomes for clients and squeeze margins across the supply chain. This does not enable a healthy construction industry and certainly doesn't enable the effective implementation of MMC-based solutions.

The building blocks that will enable productivity are gathering momentum. The new Procurement Act presents a move away from cost and places more emphasis on broader public benefit. Through Constructing the Gold Standard, we are seeing excellent practice from Framework Providers in this area.

Constructing Excellence is convening stakeholders around value-based decision making and the Value Toolkit. We are seeing great progress in this area, as clients become more certain about the outcomes they want from their built assets and how excellent approaches to work collaboratively with their delivery partners to enable those outcomes.

New business models that enable MMC are emerging, innovative approaches, new specialisms, new skillsets are all needed. Instead of thinking of MMC versus traditional we need to think about MMC as one of a range of solutions that can more effectively deliver client outcomes. There will still be a place for traditional techniques, indeed most projects will take a hybrid approach combining traditional and MMC with systems integrators bringing those elements together on site.

We need to engage more effectively with the manufacturing sector, treating manufacturers as an integral part of the construction delivery process and bringing their expertise and knowledge in early on projects – wonderful things happen when you collaborate!

A MESSAGE FROM ARCOM

Emmanuel Aboagye-Nimo
Senior Lecturer in Construction Management

As ARCOM's Researcher Training Officer, I am pleased to reflect on ARCOM's involvement to support the Academic–Industry Workshop on MMC, held on 5 February 2025 at Loughborough University. This event was a significant milestone in our commitment to connecting research with real-world construction challenges. It was well attended by postgraduate and doctoral researchers, academic staff, and experienced industry professionals, leaders, and personnel from local authorities from across the UK.

The workshop was organised in conjunction with the launch of the policy practice paper, Confidence Amidst Collapse by Ali Saad, which critically explores the state of MMC confidence in the UK construction sector. The event offered a timely and focused platform to discuss the implications of the current MMC landscape, particularly given the recent wave of high-profile failures among modular housing providers.

One of the key achievements by such academic-industry collaborations is the ability to directly bring together early and long-established career researchers, and decision-makers. By enabling these groups to share space and ideas, the roundtable discussions help build a deeper mutual understanding of the pressures and opportunities that define the MMC environment. Several roundtable discussions involved incoming doctoral researchers working alongside professionals from various fields, including offsite manufacturing, housing associations, policy bodies, and consulting practices. These interactions allowed researchers to appreciate the practical constraints that shape real-world decision making and helped practitioners see the potential impact of focused academic inquiry.

Feedback highlighted that these exchanges were not only thought-provoking but also critical in reinforcing the need for research that supports practice. Industry attendees repeatedly emphasised that in a time of housing shortage, research should go beyond theory to address the operational and policy gaps that hinder the scale-up of modern construction methods. The housing crisis demands scalable, efficient, and affordable solutions, and the academic community must play a vital role in helping to deliver them.

Providing a space to explore the insights towards policy propositions is imperative, which identifies some of the factors influencing confidence in MMC. Topics included the lack of robust evidence for MMC performance, fragmented supply chains, and risk-averse procurement practices. These arguments prompted researchers to consider how their work might better align with the challenges and expectations of industry, especially in terms of generating reliable evidence and influencing policy.

For ARCOM, this report — Not Drowning, but Waving — demonstrate the importance of developing a research agenda that is both academically rigorous and practically grounded. Encouraging doctoral researchers to engage with live industry issues ensures their research contributes meaningfully to practice and policy. Events like this also help bridge the gap between construction research and the operational realities facing companies, clients, and communities, and in turn, can effectively influence subsequent policymaking. We are grateful to Loughborough University for facilitating such collaborations and for publishing this timely report. We also thank all the contributors and attendees who helped make these successful. The findings and insights are already informing our training and engagement activities. Such initiatives exemplify the power of collaboration between academia and industry and the value of research that speaks to the real challenges of today's built environment.

A MESSAGE FROM THE OFFSITE ALLIANCE

The conversation around MMC is changing, and fast. We're no longer asking if it can work. Across the UK, we're already building smarter, cleaner, faster and delivering real outcomes for people, places, and the planet.

What's emerging is more than just a set of new construction methods; it's a new construction ecosystem. One that connects suppliers, designers, manufacturers, contractors, educators, and clients in a joined-up system designed for better outcomes. The movement is massive, and the distance we've travelled in just ten years is remarkable. We've gone from the margins to the mainstream, from one-off pilots to region-wide adoption, and from siloed ambition to system-level alignment. We are no longer experimenting with MMC, we are delivering it.

But no ecosystem thrives in isolation. It needs policy alignment, a secure pipeline, data transparency, and deep investment in people and skills. That's where government plays a crucial role, not in directing the market, but in enabling it.

We're actively shaping that ecosystem through cross-sector collaboration. We're helping define new education pathways and competency frameworks that reflect the capabilities needed for modern delivery. Tools like PAS 8700 will embed trust, consistency, and performance into everyday practice, supporting those delivering homes differently and holding the sector to high standards.

The Offsite Alliance community are delivering the Sustainable Homes Hub, a knowledge transfer platform to bring together lessons learned to drive coordinated action on quality, performance, and whole-life value in housing. The goal isn't just to accelerate MMC adoption, it's to ensure it delivers on its promise of better outcomes for residents, the environment, and the economy.

