

FMB Building Conference

Building For Success: Through Innovative Construction

9 November 2022

Cast 

A Government Drive for Construction Innovation & MMC – But Why?

There has been significant activity over recent years in driving MMC from a national policy perspective,

The Government's approach draws the connection between MMC, homebuilding quality and quantum and wider economic growth. It has also led to more detailed and specific local variations on the theme, in regions such as Greater Manchester and the West Midlands.

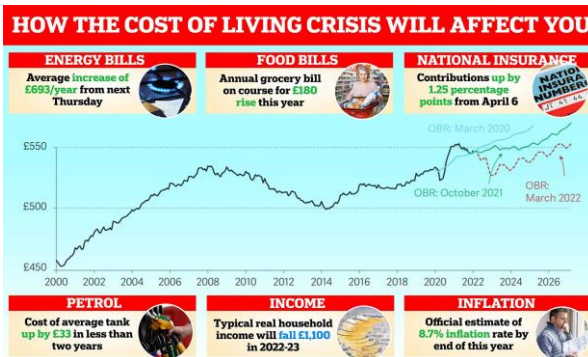
Homes England have acted as an accelerator for innovation as part of its measurable ambition to diversify the market and to improve industry productivity.

More recently, the link between well executed MMC and innovation and decarbonisation has increasingly become the driver for further interest in changing the way we build.

The governmental perspective is to stimulate innovation across the sector from major players to SME's and is highly relevant to FMB members who will increasingly face new challenges ahead.



The Last 8 Months Has Seen Some Of The Fastest Changes In Geopolitical & Economic Conditions In Modern Times - Construction's Declining Resiliency Is Increasingly Apparent



