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ZED PODS

FAQS

System Name: ZED PODS
Document owner: ZED PODS Limited
Document number: Z00-ZPL-XX-XX-RP-W-00013
Current revision: P02
Issue date: 23/03/2026

Revision History

All old revisions of this document will be retained as superseded records.

Revision	Issue date	Revision notes
P01	18/07/2023	Initial issue
P02	23/03/2026	General review and update

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WHAT IS MMC?

'Modern Methods of Construction' (MMC) is a wide term, embracing a range of offsite manufacturing and onsite techniques that provide alternatives to traditional house building. MMC ranges from whole homes being constructed from factory-built volumetric modules, through to the use of innovative techniques for laying concrete blockwork onsite. ZED PODS systemised approach based on volumetric construction fits under the "Category 1 — Pre-manufacturing (3D primary structural systems)", the categories of modern methods of construction (MMC) as formally defined by MHCLG (March 2019).

The proportion of homes using MMC over the next 10 years will rise from today's 6-10% to closer to 20%

Defining Modern Methods of Construction

MMC is a 'catch-all' phrase that means different things to different people. With this in mind in 2019 the Ministry for Housing Communities and Local Government published a definition framework. This set out seven categories for defining MMC, the first five of which use offsite construction

CATEGORY 1
Volumetric modular
Segments of buildings manufactured offsite in 3D and fitted together onsite.

CATEGORY 2
Structural panelised
Wall and ceiling panels or frames that are manufactured offsite and assembled onsite.

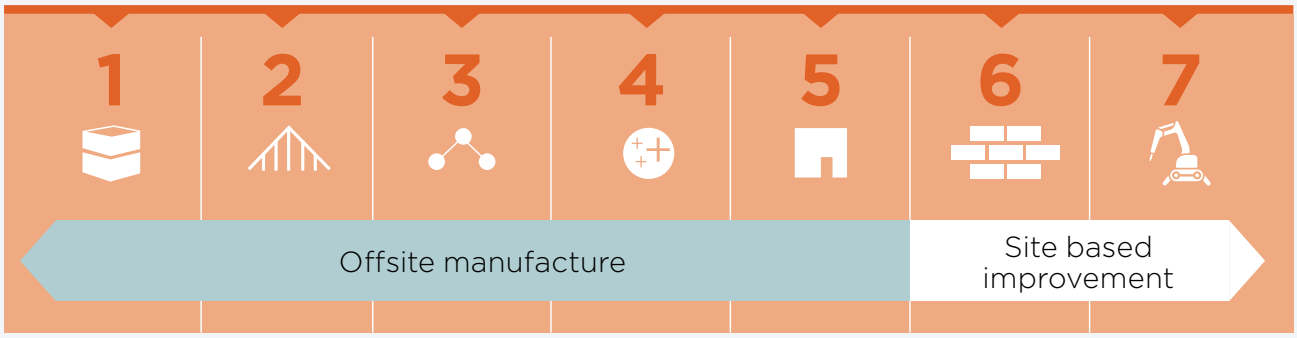
CATEGORY 3
Offsite components
Structural elements, such as load bearing beams, columns and slabs that are built offsite.

CATEGORY 4
Additive manufacture
Printing parts of buildings, either on or offsite.

CATEGORY 5
Non-structural assemblies and sub-assemblies
Non-structural components that are manufactured offsite, such as pods, utility cupboards and risers.

CATEGORY 6
On-site building material improvements
Ways to reduce on-site labour by using new materials, such as large format blocks or pre-cut components.

CATEGORY 7
On-site process improvement
Use of innovative techniques, such as lean construction, digital augmentation, robots, drones and exoskeletons.



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WHAT IS VOLUMETRIC OR CATEGORY 1 MMC?

Volumetric or Category 1 MMC modular means the construction of fully finished modules, or structural boxes (such as staircase modules), that include fitted kitchens and bathrooms. These are bought to site and assembled either with or without external fabric materials. As the Farmer Review[2] notes, this method enables 70%+ of the home's construction value to be manufactured. This is also termed its Pre-Manufactured Value [PMV] and compares to traditional build's PMV of circa 40%.

