



Ministry of Housing,
Communities &
Local Government

OVERVIEW OF JOINT MMC WORKING GROUP ON ASSURANCE, INSURANCE & FINANCE

Raising The Bar For Offsite Housing

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BRE, Watford

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Boosting productivity and innovation: modernising the housebuilding sector

3.37 The housebuilding industry is less productive than the wider economy, partly because it has been slow to modernise and make use of more efficient and faster ways of building. By increasing innovation and making greater use of modern methods of construction⁶¹ we can change this. Industry reports suggest homes constructed offsite can be built up to 30% more quickly than traditional methods and with a potential 25% reduction in costs.⁶² They are high quality, reliable, more productive and can be highly energy efficient. They are high quality, reliable, more productive and can be highly energy efficient. They can require fewer people on site, helping to mitigate the skills shortage. Some firms are increasing their use of these methods, but we need to go further.

3.38 The industry has the potential to expand significantly, but a lack of demand from house-builders means that large firms tend to focus on manufacturing hotels, student accommodation and schools. Firms have told us that the most significant barrier to growth is the lack of a pipeline. A forward view of future orders and more information about the land available for development would allow them to secure investment to scale up production. International evidence suggests that as production increases the cost per unit falls.⁶² Scaling up production would allow industry to explore and deliver efficiencies, driving down costs. In turn this will encourage more builders to use these methods as it becomes economically sensible for them to do so.

3.39 To underpin the growth of this sector we must ensure that homes built offsite can access finance on the same basis as traditionally built homes. The Buildoffsite Property Assurance Scheme, which provides assurance to lenders on methods of construction, has existed for some time but there is limited take-up among lenders, partly because of a lack of data to support them in making decisions.

3.40 We will:

- **stimulate the growth of this sector through our Accelerated Construction programme and the Home Builders' Fund.** This will create new opportunities for the use of modern methods of construction to encourage investors into the sector and give current suppliers confidence to expand into the housing market. It will also support the delivery of high quality, energy efficient homes through these programmes;
- **support a joint working group with lenders, valuers and the industry** to ensure that mortgages are readily available across a range of tested methods of construction. This will include encouraging industry and lenders to develop a stronger set of core data to measure the use and performance of different technologies to encourage good decision-making;
- **consider how the operation of the planning system is working for modern methods of construction (MMC) developments;**
- **work with local areas** who are supportive of this type of manufacturing to deliver growth, provide jobs, and build local housing more quickly; and
- **alongside the Home Building Fund, consider the opportunities for offsite firms to access innovation and growth funding and support for them to grow.**



TERMS OF REFERENCE

- **2 key overarching themes:-**

- *Improvement in MMC related data collection & product knowledge, its transparency & level of key stakeholder education*
- *Build stakeholder confidence via robust & unified technical assurance process for MMC & improve links to insurance & financial products*

- **With 1 overarching aim:-**

- *To enable demand led change that underpins increased capacity to build more homes in a more productive way to a higher quality*

- Primary focus is on domestic private for sale new build mortgage market but explore linked issues with wider development and investment finance & insurance
- Recognise direction of travel of parallel Building Regulations Review & other relevant regulatory constraints including finance and insurance industries
- Build on previous work of Construction Leadership Council workstream & coordinate back



•EXPECTED OBJECTIVES

- Real outcomes and progress linked to overcoming the current blockers to progress of MMC adoption in mainstream residential market
- Expectation of tangible progress within 6 months that starts to be felt in market through specific stakeholder announcements & actions that support increased uptake of MMC
- Not a list of abstract recommendations for others to deliver we all own the success of this or otherwise!
- General individual commitment to participating and dealing with the issues – ideas & solutions required not just rehearsal of the problems or worse, silence!
- High degree of collaboration within full working group – both inter and intra stakeholder level – leaving any commercial or institutional rivalries / vested interests at the door!
- If Government support & enablement is needed to help deliver progress in any identified key areas then this needs to be clearly articulated for Ministerial consideration