World Economy is Rapidly Heading Back into Recession



Construction's Back Drop

Supply & Demand Drivers



Materials Market Volatility



Labour & Skills Capacity Shrinkage



Housing Market Cycle

Regulatory Change



Future Homes / Carbon



Design, Product & Technical Standards



Safety & Quality Regulations

Investor, Lender & Consumer Drivers



Place & Build Quality

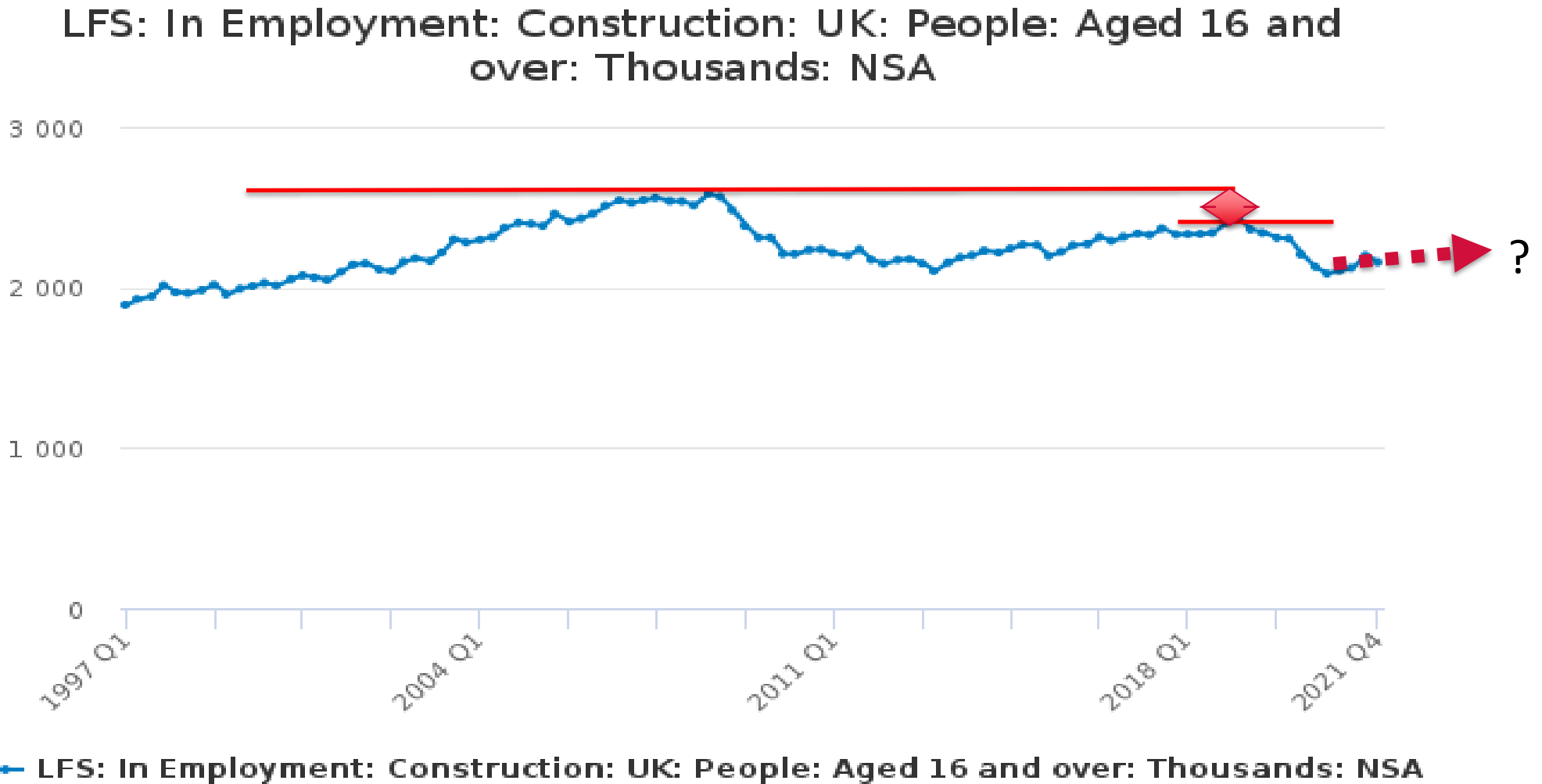


ESG

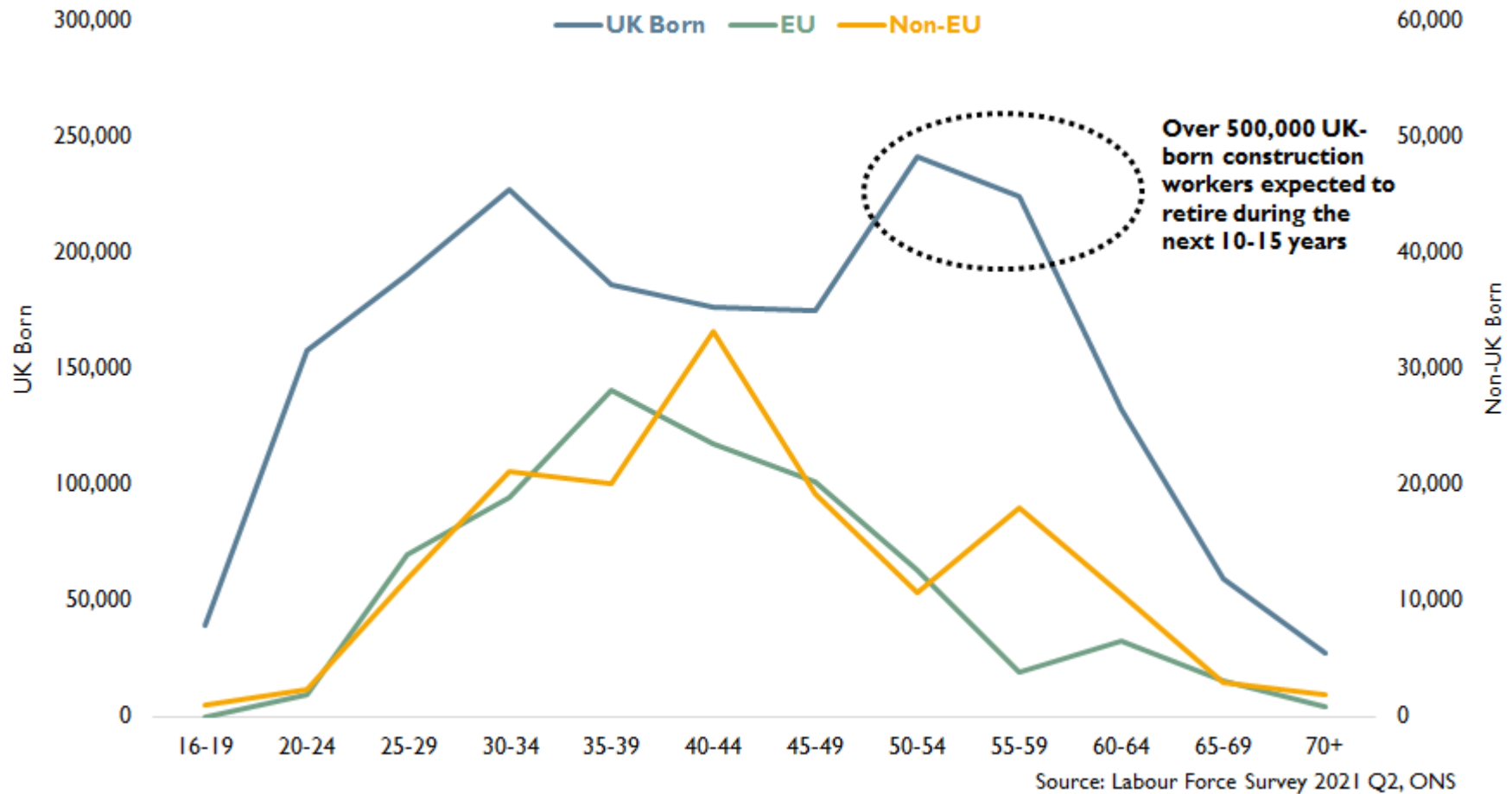


Cost, Value & Security

Labour Availability Has Been In Structural Decline in UK For 40 Years – But There Is Now A Visible Tipping Point



Demographics & Geopolitics Now Conspiring For A Perfect Storm In UK For Next Economic Cycle



All Of This Is Why We Need To Fundamentally Review How We Deliver Construction In The Next 10 Years – From SME's To Majors

DON'T THINK INNOVATION = 'MODULAR'

- We Need To Fundamentally Change The Proportions Between Traditional Site Labour / Processes And Manufactured Materials In Construction
- This Change Can Be Gradual And Has Many Component Parts
- It Will Eventually Be Forced By Market Dynamics, Regulatory Reform & End Customers
- The Future Of All Your Businesses Depends On Doing Things Differently, Potentially At A Time When Innovation Will Be The Last Thing On Your Mind!

MMC Is The Most Commonly Used Term In This Debate But It Is Not Just About 'Modular'

So Why & How & What?

WHY



Better project outcomes

Good businesses are continually seeking better outcomes for clients, themselves and the whole industry

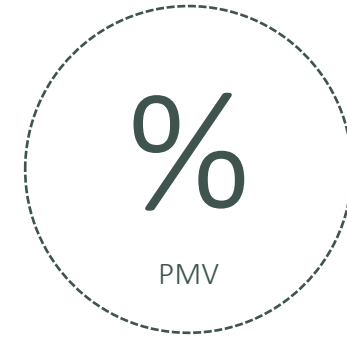
HOW



Modern methods of construction

Better outcomes can be achieved by the improved process control offered by modern methods of construction