We also believe in improving productivity through continuous improvement, applying lessons learned, sharing best practice, and embedding smarter ways of working across the sector. This isn't about one-time fixes or isolated pilots. It's about building a long-term, resilient culture that embraces data, adapts fast, and rewards outcomes over process.

At the Offsite Alliance, we convene the sector, connect stakeholders, and catalyse change. Our members include manufacturers, developers, local authorities, consultants, educators, and clients, all aligned around a common mission: to transform how we build.

That transformation is already underway. But to sustain it, we need joined-up, long-term commitment. Short-termism, fragmented procurement, and planning uncertainty continue to slow progress and deter investment. We must move beyond reactive policies and instead embed the conditions needed for productivity and continuous improvement to thrive.

Gaynor Tennant
Founder & Chair at Offsite Alliance

We must move beyond reactive policies and instead embed the conditions needed for productivity and continuous improvement to thrive.

This is no longer about modern methods versus traditional, it's about better construction. Better for people, for place, and for public value. The ecosystem exists. The capability exists. The will exists.

Let's now match that with consistent support and strategic alignment. Let's keep moving forward, together.

A MESSAGE FROM A NATIONAL CARBON LEAD

Mike Raven
NACF Sustainability Lead and YORhub Performance & Improvement Manager

In the UK, we have a rich history of construction dating back thousands of years, shaped by influences from across the country and beyond. Today, the industry faces the significant challenge of refurbishing and maintaining tens of millions of buildings, all constructed at different times using a wide variety of methods. To meet this challenge, it is essential that we preserve the knowledge and experience of these traditional techniques—not only to conserve our heritage for ourselves, but also for the benefit of our children.

At the same time, we must not turn a blind eye to newer, more efficient approaches to the construction activity, and MMC has a crucial role to play.

While we accept and indeed expect that our cars, bicycles, computers and other technology are built in clean, controlled factory environments, there remains a common belief that our homes and workplaces must still be constructed outdoors, using bricks and mortar, exposed to the elements and with workers often in a stressful and pressured work environment. Then we are surprised when these buildings are defective.

In an industry where time is often critical, MMC offers an often overlooked opportunity for faster construction with reduced risk, both in terms of worker safety and cost. Importantly, MMC is not limited to modular construction. It encompasses a broad range of techniques and materials, many of which can also be applied to the refurbishment and repair of historic buildings. We should not shy away from incorporating advanced modern materials into older structures; doing so can help future construction professionals identify and date repairs made to listed buildings.

We are merely the current caretakers of our nation's built environment, and just as we strive to protect the natural world for future generations, we must also safeguard our architectural heritage for the future too.

I would like to commend the work of Dr Saad and his colleagues in identifying ways to overcome the barriers to wider MMC adoption. Their research is ground-breaking and directly supports the evolution of our industry. I urge my fellow professionals to approach this work with an open mind and to consider whether the way things have always been done is still truly the best path forward.

A MESSAGE FROM A CLIENT

The underlying reasons why MMC has to be part of our collective capabilities has not gone away and increasingly we see the market learning and bringing MMC led solutions for the built environment. 7 years ago, Magna Housing was keen to play its part in supporting the scaling of MMC and in our role as construction clients we set out to understand the business case for MMC in the social housing sector. We then spent 4 years proving the concept based on an MMC Category 1 approach.

Our results proved to us that the best way to substantially reduce increasingly unpredictable outcomes in traditional build is by adopting our MMC first approach. I say that the outcomes from traditional build are unpredictable, but to know that this is entirely predictable and we find that no number of inspectors from building control, warranty providers of clients own clerks of works have ever eradicated defects or latent defects as the game of cat and mouse plays out on sites. All of this cost to 'police' during construction and dispute and rectify after is waste and factories offer better QA possibilities.

Magna has its portfolio of homes and over time they have been built in many construction forms. What we have established is that with the Cat 1 system we tested, there is now a trend that customers consistently state that the MMC homes are cosy and well-built and that they 'feel' robust and look great. We evidence in our end of proof of concept report that there are significantly less defects and typically they are minor matters.

When we started all this we felt we were playing our part to support the agenda of the time to Modernise or Die and along with a wider landscape of client collaborations and framework providers, we were collectively aiming to stimulate the market. The market today has a different feel to it, today the market is starting to bring opportunities to us that are MMC Cat 1 and 2, brought as land design and build packages. Maybe the ship is turning? When we started we saw clients assembling land for manufacturers and collectively trying to learn about MMC and manufacturers having to navigate their way through what seemed a complex and unfamiliar world out of the

Paul Read
Director of Sustainability and Investment

factory and onto site.

The final thought for this piece stems from my role at Magna stretching across new homes delivery, maintenance and end of life considerations. As we ratchet up investment into deep retrofit work across the country, and tackle the challenges of an increasingly aging stock, where will the trades come from?

It feels logical that collectively we must agree to somehow prioritise the use factories for more of our new buildings, because the UK needs the dexterity and social skills of our trades people to be working in homes. Competing for a scarce resource and driving inflation in the costs of trades seems like a collective home goal.