This category is the single MMC approach most aligned to creating true additionality of capacity in the market and it also has the highest level of pre-manufactured value that can be re-distributed within the economy to achieve wider economic policy objectives including new supply chain creation and 'levelling up'.

1 Fixing our broken housing market. Ministry of Housing, Communities & Local Government. 2017

2 The Farmer Review of the UK Construction Labour Model

WHAT IS THE BENEFIT OF MMC?

The 2017 Government White Paper[1] expressed support for the contribution MMC is expected to make to helping solve the nation's housing crisis and achieve the step-change in housing output that is needed. It pointed to the potential for a **30% improvement** in the speed of construction of new homes through the adoption of innovation, with a potential **25% reduction in costs**, as well as the potential for advances in **improving quality and energy efficiency.** Using traditional techniques it is very difficult to achieve high levels of energy efficiency and studies show substantial material wastage. However, building homes under factory-controlled conditions allows much tighter tolerances to be met, improving energy efficiency and significantly reducing waste.

WHAT IS A 'TURNKEY' SOLUTION?

The term "turnkey" originates from the idea that when you purchase a turnkey property, for example, you simply need to "turn the key" and start using it immediately, without any additional construction or modifications. ZED PODS offer a turnkey housing solution for our housing schemes that is fully developed, implemented, and ready for immediate use. We are following the RIBA Plan of Work (Stage 0-7) which includes the design, development, installation, configuration, and maintenance.

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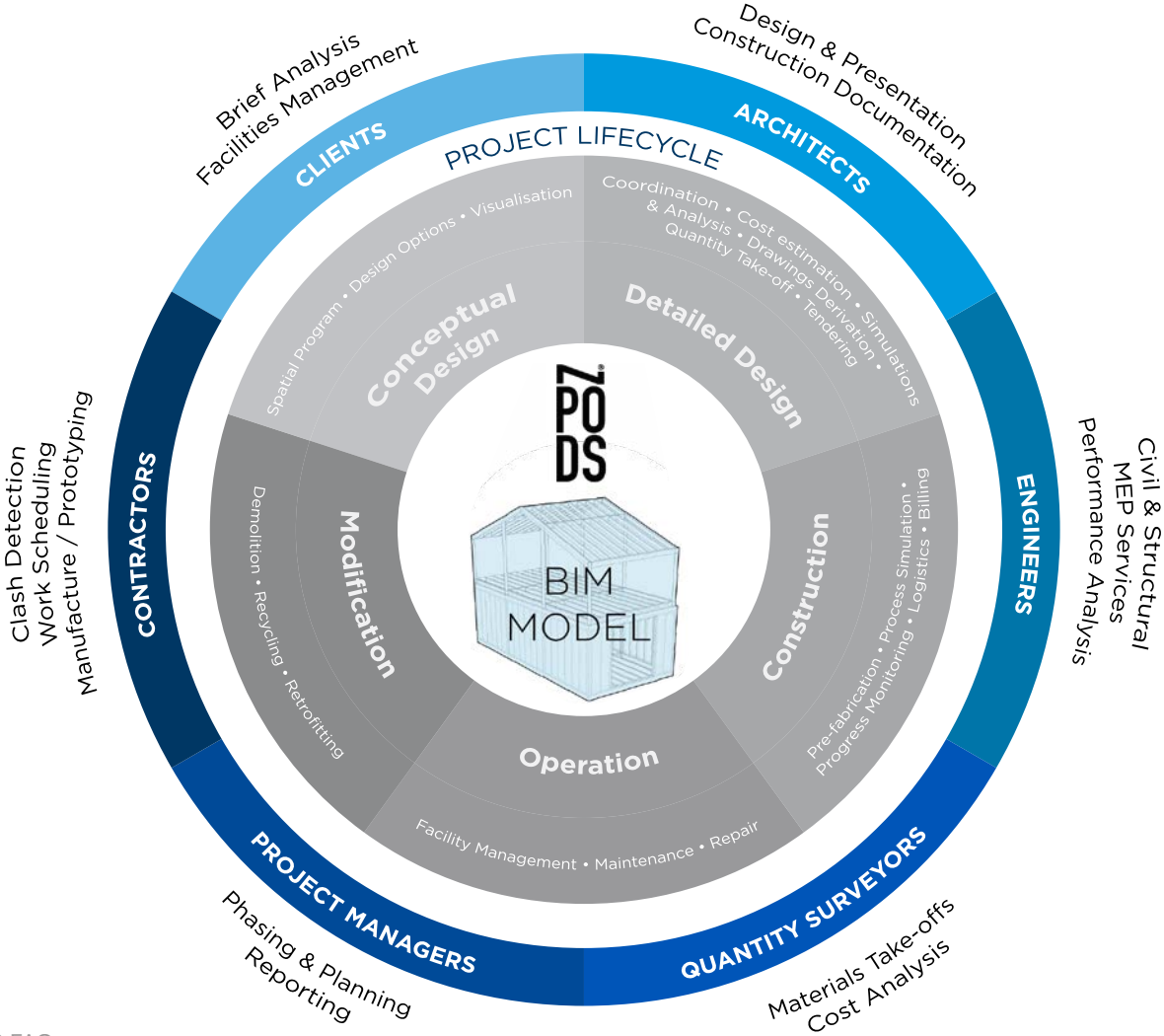
HOW DOES MODULES BEEN DESIGNED?