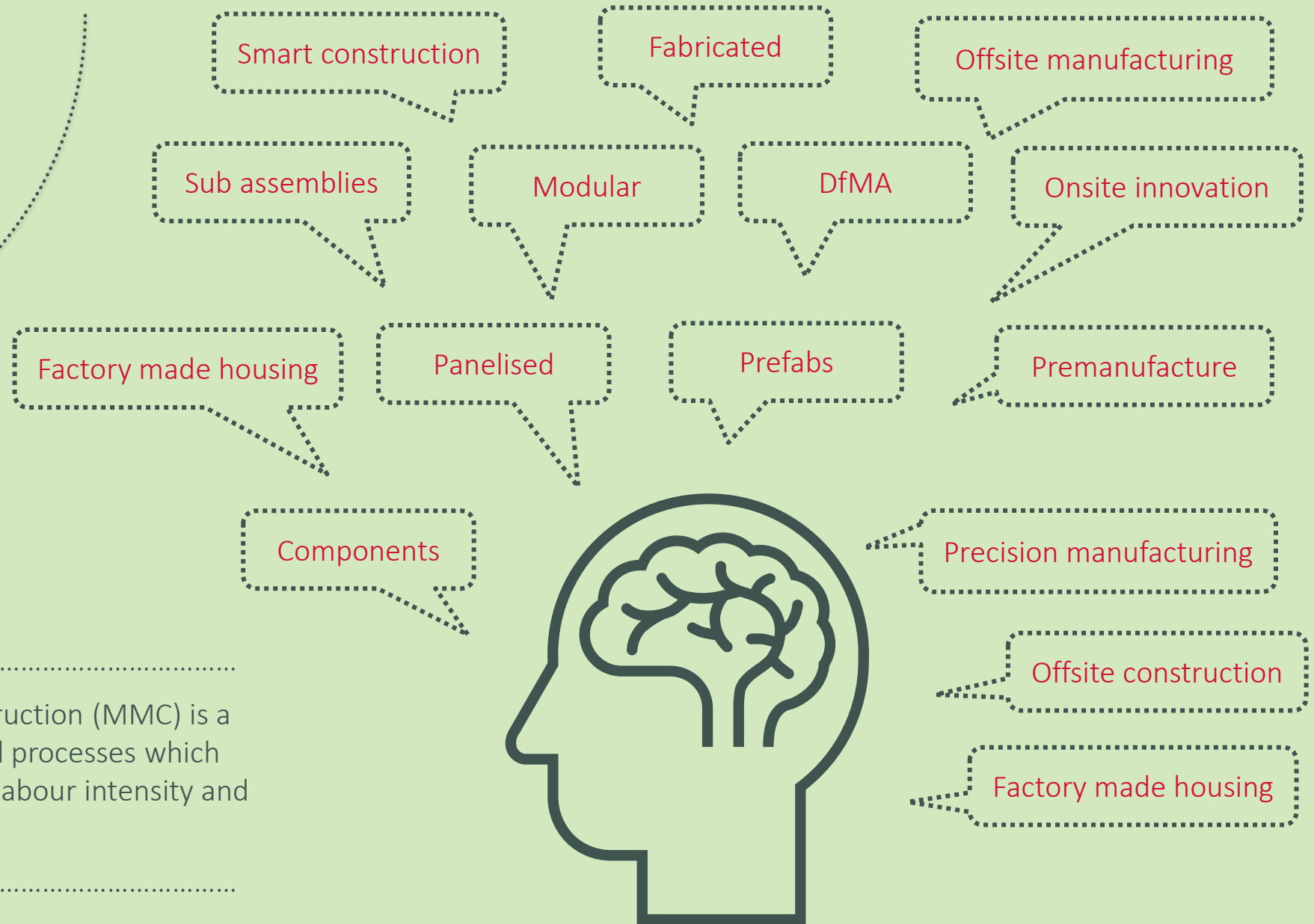
WHAT



Pre-manufactured value

PMV is simply a proxy for the proportion of manufactured content deployed on a project, indicating the extent to which items are produced prior to the final workforce

'MMC' Confusion



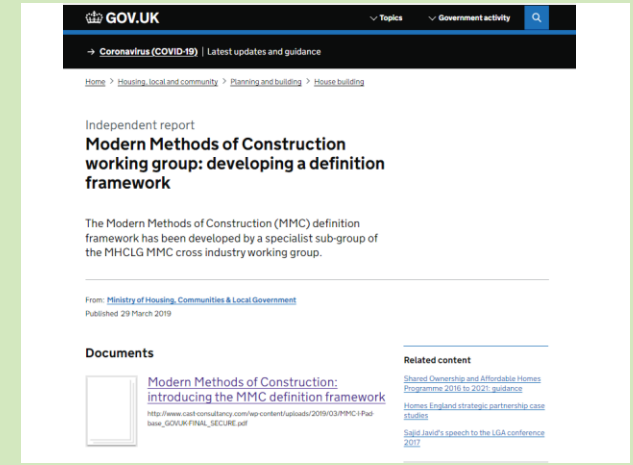
Modern Methods of Construction (MMC) is a **generic** term to embrace all processes which reduce the level of on-site labour intensity and delivery risk.

MMC Categorisation

The UK has now formally defined MMC.