A MESSAGE FROM A GLOBAL CONSULTANT

Hershil Patel
Sustainability Lead for Government

Regardless of the geopolitical landscape, there will always be a need to deliver construction projects more efficiently—at lower costs, with reduced programme durations, improved quality, enhanced sustainability, and zero harm. However, ongoing challenges within the construction sector, such as housing shortages, public sector condition backlogs, an aging workforce, and rising costs have accelerated the urgency to deliver increased productivity.

To tackle these challenges, we must embrace new technologies and innovative solutions to meet increasing demands and deliver projects more efficiently. MMC will play a critical role in achieving this. However, MMC alone cannot solve the problem - it requires the right ecosystem to enable it to thrive and deliver maximum impact.

Policymakers are uniquely positioned to transform how the industry engages with MMC, driving meaningful change, particularly in public sector projects. While progress has been made, there are key focus areas that demand attention:

One of the primary barriers to MMC adoption is the lack of understanding and misconceptions among stakeholders. MMC encompasses innovative construction methods that deliver better outcomes, yet recent challenges faced by MMC-based companies—particularly around quality—have contributed to perceptions of MMC as risky. Findings from recent MMC surveys conducted by Arcadis, supported by root cause analysis, show these quality challenges are not inherent to MMC itself. Instead, they stem from broader issues in the construction process, including:

- Ineffective procurement practices
- Lack of clarity in Employer's Requirements
- Insufficient governance mechanisms

These challenges are process-driven rather than build-type related, highlighting systemic issues in the construction industry.

A reliable pipeline of secure work is essential for MMC adoption. Policymakers can drive this by integrating MMC into public sector projects, such as housing developments, schools, and hospitals. A consistent programme of MMC projects provides the stability needed for the industry to invest in technology, training, and capacity-building, while also addressing the skills gap. This approach not only delivers better outcomes for the public sector but also creates confidence in MMC, fostering long-term investment and innovation.

Collaboration is central to MMC's success. Transitioning from traditional construction methods to MMC requires a shift in mindset and a more integrated approach to delivery. Policymakers should encourage collaboration by fostering partnerships among developers, contractors, manufacturers, and designers.

The role of government is unique. By leveraging the volume and commonalities of assets, government projects and programs can serve as significant catalysts to build confidence and alter perceptions, thereby driving the necessary changes required by the sector.

A MESSAGE FROM AN ARCHITECT

Jonathan Morgan
Experienced Architect
and Doctoral Researcher

The challenges being set for architects and all building professionals, are probably greater than at any time previously. The need to accommodate change to building practices, site safety, fire risk, energy performance, waste reduction and embedded carbon, alongside an ever-expanding scope for technology and AI within the design process, that for some appears as competition, but for others represents significant, almost limitless opportunity.

The professional design stages are at their most exhilarating when they successfully rationalise and solve problems, producing innovative and beautiful solutions, whilst working together with clients, contractors and suppliers to deliver against budget, programme and standards. Regardless of the construction approach or system, it will always be true that good design, contracting and client teams, will still produce great buildings, but there is always room for innovation and improvement, especially in the way those buildings are designed, procured and constructed.

The work being carried out at Loughborough University is providing a much-needed forum for the continuing debate, research and learning around new construction systems, processes and approaches, whether that through offsite manufacturing, industrialised construction, or the more ambitious forms of MMC. The industry is changing, in many sectors much faster than others, and there is no longer an option to just not engage.

Architects and design professionals need to be part of this debate, to ensure that they can add their experience and ability to problem-solve across the construction stages and disciplines. Loughborough's recent ARCOM workshop demonstrated the value of talking across the commissioning, design, and delivery teams – all of whom presented their experiences and views on the use and value of new systems against the themes presented on the day.

The development of the RIBAs new overlay in 2021, aligning the RIBA Plan of Work to successfully deploy the DfMA approach, was a significant step, as will be BSI PAS 8700, created as the first standard specifically designed to define the effective use of DfMA and MMC in residential building projects, encompassing both entire building systems and individual elements.

It provides provisions for the sector on the consistent application of MMC throughout all project phases - from design and manufacturing to assembly, maintenance, adaptation, and end-of-life considerations.

Clearer understanding of the drivers, demands and details of construction, helps to shape the debate for change in the building sector, and will deliver better outcomes – and whilst there are significant challenges faced by the whole construction industry, Architects, working alongside other building professions, are in an ideal position to make it a success.

A MESSAGE FROM A DIGITAL ENGINEER

Cristina Sánchez Jiménez
Digital Construction Manager, Data Analyst

A much needed but hard exercise is to look into the failures of MMC – an approach that has all the ingredients to resolve many of our problems – construction productivity, housing needs, skill shortage… - but in practice, it has not worked. Why?

From startups to multi-million investments, from individual research to House of Lords committees, many have looked into this problem without being able to solve it yet. I attempted it myself, from a digital construction perspective – and found that digital itself would not be nowhere near enough to find a solution. This Gordian Knot has an array of strings, tied and intertwined across economic, technical, cultural and behavioral factors where pulling just one of them is not enough to resolve the issue.

This problem requires cross-industry collaboration and a holistic view – which is where this report from Dr. Ali Saad is a brilliant start, an analysis of the key features and a playbook on how to tackle each one of the hurdles.