WORKING GROUP LOGISTICS

- 32 people initially invited to participate – only active participants retained
- Make up of group broadly represents key market stakeholders covering:-
 - Finance
 - Insurance & new build warranty providers
 - Valuation
 - Process assurance
 - Building Control
 - Developers
 - Manufacturers
 - Architects & specialist advisors
 - Homes England / MHCLG
- Main group split into 3 core sub-working groups
- Chair Reports Directly to Housing Minister



WORKING GROUP ACTIVITY

- Sub-groups working in 4 initial focus areas:-
 - Unification of assurance, insurance, warranty markets (sub-group 1)
 - MMC terminology, definitions and data collection requirements (sub-group 2)
 - Evidence building & routes to data collection (sub-group 3)
 - RICS Liaison (ad hoc)

(Note: it was agreed to revisit need for a 5th sub-group looking at digital standards)
- Sub-groups meeting in alternate months & ad hoc from main working group (every 2 months)
- Over-arching theme is to prioritise what can be delivered within 6 month timescale



Sub-Group 3 Progress Update

- Agreement from various sources to provide sample projects for data collection purposes and to identify exemplar / expo type opportunities. These include:-
 - HBF (through member engagement)
 - Homes England (through collation of current programme MMC usage & proposed co-funded pilot testing / R&D programme linked to DPP3)
 - Buildoffsite (through member engagement)
 - Identified company specific contributions
 - ++ on going individual companies – consultants / manufacturers / developers
 - MHCLG Design Quality Conference



Sub-Group 3 Progress Update

- Discussion on how data can be centrally held and open to interrogation. There is the potential to see how Land Registry could be used as a repository for construction type including perhaps MMC category / specifics. This approach might also link to the Unique Property Reference Number (UPRN) system used for spatial referencing
- Use of an MMC equivalent of 'Original Equipment Manufacturer (OEM) protocol to be explored to map supply chain and its accreditation / assurance
- The use of digital 'Building Log Books' for MMC linked to approaches above might assist centralised data collection



Sub-Group 2 Progress Update

- Decision to retain use of umbrella term 'MMC' due to alignment to current government programmes
- Suggestion to then split into 5 generic categories :-
 - Category 1 - Full Volumetric Systems (structural)
 - Category 2 – Panelised Systems (structural)
 - Category 3 – Hybrid Systems (Volumetric / Panelised structural system combinations)
 - Category 4 – Sub-Assemblies & Consolidated Components
 - Category 5 – Non offsite manufactured - material / component / assembly innovation