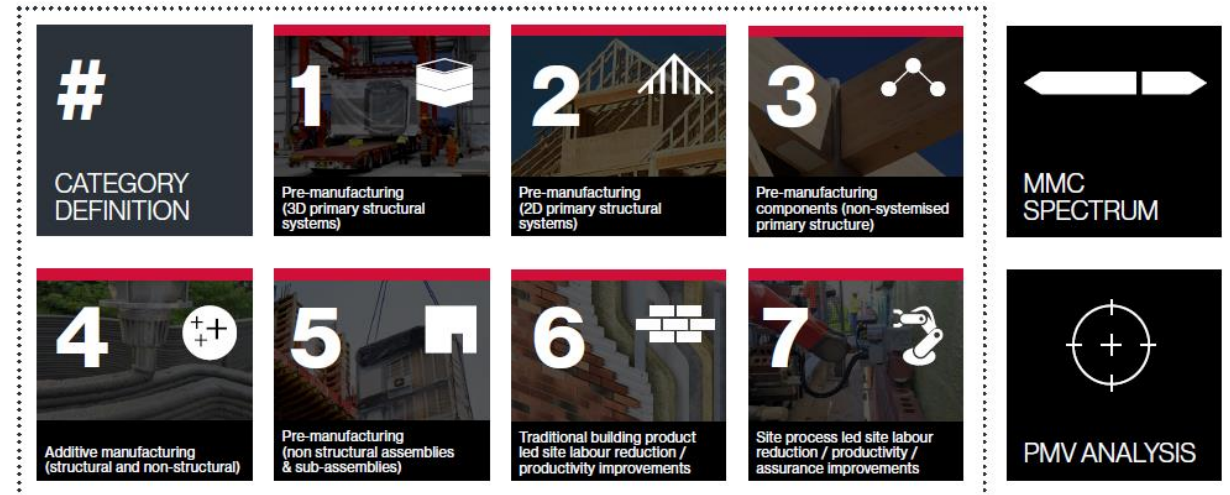
The MMC Definition Framework is a seven category definition framework that enables a full and future-proofed range of MMC used in homebuilding to be better understood with regularised terminology. The definition framework spans all types of pre-manufacturing, site based materials and process innovation.

This definition framework is an output of the MHCLG Joint Industry Working Group on MMC which was chaired by Cast and tasked with improving stakeholder education and understanding of MMC with particular reference to enabling better access to mortgage finance, insurance and assurance.




Category **DEFINITIONS**

The term 'pre-manufacturing' encompasses processes executed away from final workforce, including in remote factories, near site or on-site 'pop up' factories. The pass test is the application of a manufactured led fabrication or consolidation process in controlled conditions prior to final assembly / install. On-site 'workforce factories' are included in Category 7).



The MMC Framework – A Menu For Innovation

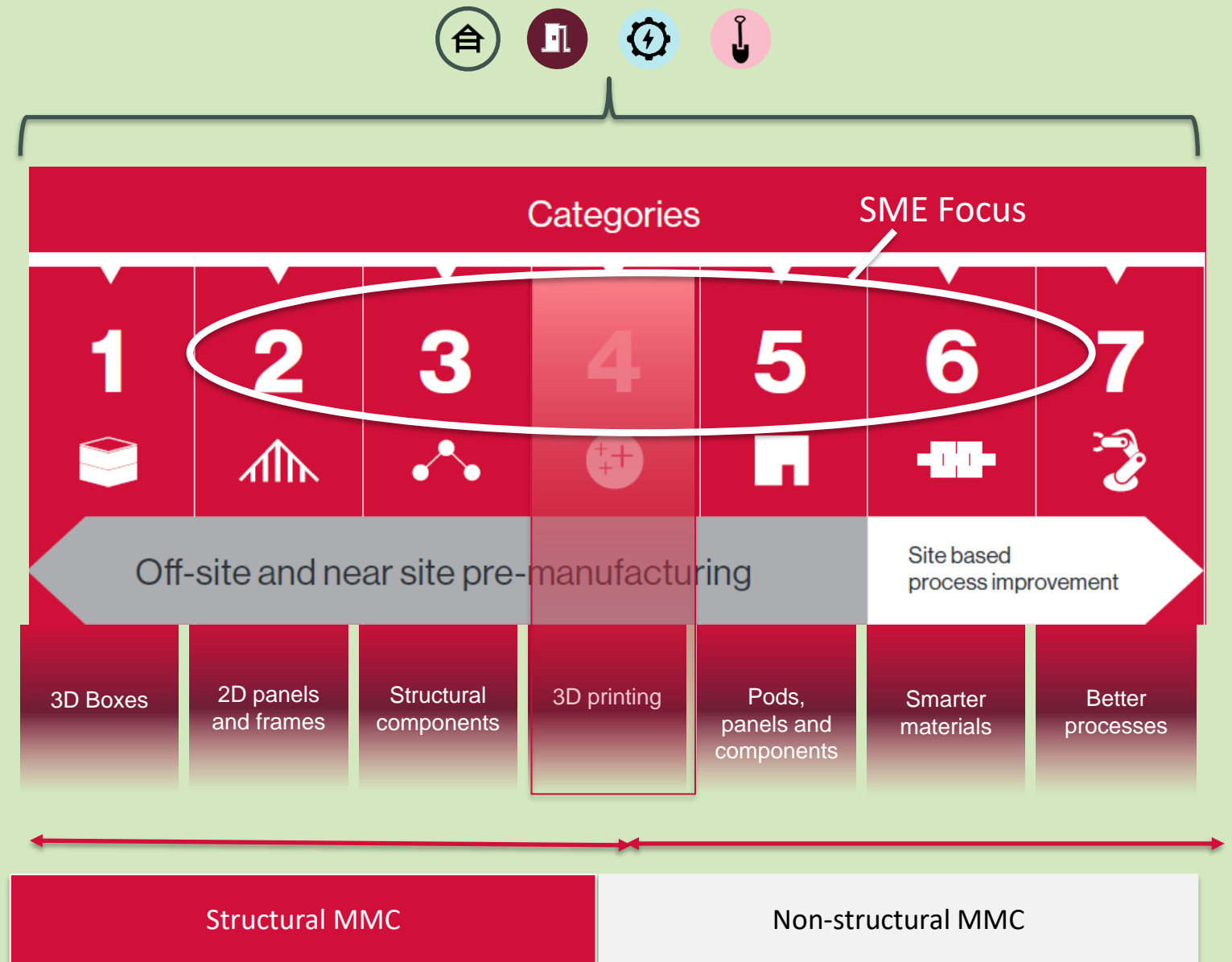
Building element

 Substructure

 Superstructure

 Fit Out

 MEP



All of the above creates an impact on 'PMV' %

Category 2



Pre-manufacturing
(2D primary structural
Systems)