The main challenge we are facing is that we cannot afford to lose any more time. The problems previously mentioned – housing, productivity, construction skills – are reaching a breaking point where the whole sector is struggling. It is said that change only happens when the pain of staying the same is greater than the pain of change (Tony Robbins); we are quickly approaching this point. Silos are collapsing under their own weight. Construction desperately needs the disruption that has already transformed for the better the productivity of basically every other great industry. There is some hope – the industry is progressing on foundational areas like data skills; but still a long way to go.

Those of us working on the innovation side of it have learned to endure the different rate of adoption, which is embedded within its foundations plus everyone's expectations on it. Essential principles are interwoven with detrimental assumptions to the endeavour of a built environment that fulfills society's needs, and we could use some critical thinking to challenge them.

The failures of MMC have been spread loud and clear as a cautionary tale to anyone with the audacity to attempt it. However, we often find that despite publicity, they usually have a similar rate of failure as the rest of the industry. Another hidden side is that the talent does not disappear when a company collapses – they learn, connect, relocate, and try again. There is a whole network of construction productisation optimists, gathering experience, trying, failing and succeeding, innovating against all odds. In these changing times, with another technology revolution on the way, the opportunity is here to make it happen.

A MESSAGE FROM AN ECONOMIST

Dr Christopher Spencer
Senior Lecturer in Economics

Housing plays a vital economic and social role in the UK, affecting individuals, families, and communities. Unsurprisingly, successive British governments have prioritized issues such as affordability, quality, and supply. A major concern in recent years has been the chronic under-supply of housing, seen as a key driver of the current affordability crisis. All major UK political parties have acknowledged this, with the Labour government in 2024 pledging to build 1.5 million homes in five years—setting an annual target of 370,000 new homes in England. From an historical perspective, this target is unprecedented. Constructing this volume of homes annually has never before been achieved in England.

Significantly, since the early part of the twentieth century, non-traditional building methods – particularly off-site prefabrication – have been proposed to boost supply during housing shortages. The idea of manufacturing homes in factories using mass-production techniques was inspired by the adoption of industrialized methods in other economic sectors, with the anticipated benefits including higher productivity, better quality housing through standardized manufacturing processes, and resolving issues related to traditional skills shortages. The situation is no different today, with calls for the greater exploitation of non-traditional methods in housebuilding, or in today's parlance, Modern Methods of Construction (MMC).

Despite such optimism, MMC is not fulfilling its potential. For example, the widespread adoption of factory-built housing – often termed 'modular' or 'volumetric', and which represents one specific category of MMC – has not taken hold in the UK, representing a small portion of new builds. More generally, even though other countries have shown a greater propensity to adopt the types of non-traditional construction methods encompassed by MMC, traditional construction methods continue to dominate the UK housebuilding sector. Whilst factors such as the availability of timber and cultural preferences may partly explain the higher uptake internationally, these reasons do not fully account for the low adoption rate in the UK.

What can be done? From the perspective of economic policy, long-term housing and industrial strategies are essential for increasing the footprint of MMC. Consider the case of volumetric housing. Even with the benefit of cutting-edge production methods and automation, which may mitigate issues relating to a shortage of skilled tradespersons, factory-built housing is vulnerable to the same economic and policy constraints that hindered efforts to enlarge its footprint in the twentieth century.

Boosting growth and productivity in the sector needs to be supported by ambitious industrial policies and better alignment with the UK's science base. There needs to be better joint coordination of efforts across central government, local authorities, and within the MMC sector to ensure a continual pipeline of demand. Greater standardisation is required to help better coordinate production. Such policies may result in the economies of scale that will bring unit costs down. However, MMC should not be seen as a silver bullet to solving the current housing crisis, but as one element of a broader housing strategy that also exploits traditional construction methods. Here, investment in training for both sectors will also be crucial to meeting ambitious housing targets.

A MESSAGE FROM A DOCTORAL RESEARCHER

Alaa O. Shehata Abdallah
Doctoral Researcher at Loughborough University

With the optimistic first calls of MMC, all are convinced to hope to find finally a solution that can solve the housing crisis and provide affordable, sustainable and efficient homes. However, MMC promises unfulfilled, all the dreams turned into nightmares, with a huge number of business failures and multiple high-profile collapses, bankruptcies and insolvencies of those firms, as happened with Katerra, Ilke Homes, House by Urban Splash and Legal & General (L&G), etc., despite their adoption of the new innovations, which were supposed to guarantee their success.

Why did this happen? It can be a call for awareness to take a step back and think for the future beyond these failures. How can we not replicate these failures, and what are the lessons learnt from them? This question is the departure point of my PhD research at Loughborough University. My research does not see failure as shame or a folded page that is never to be reopened; I see it as a rich source of knowledge and an opportunity for future success.

This research project aims to expand the exploration to better understand the previous business failures of premanufactured housing, conducting an "organisational autopsy" to uncover the aetiologies of the recorded failures. The investigation aims to extract the main and common patterns of failure to uncover much insight for organisations that are (or may) experience similar struggles to survive and support them lest they succumb to the same trap anew.