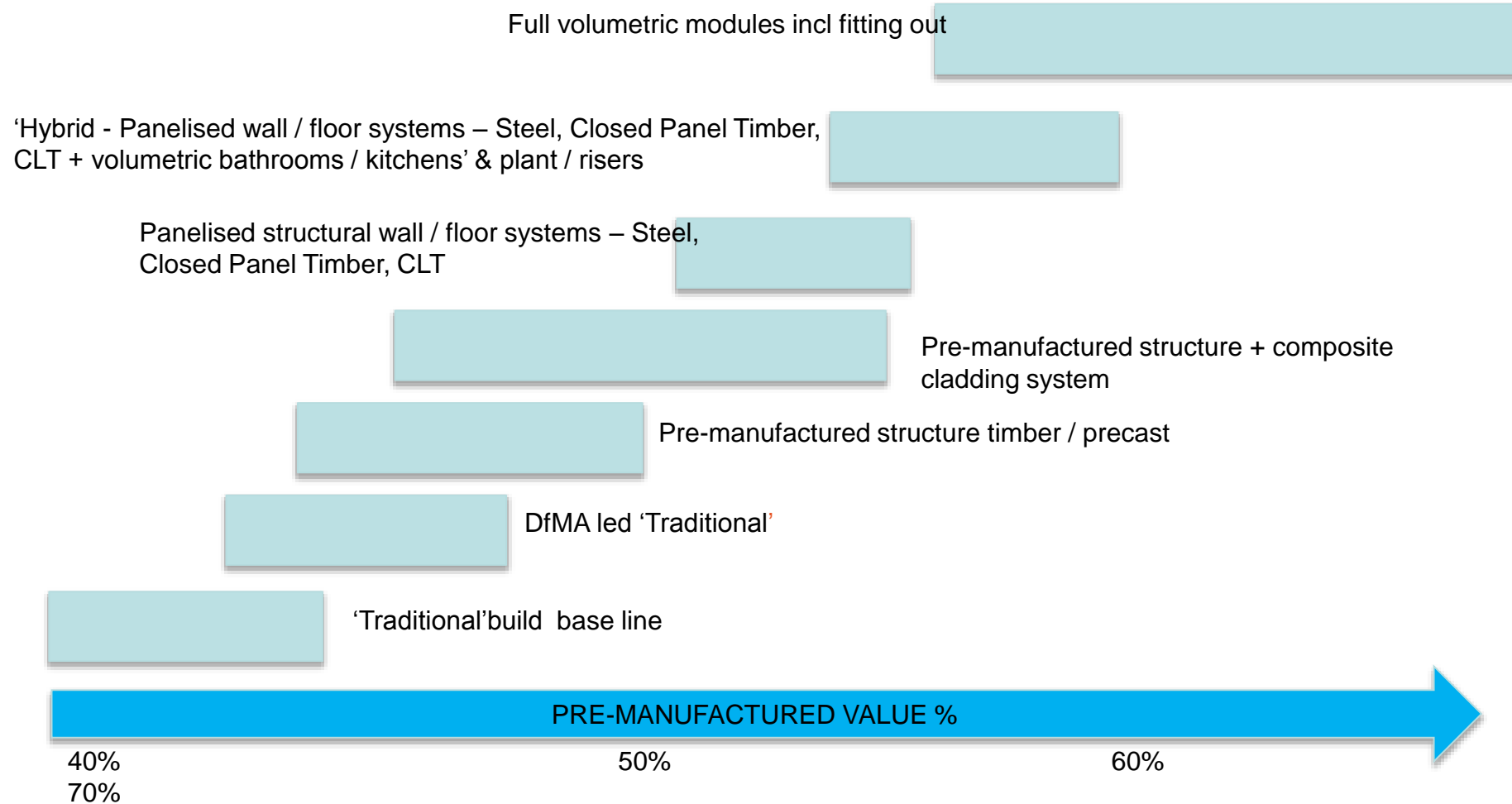


Sub-Group 2 Progress Update

- Above needs further testing against full range of 'real world' examples of MMC to ensure full coverage and future proofing
- Attention needs to be given to where 'accepted' prefabrication – ie structural steelwork / unitised facades is allocated
- Importance to lenders needs to be overlaid – ie structural integrity, water ingress, fire
- The above categories can also be aligned to Pre-Manufactured Value (PMV) ranges in line with Homes England pilot testing (see diagram below)



MMC Categories Aligned to PMV Ranges





RICS Liaison Progress Update

- Two meetings with RICS, one with Director of Built Environment Professional Groups, one with Global Director of Valuation
- Likely next step is to get enhanced surveyor guidance embodied into upcoming RICS 'Valuation of New Residential Property Guidance Note'
- There are opportunities to enhance QS & PM guidance also linked to differences in cash flow and DfMA impact on project planning
- There is new parallel UK Finance Disclosure Form with the following requirement – this should be aligned to any new definitions:-

2.c. TYPE OF CONSTRUCTION

Clearly specify the primary construction materials and method of construction used.....

(e.g. traditional brick/block/timber frame, MMC, off-site, volumetric, pods, panelised, etc.)

Energy Performance Rating (EPC) (if known).....

RICS to produce examples of MMC residential properties to educate valuers and consumers.