2a. Basic framing
only including walls,
floors, stairs & roof

2b. Enhanced consolidation
Insulation > internal linings > external board > membranes

2c. Further enhanced
consolidation– insulation,
linings, external cladding,
roofing, doors, windows



Category 3



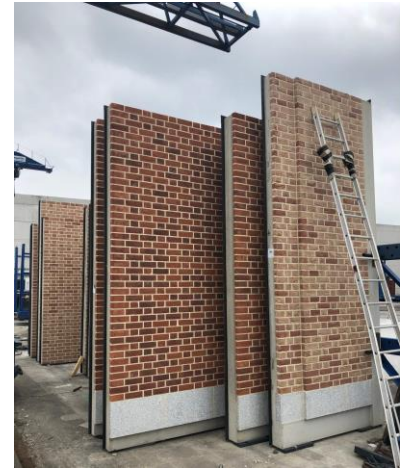
Pre-manufacturing components
(non-systemised
primary structure)



Category 5



Pre-manufacturing
(non-structural assemblies &
sub-assemblies)



Category 6

Traditional building product
led site labour reduction
productivity
improvements



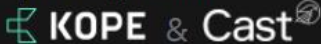
Category 7




Site process led labour reduction /
productivity / assurance
improvements



MMC.Market

A partnership between  **KOPE & Cast**









 **MMC Market** [Register for free](#)

Location
Find Suppliers within of

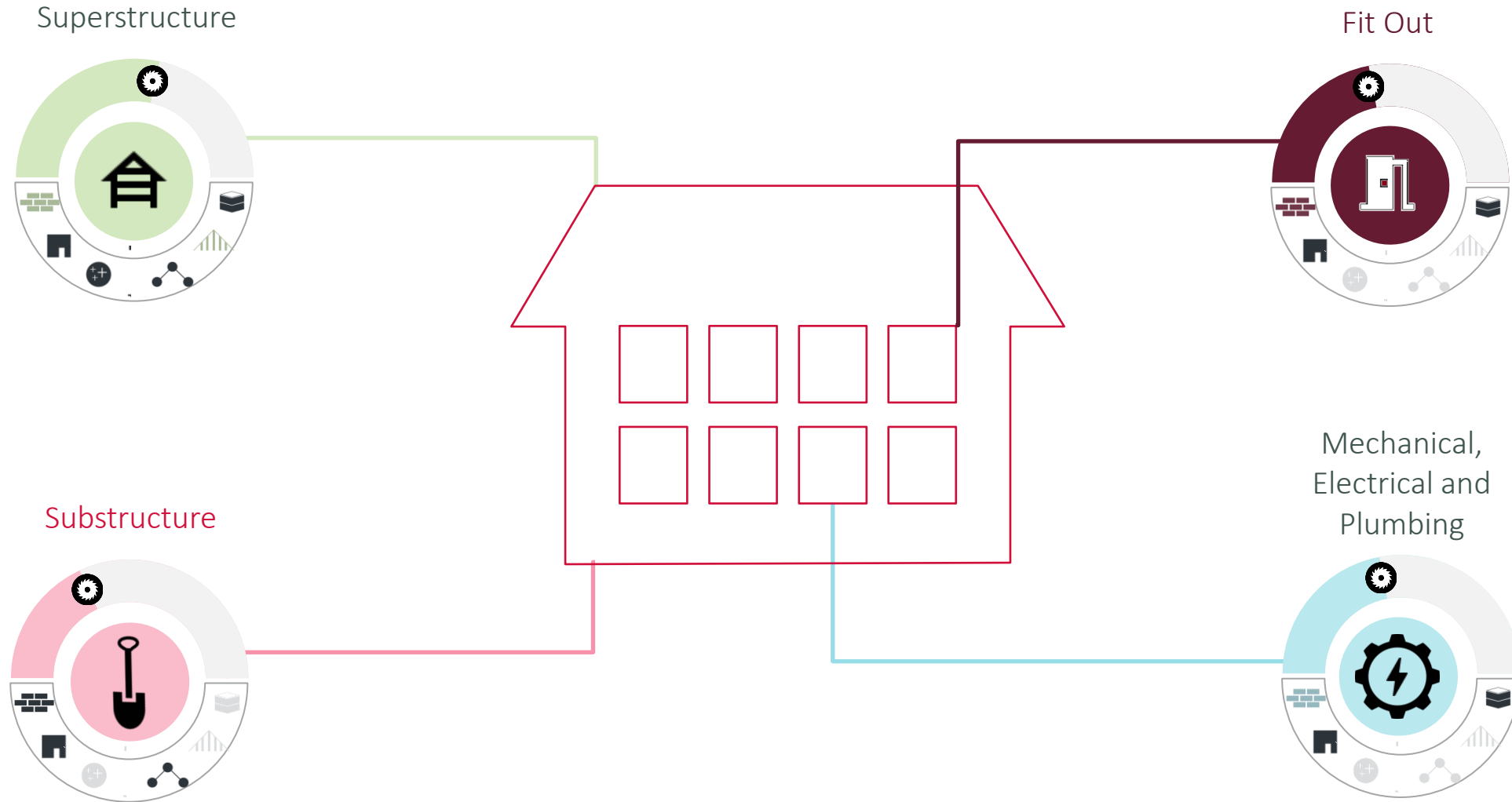
Certifications
 BOPAS
 NHBC Accepts
 Premier Guarantee
[Show more](#)

Popular Category
 Volumetric LGSF
 Glulam Beams
 Bathroom Pods (LGSF)
 SIPS (Timber)
 Lift Shafts (LGSF)
 Riser Modules
 Roof Trusses (Timber Frame)
 Steel Screw Piles
 Brick Slip Systems

Find Suppliers by MMC category

 <p>Volumetric Systems Category 1 →</p>	 <p>2D Structural Systems Category 2 →</p>	 <p>Non Systemised Structure Category 3 →</p>	 <p>3D Printed Systems Category 4 →</p>
 <p>Assemblies Category 5 →</p>	 <p>Product-Based improvements Category 6 →</p>	 <p>Site-Based Improvements Category 7 →</p>	 <p>View All Suppliers Show everything →</p>

