



Hertfordshire
Growth Board

Hertfordshire Offsite Manufacture

Factsheet 2

27.05.2022

Factsheet 2: What is offsite manufacturing?

OSM and MMC can be defined as the design, planning, manufacture and pre-assembly of construction elements or components in a factory environment, prior to installation on site at their intended, final location.

For the purpose of the Hertfordshire Consortium we are using the term OSM but essentially OSM & MMC are the same thing.

OSM incorporates a variety of innovative approaches to construct buildings and infrastructure that result in increased efficiencies and improved productivity. This can mean anything from completely modular builds to the prefabrication of individual components,

Bringing a manufacturing mindset to the design and construction of buildings and infrastructure, we adopt a Design for Manufacture and Assembly

(DfMA) approach, which draws on a range of suppliers and systems to design a scheme using manufactured components for ease of assembly on site.

A DfMA solution can deliver improved efficiencies through the use of repeatable components and processes, achieving a higher quality product at lower cost and in less time.








The DLUHC definition is widely considered the best definition & the one which should be adopted across the sector. This is the definition used by Homes England. This uses the following illustration to present the different categories of OSM.

External links:

The DLUHC definition

Communities and Housing Consortium (CHIC)

The definition framework developed by DLUHC identifies 7 MMC categories

<p>1  3D primary structural systems</p> <p>The production of 3D units in controlled factory conditions prior to final installation. Volumetric units can be brought to site in a variety of forms ranging from a basic structure only, to one with all internal and external finishes and services installed.</p>	<p>2  2D primary structural systems</p> <p>Flat panel components for floor, wall and roof structures, produced in a factory and assembled on site to produce a 3D structure. Closed panels can include lining materials, insulation, services, windows, doors, internal wall finishes and external cladding.</p>	<p>3  Non-systemised primary structure</p> <p>Framed or mass engineered timber, cold rolled or hot rolled steel or precast concrete members, including load bearing beams, columns, walls, staircases, core structures, slabs, ring beams, piles caps, driven piles and screw piles.</p>	<p>4  Additive manufacturing</p> <p>The remote, site-based or final workforce based printing of parts of buildings through various materials based on digital design and manufacturing techniques. Both structural and non-structural components are included.</p>
<p>5  Non-structural assemblies</p> <p>Non-structural walling systems, roof cassettes, non-load bearing kitchen bathroom and utility pods, risers and plant rooms, as well as pre-formed wiring looms and mechanical engineering composites.</p>	<p>6  Traditional building product led productivity improvements</p> <p>Traditional single building products manufactured in large format, pre-cut configurations or with easy jointing features to reduce site labour. E.g. roll-out reinforced flooring, brickslips and underfloor heating mats.</p>	<p>7  Site process led productivity / assurance improvements</p> <p>Innovative site-based techniques including lean construction, physical and digital worker augmentation, robotics, wearables, drones, verification tools and technology-led plant.</p>	

The Hertfordshire OSM Consortium is working in partnership with Communities and Housing Consortium (CHIC) a procurement consortium owned by its over 150 HA and LA members. In turn CHIC is working with Category 1 supplier Elements Europe and Donaldson Timber Systems a primary structural category 2 supplier who can also supply timber frame systems which fall into Category 3.