In my research, I analyse the collapsed MMC firms not as isolated incidents but as a complex environment full of diverse variables. While it is easy to blame external influencing factors as the cause of failure and refuse the whole innovation and return to the conventional methods which we have adopted not for decades but for centuries. On the other hand, understanding that this complexity can be harder but more useful as an opportunity towards future decision-making to exploit these advantages of innovation. We need urgently to develop a supporting system that can learn, review, and adapt from the previous failures and help decision-makers take the appropriate actions.

This isn't just academic curiosity or a way to find an original research gap to get the doctoral degree. It's a deliberate attempt to cast a lifeline of rescue to those who are being punished regarding their adoption of innovation by developing a Decision Support System (DSS) that can pave a systematic way for possible error reduction. Such an approach is believed to promote their competency within the niche market. The research therefore would contribute to conveying direct knowledge to those who plan to or are already delivering places differently by critically analysing the previous high-profile collapses to reach the main failure patterns and transform them into practical strategies and investment decisions.

INTRODUCTION

Modern Methods of Construction (MMC) is an umbrella term in the UK representing the use of a wide variety of methodologies and materials, often measured by the ratio of reduced onsite activities.

Financial struggles alone cannot explain the collapse of some of the recent non-traditional construction organisations in the UK. The UK Government has not been guilty of being cheap or favouring traditional over non-traditional construction. Instead, it has made substantive investments to help the market innovate, and to adopt approaches to deliver solutions quicker and better. In this discussion, we express questions emerging from these efforts and outline what their answers could possibly mean for the future of UK construction.

Tentatively, some non-traditional construction businesses have failed due to an organisational temperament focused on substantially investing in large factories for quicker delivery at substantial scale. Others have sought distinctiveness by creating sophisticated and unique proprietary systems. And some have misinterpreted Government support to presume that a favouring of MMC would make the notorious UK planning system easier to navigate. This drives us to explore how these interpretations of value evolved and developed, and whether or not they were linked to the failures of those trying to innovate, or were not of their control.

It is debatable whether the demise of such organisations prompts the beginning of the end to the ‘either modernise or face death movement’, as investment and support for change often seems to continue regardless of success or outcome. Such direction is supported by many successful and increased application of non-traditional construction methods across the different MMC categories. Evidence also exists to support that changing traditional ways of construction is evolving to shape a status of a structured and teachable sub-discipline, presented by the fact that modernisation and premanufacturing in construction now appears in many construction-related university modules and other training initiatives. Hence, the upcoming ‘unprecedented change’, as prominent and timely as it is, is a view that does have some rationality, but how this translates to a future of a systemic radical alteration in the ways of construction may just need further validity.

This report consolidates views from UK industry leaders, professionals, academics, and researchers who recently gathered to debate, argue, and dissect these sector challenges to seek a consensus view of the much-needed prospective areas of debate and questioning. It shares key insights to help better inform policy and practice by highlighting practical thoughts to encourage broader MMC where appropriate in collaboration with the main actors investing in non-traditional methods, to better support the sector and learn from patterns in organisational failure as a critical opportunity moving forward. Therefore, this report brings no surprise to the informed reader of the complexities of change in construction, but also reiterates that it is only through the interplay between traditional and innovative approaches that the sector can approach the long-standing unmet target to satisfy demand (and raise quality) in construction in the UK.

THE (NOT-SO-GREAT) OVERVIEW

Workers

200,000

recruited each year, but 210,000 per year also leave. [1]

Homes

300,000+

a target that has never been met since 1969. [2]

Firms

377

construction businesses failed in March 2025 alone. [3]

People

8,500,000

do not have the access they need for housing. [4]

Firms

4,046

construction organisations failed since March 2024. [5]

Children

2,000,000

are currently living in overcrowded and/or unsuitable homes. [4]

Buildings

7,000

buildings with dangerous materials yet not identified. [6]

Properties

3,700,000

homes in England have been classed as “non-decent” properties. [7]

Planning

1 in 5

planning departments in England are only properly staffed. [8]

Homes

1,350,000

poor standard homes built since 2016, in need for refurbishment. [9]

BUSINESS FAILURES

2022

House by Urban Splash

Four years after its establishment in 2018, House by Urban Splash collapsed in 2022, with over £20m in debts.

Swan NU Build

Five years after its establishment in 2017, the firm announced closing their factories due to struggling to make profit.

2022

2023

Ilke Homes

Six years after its establishment in 2017, the firm entered administration in 2023. With around 1,150 employees made redundant.

Legal and General Modular Homes

Seven years after its establishment in 2016, Legal and General's modular arm announced closure in 2023.

2023

2024

Modpods International

Seven years after its establishment in 2017, Modpods International collapsed in 2024. 122 employees were made redundant.

Elements Europe

Twenty years after its establishment in 2005, Elements Europe went into administration in 2025. Most employees were made redundant.

2025

BE SIMILAR RATHER THAN DISTINCTIVE

Sharing ideas or collaborating with other 'non-traditional' organisations, to offer different ways of delivering construction.

The fear of the loss of competitive advantage among MMC businesses overpowers the motive to create a new market. Unless competitive forces change the way businesses operate to deliver their solutions under the modern methods umbrella, there would not be a drive for a collective progress.