Incremental MMC Deployment Across Building Elements

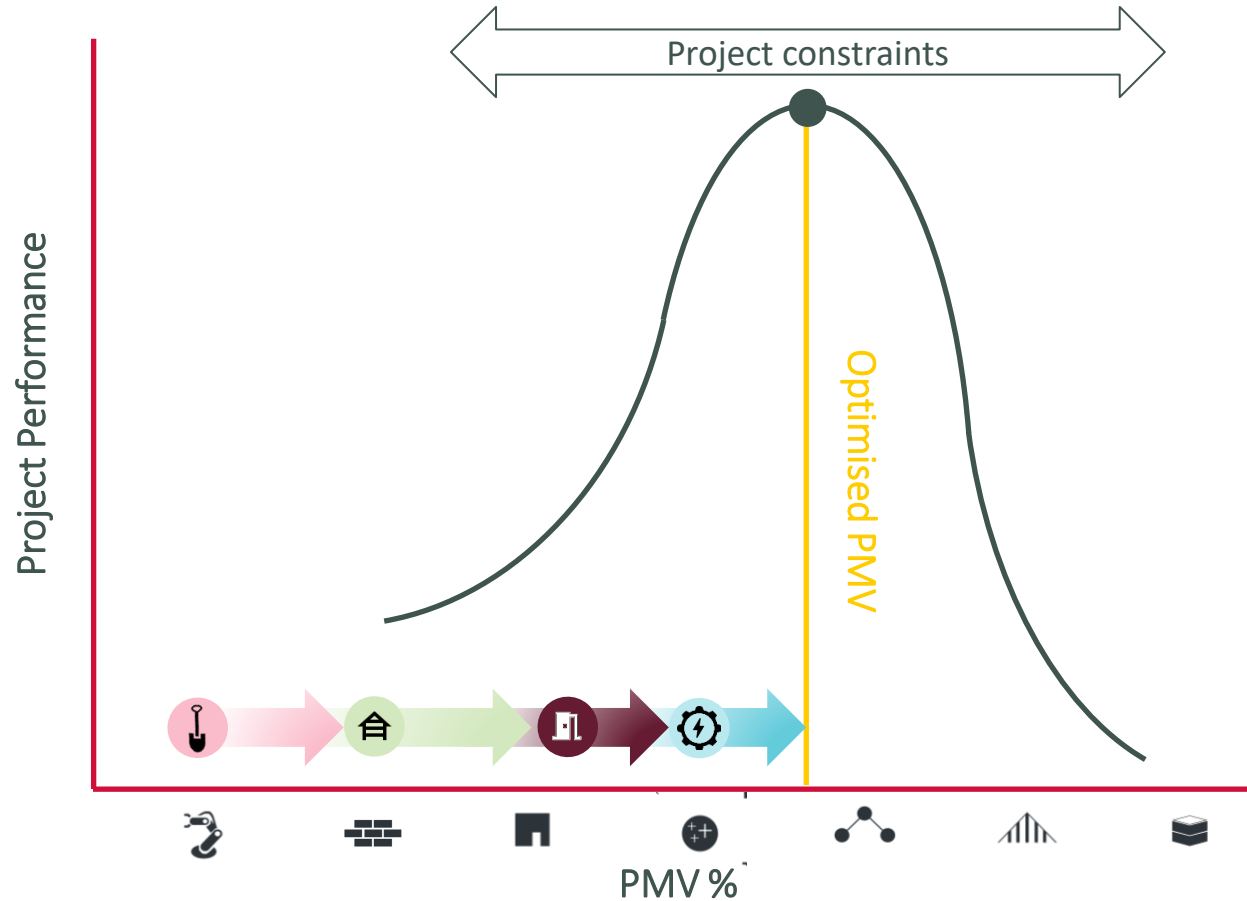


'Layering In' MMC That Works For Your Scheme

Project Deliverables



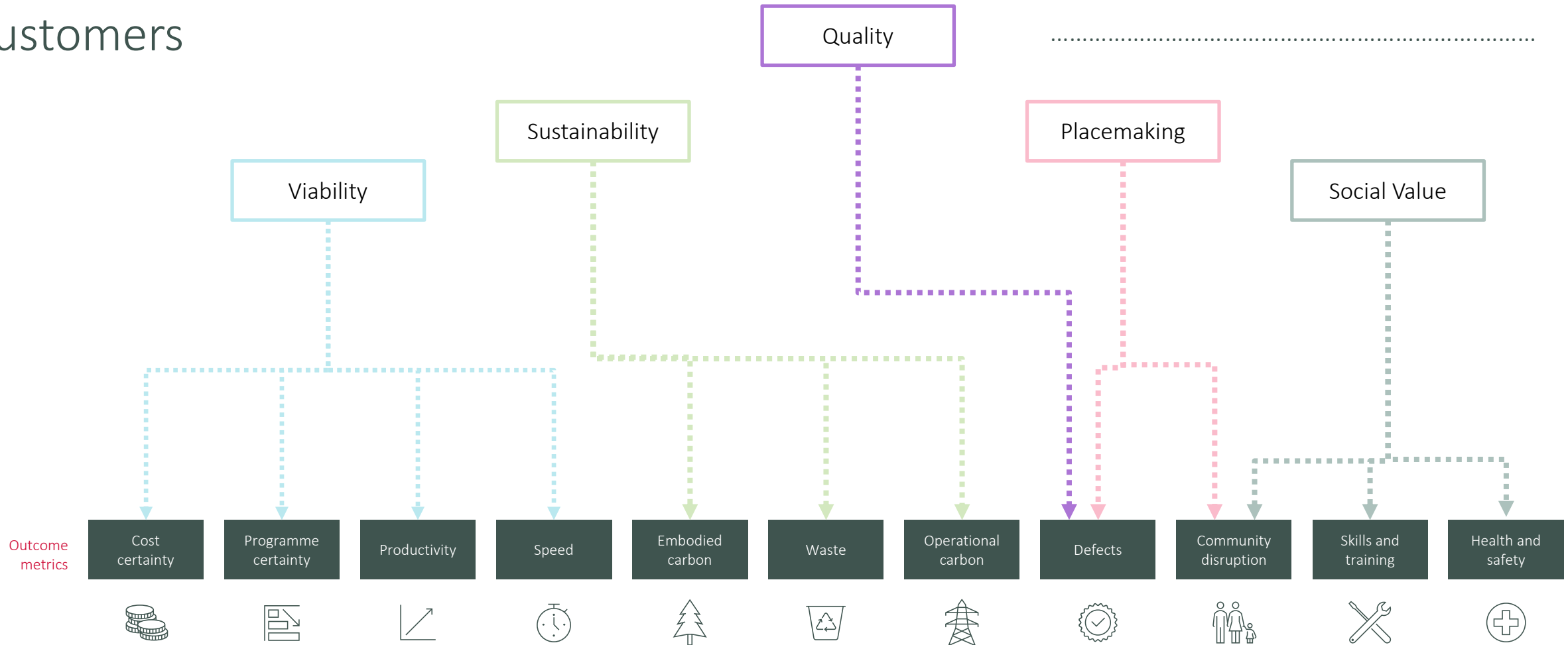
Selecting the appropriate MCC categories against all building in the context of the project ensures an optimised PMV score for the project is achieved



