

Sustainable & affordable modular homes

PROJECT DETAILS

Project name: Marshall Walk, Inns Court, Bristol

Project type: Development of 12 one bedroom apartments to address homelessness in Bristol

Project client: [Bristol City Council](#)

Project design team:

[Tempohousing Modular UK](#),
[AWW Architects](#)

Project contractor: [Engie](#)

Other project delivery

stakeholders: [Hydrock](#)

[Consultancy](#),

[RLB Cost Consultants](#)



Tempohousing are an off-site modular manufacturing & construction business specialising in the supply of high quality, rapidly built, modular homes for private and social housing, student accommodation and hotels.

[Tempohousing](#) have developed a modular housing system using a standardised manufactured module that can produce several different housing requirements.

Bristol City Council wanted to understand how to introduce more Modern Methods of Construction solutions to deliver their ambitious housing targets.

TempoHousing were one of the partners on the [Innovate UK funded Enabling Housing Innovation for Inclusive Growth project](#). This collaborative partnership enabled Tempohousing to develop its model for the UK market. The Marshall Walk scheme is an opportunity to demonstrate the outcomes of this project.

Tempohousing worked with [AWW](#) to show the benefits of a standardised module while also showing the flexibility of the design, as a staggered pattern was favoured by the residents during the initial planning consultation.

Tempohousing were able to splice the modules together at a 45-degree angle to the plot without losing any of the excellent energy performance or creating any thermal bridges.

The homes will meet and exceed current building regulations and the 2025 Future Homes Standard. The units will be flitted with renewable energy from Photovoltaics, air source heat pumps, a battery and an energy trading platform to optimise the generated power, to provide comfortable homes that eliminate fuel poverty for the most vulnerable.

Tempohousing have recently achieved the [Buildoffsite Property Assurance Scheme accreditation](#) [BOPAS] which demonstrates to funders, lenders, valuers & purchasers that homes built from non-traditional methods and materials will stand the test of time for at least 60 years.

THE OPPORTUNITY

Tempohousing aim to build quality affordable housing to help address the 2 million homes shortfall in the UK by adopting Modern Methods of Construction.

Existing procurement practices and rigid frameworks do not lend themselves to SME suppliers, so establishing Tempohousing as a viable alternative to the traditional construction techniques with issues around quality and performance is even more difficult. The default has been traditional construction as clients feared the risk of MMC, but now there is an understanding that the risk is that this approach will not meet more challenging performance and quality targets. As materials cost are increasing, coupled with an ongoing industry skills crisis, a lean manufactured solution becomes more attractive.

Tempohousing goals were to achieve a module that truly reflected the Platform Design for Manufacture and Assembly (PDfMA). Pushing the green revolution with optimal energy performance, through a fabric-first approach, using the best materials to provide comfort throughout the seasons, and excellent acoustic properties.

Tempohousing also wanted to build to minimum space standards and make all modules easily adaptable for Part M mobility use and access.

DELIVERING SUSTAINABLE AFFORDABLE HOUSING

Tempohousing are focused on affordable housing, developing all opportunities to promote better homes for the future.

TempoHousing want to work with clients who have a vision for doing things better, and Bristol City Council have demonstrated that through their commitment to eliminate homelessness, as part of its [One City Plan](#). An outcome of the Innovate UK project was the development of a tool to assist the decision making process to recognise the value of MMC in the procurement process.

Tempohousing want to engage early in the design process so that they can optimise the use of MMC within each development. They have invested a lot of energy, time and investment into making sure their products addressed all aspects of affordable housing, and eliminate fuel poverty throughout the modular system.

HOW WAS THE OUTCOME ACHIEVED?

Tempohousing have achieved an attractive design for Bristol City Council without sacrificing performance, and this will contribute to an impressive housing scheme. The scheme is currently in for Full Planning.

Tempohousing have developed as a supplier, by being ambitious, and they have challenged themselves internally to continually improve their products. Tempohousing have developed process maps to monitor quality from initial design through to in-use data generated by the residents. Resulting in continuous feedback into the design, picking up on lessons learned, client feedback and quality control. Tempohousing are developing their own renewable energy management solution so that clients can offer true zero carbon to their housing stock, and this will be valuable in the asset management strategy of Registered Providers. Initially costs are similar to traditional construction but as they scale up ongoing savings will be realised across the whole design, procurement and site management, so that housing budgets will stretch further and build more homes.

For Tempohousing the biggest barrier's associated with MMC are:

- Clients and contractors want to see examples of the system in place so it is important to work with a client willing to manage that risk, and champion MMC.
- Clients only tend to look at the point of sale, price per sq/ft with no consideration for whole lifecycle costs and potential savings on energy and maintenance
- Social Landlords could potentially cap tenants fuel bills bringing many people out of fuel poverty due to the energy efficiency consistently achieved by MMC

For Tempohousing the biggest barrier associated with MMC is that clients and contractors want to see examples of the system in place, so it is important to work with a client willing to manage that risk, and champion MMC.

As Tempohousing modules are incorporated into more schemes, client and tenant satisfaction feedback will be invaluable to reassuring the industry that MMC is the way forward to meeting the nation's housing targets.