Sub-Group 1 Progress Update

- Multiple meetings have taken place to identify key issues with current approach to accreditation, assurance and insurance
- Clear that there are current blockers to a more unified and efficient system that informs lending and insurance under-writing
- Question was asked of what any evolved scheme needs to address – 10 point checklist was arrived at to validate against wider outcomes of sub-groups 1-3

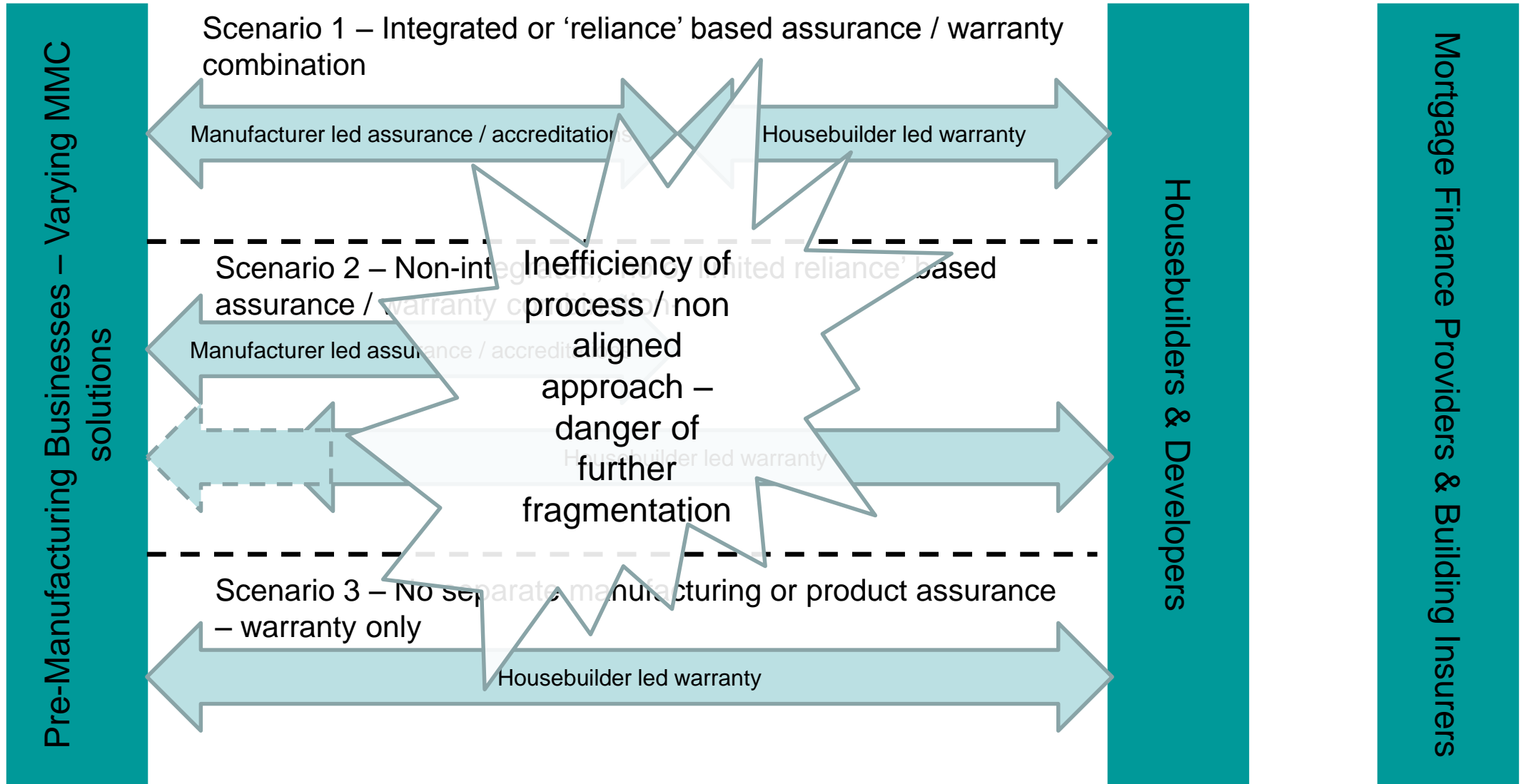


Sub-Group 1 Progress Update – 10 Point Checklist

- Needs to be clear on technical longevity assurance of end product not just component parts – manufactured & site based outcomes combined
- Needs to identify complexity & abnormal cost of how insurance led reinstatement plus general maintenance, repairs and conversions can be carried out – is it specialist work by manufacturer only or is it capable of ‘open sourcing’?
- Needs to be associated with a ‘mainstream’ warranty
- Needs to recognise the importance of valuer advice and bring them into the heart of the solution