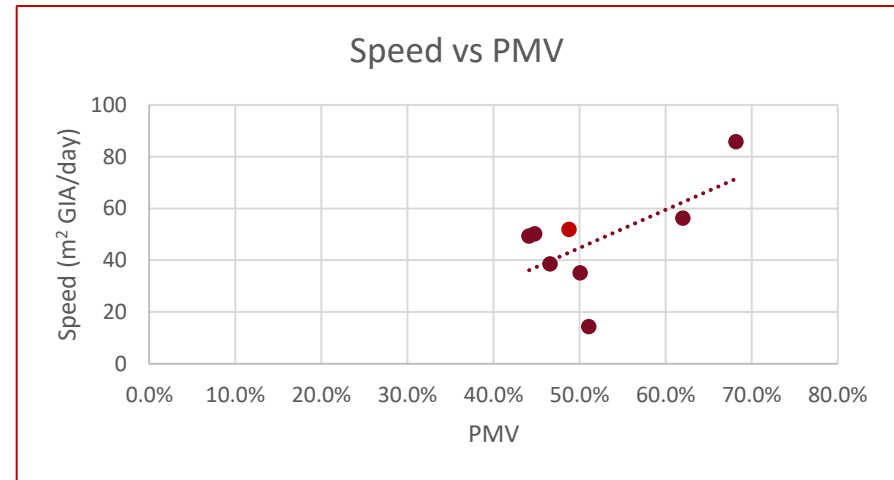
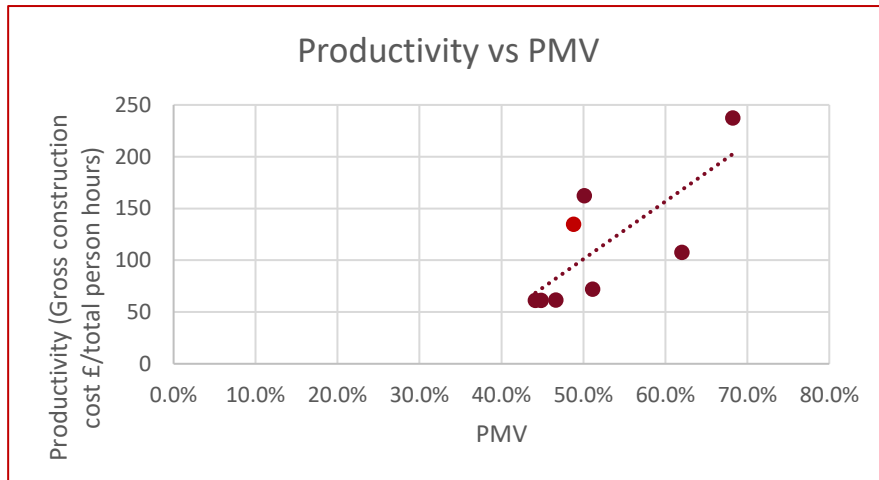
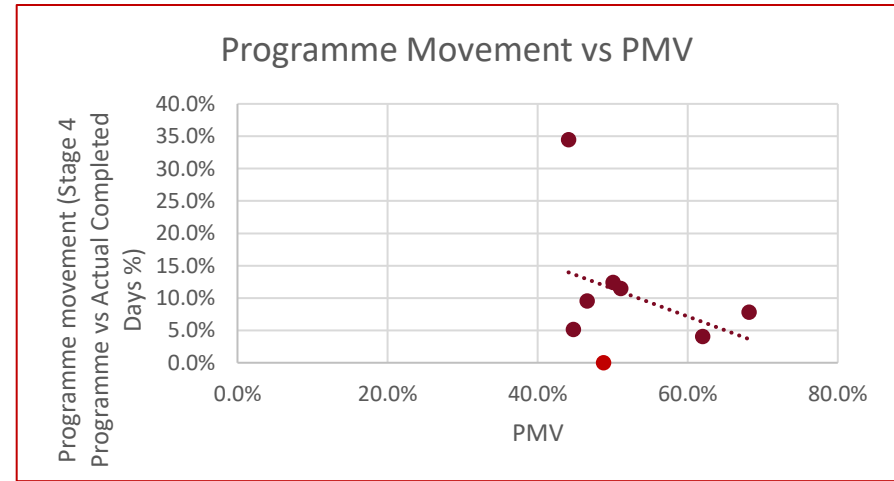
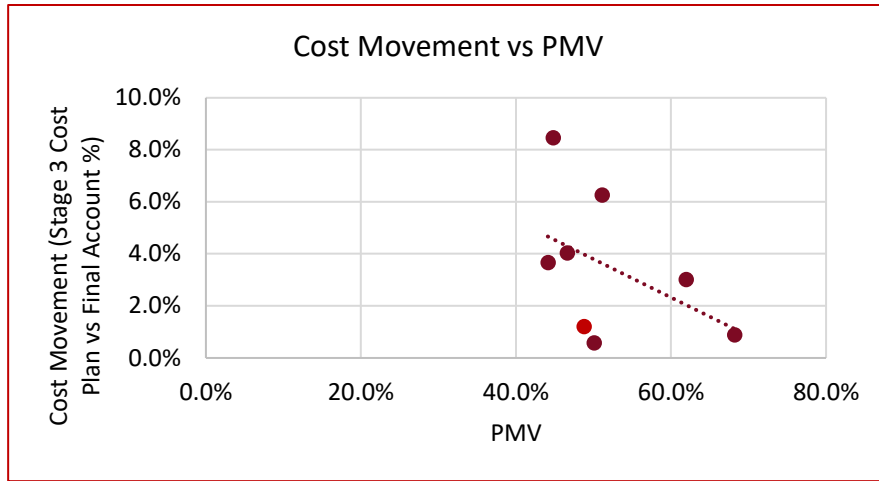
A Reminder - MMC Is Purely A Means To An End – Easier Build & Happy Customers