Some MMC businesses view competition differently, on the one hand distancing themselves from traditional construction rather than viewing themselves as within the same construction setting, and on the another viewing organisations of similar profiles as competitors, rather than as champions of the same advantage. To promote such solutions, uniformity is believed to prevail over distinctiveness, but to achieve this, there must be an alternative to lesser differentiation.

The notions of shared intellectual property (IP), joint offerings, and similar value propositions can lead to the much-needed confidence in non-traditional methods among clients. The pursuit for proprietary standalone solutions would provide prospective clients with a relatively diverse market, but to them, would also increase much of the associated risk.

Historically, the nature of traditional methods allows a level of 'known' risks, with processes that are understood and are extendable by others. Adoption of non-traditional methods of project delivery are therefore tied to the compatibility of systems, which reinforces long-term visibility of a project's continuity.

> IP sits here [making us] so special ... but [when] trying to implement that [IP], it's 'you are too special. We are not interested in that. That is too risky'. It's so polarising in a way.

Economic feasibility of extending others' solutions.

When MMC businesses fail, they leave behind part-completed projects, which do not appeal to others to complete, and hence attract adverse publicity, of the form that traditional construction does not attract. This reflects the level of maximised risk, which ties back to the disadvantages of proprietary solutions among the main actors when creating a new market. The message here does not only advocate that all businesses will need to account for failure, and develop strategies to step into each other's projects when failure do occur, but to fundamentally motivate propositions to better identify and mitigate the root causes of these failures.

Example: Unfinished homes demolished

Over 130 homes are set to be part-demolished at the Meadow Grange site in Essex. After the collapse of the responsible organisation, the project has not been taken forward and has been demolished to floor slab level. [10]

> The decision to partially demolish the unfinished homes marks the first step toward reviving the site, though it adds further delays and costs to the already beleaguered project [11]

A ‘NEVER EVENTS’ OBSERVATORY

> No one wants to share data, good or bad … the idea to learn from failures in the industry is a big problem … sharing of data will need to be [driven] and validated.

A publicly accessible observatory of successes and failures is an ethical responsibility

If no means exist to prevent avoidable failures, investors will be less keen to support change and non-traditional methods of construction. Without historical information on what has worked, and what went wrong, expanded funding to promote better ways to deliver construction will not occur.

This reluctance may, at least partly, be due to the severe reputational damage (and possible accountability) of those who pride themselves as the pioneers of change, to share the mere trajectory that led to their demise. The argument here is that if knowledge can advance roles, innovation, and business momentum, then withholding it by the innovators is unethical.

Not sharing might also be argued to be, also at least partly, because of the political and sentimental associations to preserve one’s self, which blurs visibility on the need for relative tangible and intangible benefits for others. In this context, failure should be treated (and act) as a transparent opportunity for learning.

Sharing evidence of what has led to failures and the success stories of delivered projects can enable replication

Although projects differ by nature, influenced by the location, timing, designs, specific project objectives, and composition of teams, transfer of knowledge and information sharing can still hold merit. Nonetheless, communication around an innovation is influenced by the industry’s nature being averse towards transparency, particularly around failures.

Sharing failures in the construction business environment is complicated. Information communicated would often include bias views, and would most likely support the narrative of the narrator, with possibilities of misrepresentation of data.

The inability to reflect on and build on failures because of fear of accountability and judgement hinders much of the learnt lessons being shared, slowing market level improvement.

A construction innovation ‘Never Events’ framework and observatory

Similar to the approach by the NHS, would a ‘Never Events’ observatory where failures of non-traditional construction organisations due to business and technical decisions and approaches be developed so that wholly preventable failures, based on evidence and available information, provide strong systemic and protective barriers to bankruptcy and poor performance?

THE FACE VALUE OF CONSTRUCTION METHODS

Decisions from comparing construction methodologies are informed by immediate economic advantages

The premise that every construction method must enable commercial success is tacit within the sector. The comparison between traditional and non-traditional needs to holistically consider extant practices, and critic those valuing the short-term returns over the long-term tangible and intangible potential excellence of innovation.

While evidence does suggest that factory-quality solutions can lead to less defects, maintenance costs, and a single point of responsibility, this does not seem able to inform the procurement system as a through-life costing method to favour indirect and lifecycle-related savings.

One would here assume whether spending one pound now to save much more later can overcome the prevailing industry preference of a ‘pound saved is a pound earned’.

A comparison criterion to prevent traditional bias?

It is unreasonable to pretend that every comparison made to decide whether (or not) a non-traditional method is a better option than a traditional one is a result of careful and rational calculation. In many instances, one can easily prove that these decisions are made based on nothing but mere face value.

> How do we compare? I think one of the reasons why we have no confidence, because comparison is done really casually. It's not really based on data.

Discounting immediate gains of traditional towards better valuing the delayed gains of non-traditional

There is a need to understand the interpretations of value for construction methods, and the influence of such interpretation on the relative method-adoption decision. This is further complicated when factory-quality non-traditional solutions unlock gains that do not necessary fall within the perceived value during decision-making.

The question that emerges here is whether indirect savings due to quicker construction, less maintenance, reduced carbon, or safer project delivery is valued as much across the sector as direct short-term measurable gains.