Every site have distinct sets of issues, chanllanges and required completely unique design approaches. The range from ground conditions such as made ground depths, buried services, site gradients, addressing flood requirements and deciding whether to progress with contemporary versus traditional elevation treatments, emphasise the need to be flexible in our approach but also demonstrate what can be achieved when such an approach is taken. By not shying away from these issues and embracing them in the design approach, ZED PODS inhouse design team was able to create bespoke developments for each and every sites with mix of units that in line with clients' requirement and budget.

All units are complaint with Nationally Described Space Standard, ZED PODS adopting digital construction using specific BIM protocol, we have designed out carbon from building fabric, material choice, passive solar design. BIM protocol (above BIM level 2 - ISO 19650) helps the our projects by providing a standard framework for project communications and collaboration. It enables teams to easily coordinate and share information in real-time, allowing teams to ensure that their designs are up-to-date and accurate. Additionally, the use of BIM Protocol help us reduce or even eliminate errors and reduce costs associated with construction projects over their entire life cycle.



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ZED PODS MODULAR HOMES

ZED PODS modular construction adopts a fabric first approach to increase energy efficiency and mechanical ventilation to recycle waste heat in the air. The remaining space heating, hot water and electricity demands are met with on-site renewable energy systems.

Super-insulated & Air-tight External Wall Build-up with Earthwool Insulation and airtightness membrane

Triple-glazed low-'E' doors and windows with low maintenance aluminium cills & flashings

Roof-mounted Solar Photovoltaic Panels

Combined Mechanical Ventilation Heat Recovery & Air Source Heat Pump which recover usable heat from inside the building whilst bringing in fresh air, while provide hot water.

The kitchen is equipped with a range of base units and wall units, a stainless steel sink unit together with worktops and splash backs. 13A socket outlets have been provided. A-rated electrical appliances, an electric hob and single oven with extractor fan.

Fully fitted bathroom with washbasin, toilet and shower set

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ZED PODS BUILDING PERFORMANCE

		Part L — England			ZED PODS Performance	
		2021	2022	2026	2020-2025	
U Values W/(m ²K)	External Walls	0.3	0.26	0.26	0.15 (Lower value can be achieved)	
	Party Walls	0.2	0.2	0.2	N/A	
	Floors	0.25	0.18	0.18	0.11	
	Roofs	0.2	0.16	0.16	0.11	
	Windows	2	1.6	1.6	1	
	Doors	2	1.6	1.6	1	
	Rooflights	2	2.2	1.7	1	
Air Permeability (m3/(h.m2)@50Pa)		10	8	8	2	1.5
Main heating fuel (Space & water)		Mains gas	Mains gas	Mains gas	Full Electric	
Heat source	Acceptable	Gas Boiler	Gas Boiler	Gas Boiler and radiators Central heating pump 2013 or later	Air / Solar Assisted Electric Heat Pumps	
	Recommended		Heat Pump			
Overheating Requirements			Part O 2021 Requirements Apply		Part O Complaint	
		from 2013 Part L with 2016 Amendements	*from approved 2021 Edition Part L*	*from approved document Part L 2026*		

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HOW DOES COMBINED MECHANICAL VENTILATION HEAT RECOVERY & AIR SOURCE HEAT PUMP WORKS?