Project Deliverables

Capturing data against project outcomes can provide greater insight against the success of a development and help identify the opportunities for improvement



Starting To Correlate PMV To Outcomes – Influencing Developer, Consultant & Contractor Decision Making



We Are Already Seeing The Emergence Of New Business Models By Large Contractors – Will We See An Equivalent SME Level Refocus Using A Different Higher PMV Supply Chain?

JRL snaps up stricken modular housing firm

Housebuilder Hill snaps up collapsed offsite firm

By Joey Gardiner | 20 July 2022

John Sisk & Son acquires off-site construction company Vision Built Group

ISG buys majority stake in modular specialist ESS Group

Mace unveils 'next generation' construction method

December 5, 2019



BAM acquires stake in Irish modular homes specialist MHI



News

Robots to ramp up Sisk margins in productivity push

Aaron Morry 1 year ago

Share

John Sisk & Son is on a major productivity drive with plans to buy an offsite manufacturing business and deploy block and bricklaying robots.

Innovation Requires Building Regulations, Warranty, Insurance & Funding Provision To Support It



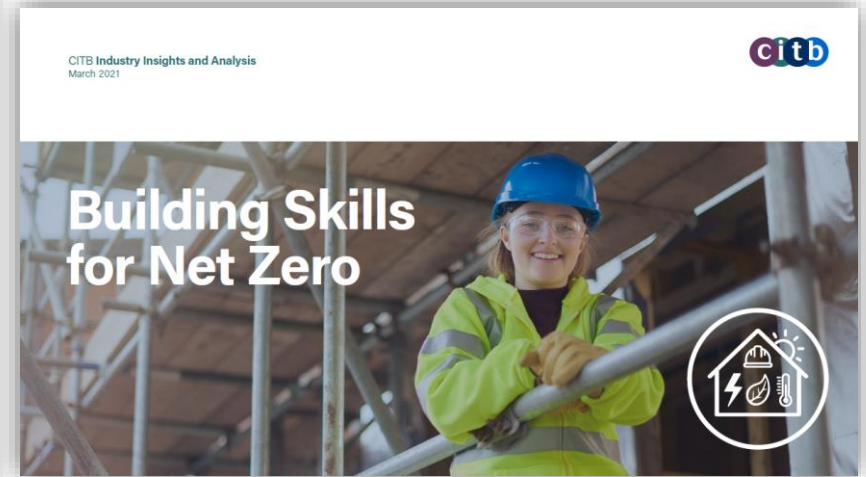
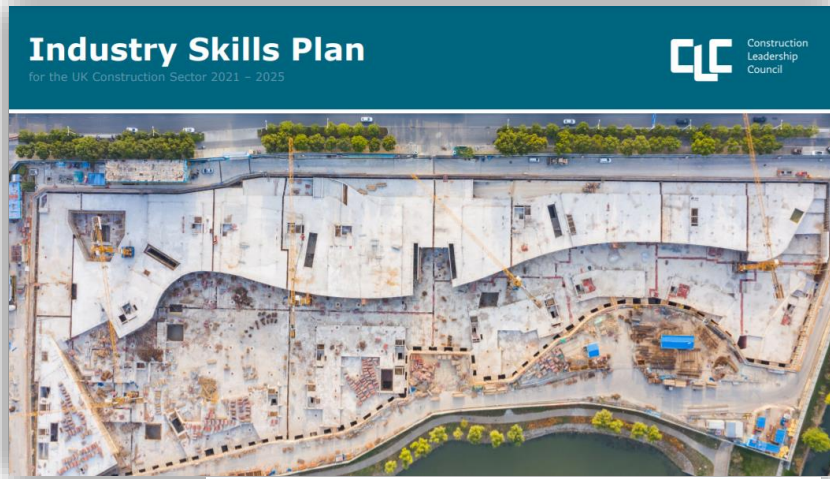
Raising Standards. Protecting Homeowners



FMBIS New Homes Warranty



Whatever We Do, New Techniques Need New Hybrid Skills Though – Industry & Government Both Need To Get Organised In Enabling This



The SME part of the industry is the engine room of training, skills and development – can it help train new skills?

Contact us

Cast is a specialist construction consultancy providing solutions for developers, investors, policymakers and the supply chain. We are focused on helping deliver great homes and places viably whilst also addressing bigger economic, societal and environmental challenges.



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