Client’s eye view of non-traditional method comparison

Will the majority of clients pay more for net zero ambitions? Is less construction waste generated viewed as important to those who are not involved in delivery? Would a client develop an exceptional urge towards carbon capture? Or appreciate workforce diversity and inclusion at an initial premium? Such questions find their corresponding answers in clients’ behaviours, often selecting methods based on their mere face value.

NON-TRADITIONAL AGAINST CULTURE AND PERMANENCE

> I think it is something in the long term, doing it over a kind of programmatic thing. Having continuous improvement is where it stops being innovation and just becomes a transition to a new model.

If non-traditional building was part of UK culture, can the method be associated with a favourable brand that entails permanence?

Unlocking manufacturing capabilities demands a continuous learning environment. The nature of client demand influences priorities. Both time and the brand are associated with the established culture of demand, reflecting one that either accepts non-traditional methods, due to reasons beyond the perceived short-term benefits alone, or fulfilling a culture that discourages anything outside the orthodox building industry.

Dignitaries pose in front of the 100,000th temporary house to be erected in Great Britain since the Second World War in Wandsworth, London. © Historic England Archive. P/H00132/001.

Since the Second World War, the non-traditional way to delivering construction is mostly seen as a momentary matter to benefit individuals as a transitory setup. This perception remains strong, even though some of these temporary housing solutions proved to survive well over time. This is partly due, arguably, to the pace and nature of associated activities, being quicker and less intensive, which often nurture the said perception, which was very common during and after the War.

When relating brand to culture, the market often seems to view anything non-traditional, as non-valuable (and temporary), without considering the different systems, innovations, and their various applications. The history of non-traditional construction has not led to particular beautification of a brand over another, but rather the collective reputation that anything non-traditional, is ultimately impermanent, compared to the long-standing permanent character of traditional construction.

The permanent character of traditional construction is inherently because of heritage, which is comparing non-traditional as an approach that is not associated with heritage, and therefore, potentially perishable. In housebuilding, traditional methods are often considered to make a house more ‘homey’, long-term costs necessary costs, and poor quality of traditional buildings (although often criticised) remain as a longstanding identity.

Men stacking panels for pre-fabricated houses in a temporary house distribution centre in Liverpool in 1946. © Historic England Archive. P/H00007/003

NON-TRADITIONAL METHODS AND PLANNING

Elongated planning processes are an ongoing challenge in the UK. The method change adds length to what is already a lengthy process

Streamlining planning offers an opportunity for faster decision-making. This assumption lends itself to the fact that non-traditional approaches can be reproducible and repetitive, which may offer an opportunity for less inconsistencies and more visibility of what is expected to pass a planning process.

This does not necessarily threaten to eliminate the role of the planning decision-makers, but rather facilitate their decisions based on historical references of similar outputs.

A policy, in this instance, is perceived as one that would enable such faster decisions, where timeliness could be possible. Financial risks are dependent on such timeliness, as historical evidence exists where delays in planning decisions have led to extreme challenges to non-traditional businesses.

Standardisation of design(s) may arguably lead to more standardisation (hence efficiency and speed) of planning decisions. This, indeed, is subject to preserving the vernacular. This adaptive approach can then allow traditional to be treated differently than non-traditional, and may lead to a planning process that supports change, rather than similar treatment that can unintentionally discourage non-traditional and/or innovative approaches.

> Everybody thinks the planning officer ... is an enemy at this point. Is planning as big a barrier to MMC as some of the MMC sector claim it is? No, I think it is a universal problem. [The] Planning system takes 9 to 12 months for traditional, is MMC similar? Is the planning backlog the issue, not MMC? We need more information on planning delays and failures.

Planning delays cause non-traditional business failures.

Examples exist where prolonged planning decisions have been associated with failure in non-traditional businesses. Research that can dissect unsuccessful planning decisions and link these back to whether these have been related to the non-traditional approach is needed from historical planning permissions, and whether these can be employed to better inform planning authorities going forwards.

> When you're trying to start up new business models in a country that's just got slow planning, it's very, very hard. How do you get to critical mass? [12]

Example: Planning cited as a challenge

Cited as one of the biggest challenges relating to non-traditional business collapse, with no distinction made to repetitive solutions. This has led to struggles among those offering MMC solutions.

MANUFACTURING-CONSTRUCTION CAPABILITIES

> There needs to be more dialogue between constructors and manufacturers. They are adjacent industries that don't really understand each other. There needs to be a design staging that actually accommodates the realities of MMC.

Complexity is associated with aligning the manufacturing-construction mindsets

Examples exist to support the claim that misalignment between manufacturing and construction leads to adverse outcomes. This reflects the level of complexity, which ties back to the coordination between the different skillsets, as the slightest risk can prove to be a cause of major and costly rework.

Example: Manufacturing and assembly capabilities

Modular homes dismantled due to misalignment between modules produced in factory and the foundations built on-site. [13]

> We identified problems with the foundations of the site at Bristol that need to be rectified ... new homes to be replaced on site after the foundations have been rectified. [14]

Construction project phases are integrated; the manufacturing approach can either simplify or add complexity to the already complicated process.

Evidence exists where synergy among the distinctive disciplines involved led to the avoidance of waste, rework, and other project risks. This is achieved through alignment between manufacturing and construction, which can comprise those designing, manufacturing, and constructing. The synergy among distinctive skillsets is achieved by effective communication and extends to include those involved in inception up until end-of-life of the delivered projects.