- Desire for a single, unified assurance platform in the UK (incl Scotland & Wales)
- Better definitions of ‘MMC’ needs adoption – what is it generically that we are talking about – large format masonry or innovative use of materials included or just higher levels of offsite processing and manufacturing
- Needs to be holistic in warranty terms and cover entire the off and on-site based integration process to point of completion – with a single recourse
- Product and process assurance should be better linked to people via skills & competency certification
- Need for a single open source repository / database of how all housing stock is built (linked to standard definitions and certification status)
- Better education and awareness of latest technologies – where the bar should be set in terms of quality and outcomes relative to downstream risk



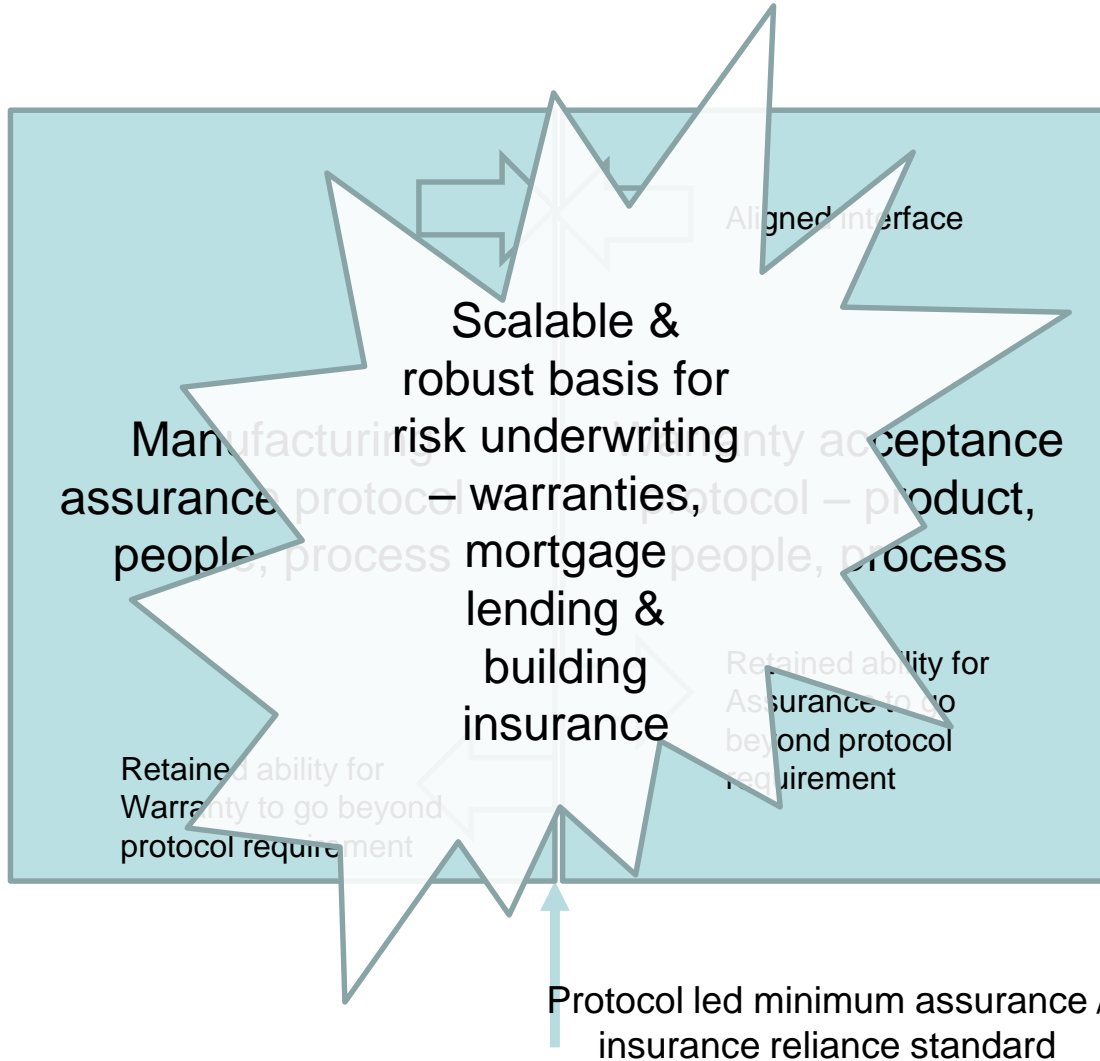
The Current Mechanics of the Assurance, Insurance & Warranty Market for MMC