In very simple terms, it works like a smart breathing system for the home.
It takes warm, stale air out of the house, steals the useful heat from it, boosts that heat, and then uses it to help provide fresh warm air and hot water.

It does three jobs at once:

1. **The home breathes in fresh air**
   Fresh air is drawn in from outside and sent into the living spaces and bedrooms.
2. **It breathes out stale air**
   At the same time, it removes warm, damp, used air from bathrooms, kitchens and other wet rooms.
3. **It captures heat from the outgoing air**
   Normally, when stale warm air leaves a house, all that warmth is wasted.
   This system does not let that happen.
   Before the stale air is thrown outside, the unit takes the heat out of it.
4. **The heat pump boosts that heat**
   This is the clever part.
   The recovered heat is often low-grade heat — useful, but not strong enough on its own.
   So the heat pump "upgrades" it.
   A good comparison is a fridge working in reverse:
   - a fridge takes heat from inside and dumps it outside
   - a heat pump takes available heat and concentrates it so it becomes more useful

   So in this unit, the heat pump grabs that recovered warmth and boosts it to a higher temperature
5. **That boosted heat is reused**
   The system then uses that upgraded heat to help with things like:
   - Warming the incoming fresh air
   - Making domestic hot water
   - Sometimes supporting space heating, depending on the setup

   So instead of cold outside air coming straight in, the air supplied to the home is tempered or warmed, which keeps the house more comfortable.
6. **The leftover stale air is discharged outside**
   Once the useful heat has been taken out, the stale air is sent outside.
   So the full cycle is:
   Stale warm air out → Heat recovered → Heat boosted by heat pump → Reused for fresh air and hot water

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HOW DOES MODULES MADE IN THE FACTORY?

All ZED PODS housing modules are manufactured offsite and finished up to 90% in a UK-based factory. The lean offsite manufacturing process has reduced construction waste, increase precision, improve quality and fabric efficiency using low embodied carbon and highly recyclable materials. Our homes are delivered fully furnished, including floor finishes, fixtures and all fittings.

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HOW DOES MODULES BE TRANSPORTED TO SITE AND LIFTED?

Once the factory works finished, the modules will be transported and installed in matters of days – minimising disruption, noise, pollution, waste and movement of construction vehicles.

WHAT DOES ON-SITE WORK CONSIST OF?

Site hoarding installation
Groundwork and foundation installation
Steel podium (if required)
Water and power connection
External cladding applicaiton (if applicable)
External lightings
Landscaping

WHAT ARE THE POTENTIAL DISRUPTIONS?

Challenges with the procurement of MMC and the MMC supply chain's limited manufacturing capacity (the risk of interruption of supply) has been potential factors that may cause disruptions. 3rd party service provider (for utilities connection) sometime cause delays.

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DOES MMC MEANS BAD QUALITY?

No, our volumetric housing units are constructed off-site in a factory-controlled environment, where they undergo rigorous quality control checks. This controlled setting often leads to consistent construction quality and reduced chances of errors compared to traditional on-site construction.

Additionally, our modular homes can be built using the same if not higher quality materials and techniques as traditional houses. It has been developed and tested at the Building Research Establishments (BRE), our solution is the only product suited to be built above car parks with special considerations from fire, quality, noise, air quality, utilities. Fully structurally engineered system & foundations, CDM, efficient built process & installation with minimal on-site disruption. Our homes are exceeding the quality of conventionally built homes.

ZED PODS is BOPAS approved Designer / Constructor / Manufacturer
Our homes meet the 'Nationally Described Space Standards', come with BOPAS & Structural Warranty and are fully mortgageable.

ZED PODS has been assessed and certified as meeting the requirements of

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018

by the United Kingdom Accreditation Service (UKAS) for Design, Manufacture and Installation of turnkey volumetric projects for the public and private sector in UK. For the purpose of SSIP the ZED PODS undertakes a Principal Designer and Principal Contractor CDM role.

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THE KING'S AWARDS FOR ENTERPRISE 2026 INNOVATION

THE KING'S AWARDS FOR ENTERPRISE 2024 SUSTAINABLE DEVELOPMENT