Looking at the production systems within the manufacturing industry like the automotive sector, non-traditional methods do seek some of the merits and benefits unlocked by realising more pre-manufactured value, but the distinction does not allow comparison. The site construction element remains a constraint, although often done in parallel as a feature of offsite; completion of manufacturing is only a transition to another equally (or more) complicated project phase, hardly resembling a new approach, but rather depending on what one would expect in traditional construction, of general site works, surface preparation, drains, and foundations.

One would read the procedure of non-traditional construction and can easily assume it to be straightforward. Nonetheless, one needs to also appreciate that much of the negative publicity around such methods is because of the lack of synergy among the integrated disciplines, predominantly leading to poor assembly and installation. Capabilities, in this context, are gained by understanding why this might occur, and the reliable evidence that might support interventions to address these challenges.

CLOSING THOUGHTS

How to influence appropriate adoption of Modern Methods of Construction?

Broader adoption of innovations in construction, predominantly encouraging and mainstreaming the more appropriate application of non-traditional, factory-built solutions, requires addressing existing both internal and external factors.

Working Together

- To minimise product differentiation and promote a multi-supplier model where non-traditional organisations deliver the same project.
- To equip non-traditional organisations with the means and capabilities to extend and produce interoperable outputs.

Cultural Change

- To develop a national data and guidance strategy that can brand non-traditional housing solutions as durable and permanent.
- To promote public campaigns to share the lived experiences of non-traditional residents and/or users, and their view on quality and performance.

Comparison Criterion

- To illuminate the through-life benefits when making procurement decisions based on comparing traditional and non-traditional solutions.
- To support incentives for factory-produced components, materials, and solutions that can substantiate potential reductions in carbon, waste, and energy consumption.

Manufacturing to Construction

- To support membership organisations and trade bodies to collectively develop a manufacture-assembly approval scheme/accreditation.
- To train workforce involved in different production and construction phases, even those detached from the assembly phase, on installation, tolerance checks, site preparation, maintenance, and defects.

National Observatory

- To develop a national self-reporting Observatory for successes and failures of businesses and strategies to record innovation-adoption, performance, and management.
- To recommend ‘never events’ living guidance with regular updates including failure patterns, common root causes, and successful practices to support organisations offering non-traditional solutions to mitigate common challenges.

Overcoming Planning Delays

- To support the rollout of national ‘pre-vetted’ and ‘pre-approved’ modules and systems to enable planning decision-makers to focus on the site-specific characteristics rather than the mostly repetitive solutions.
- To better equip businesses with an accessible platform to overview relevant historical rejection reasons and historic approvals to minimise the submission of unsuccessful applications.

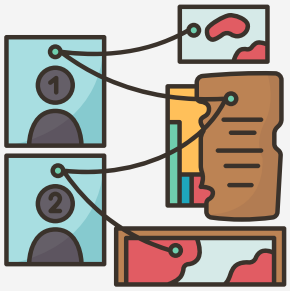
The black box of ‘non-traditional’ organisations: a chamber of secrets that unlocks effective construction innovation adoption?

It has for long been debated that a change in the ways of construction in the UK (and elsewhere) is needed. By inviting leaders from the sector, this ‘Not Drowning, but Waving’ report intends to communicate that much is still yet to be learnt from the numerous failures (and successes) of MMC-related organisations in the UK. Some of these failures were caused by market conditions, while others were more due to internal decisions and subsequent (poorly chosen) actions. Regardless of where businesses position themselves among these failures, this report highlights the key questions that can help policymakers better understand the effective action required for non-traditional construction methods to be better successfully deployed in the UK in the future.

In the review, Modernise or Die, Mark Farmer takes the role of the industry’s diagnostician. He infers that many features of the industry “are synonymous with a sick, or even a dying patient”. The failures of non-traditional organisations who once positioned themselves as the leaders of modernisation reiterate the difficulty of surviving within the UK construction setting, which could be seen as confirming Mark’s concerns. The new challenge, however, presented at the time of writing is overcoming the growing assumption that the much-needed change to non-traditional methods is associated with the death of organisations, in isolation from the setting(s) of which these businesses operate in. To approach this challenge, we invite the informed reader to take the role of an autopsy pathologist, to dissect the reasoning behind the recent frequent organisational deaths and critically evaluate the lessons to be learnt, and most importantly, at times challenge the view that the non-traditional construction methods themselves are the causes of business failure.

This report shares initial understanding derived from reasoning organisational death in the non-traditional construction sector. These insights have emerged from market consultations, workshops, and exploration of literature. These suggest that some of the relevant (yet distinctive) patterns are still developing. Such patterns have been interpreted —bearing further examination — to inform us that pressure points do exist to help businesses create a more stable market for non-traditional factory-built solutions.

Such a market, however, would need further policy intervention, collaboration among the main actors, and detachment from the existing ‘no sharing’ culture into one that embraces open sharing and knowledge transfer for mutual benefit in the long term. The actors involved need to appreciate the complexity of working out how to best do this, to create external and internal conditions that both limit but also ‘share’ (causes of) failure, ultimately leading to more waving and much less drowning.



> Most innovations fail. And companies that don’t innovate die.
>
> — Henry Chesbrough

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