A Better Integrated & More Unified Approach?

Pre-Manufacturing Businesses – Varying MMC solutions



Housebuilders & Developers

Mortgage Finance Providers & Building Insurers



The 'Scheme' – Key Characteristics

- Premise is to better connect Manufacturers products to risk managed mortgage lenders / insurers underwriting
- It could use two agreed protocol led collaborative platforms – one for manufacturing process assurance, one for warranty acceptance
- The latter includes all basic assessments needed to be in the control of the warrantor and in turn their own risk under-writing. The former assumes an element of reliance is placed by individual warrantors but with a retained right to surveillance / audit
- The integration interface between manufacturing assurance and construction / manufacturing insurance is the independently curated database of manufacturers who pass the process assurance protocol requirements and warrantors who are part of warranty acceptance protocol and who accept product design principles. This becomes a manufacturer's route to having their product incorporated in a mortgageable home
- Manufacturers & warrantors, lenders & buildings insurers may still sit outside of the 'scheme' but the market should decide whether this marginalisation is sustainable
- The requirement for manufacturers to satisfy a manufacturing process protocol and for warrantors to demonstrate compliance with a warranty acceptance protocol in effect become potential barriers to entry for new manufacturers & new warrantors wanting to operate in the MMC market
- Cost of manufacturing process assurance is met by manufacturers, cost of warranty met by housebuilder / developers – as current situation. Only change is that being manufacturing process protocol approval becomes a pre-condition of being able to access mainstream warranty market



The 'Scheme' – Intended Aims

- Looks to create better alignment between manufacturers, assurers, warranty providers & end mortgage lenders & building insurers
- Creates an 'end to end' process which is both manufacturer led and developer led
- Incorporates the existing framework of BOPAS assurance, multiple warranty provision & emerging new standards into a wider 'scheme' that is better integrated albeit may still repeat inefficiencies at least in the short term
- The 'scheme' creates the glue between the various working parts - some existing & some new
- It is predicated on an element of collaborative alignment as to how manufacturing process assurance and warranty acceptance can be subject to agreed protocols. Both assurers and warrantors can still compete with offerings which exceed the baseline protocols but the minimum requirements become a basis for mortgage & insurance under-writing
- The scheme would need to be supported fully by the lenders / building insurers to generate followship & market behaviours, including from valuation community
- The scheme would need a governance panel that represented key constituent part interests but also external parties assisting with market adoption and expert input where required. It is also proposed that Government is part of this panel

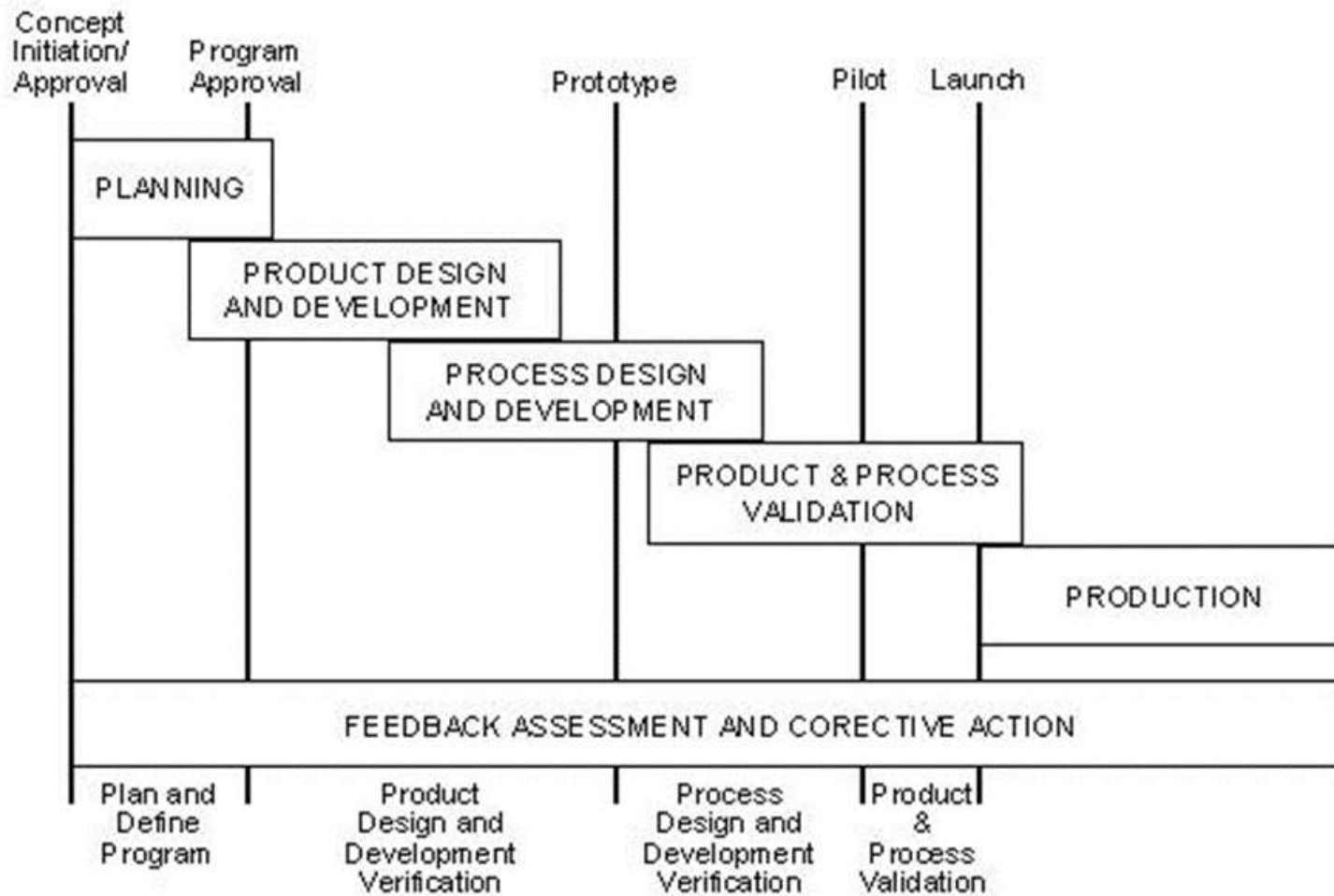


The 'Scheme' – Intended Aims

- The 'scheme' has the potential to be added to via 'bolt on' functionality – ie consumer feedback /ratings
- Subject to the agreement of manufacturing assurance & warranty acceptance protocols, it is capable of immediate deployment in the market as a framework for under-writing mortgage lending, building insurance & cultivating improved industry & consumer confidence in MMC
- It can directly cross relate to a set of new definitions regarding MMC & the evidence base sharing can create the feedback loop for all parties to benefit from



The 'Scheme' – Possible Principles - APQP



Advanced Product Quality Planning: four phases and five major activities along with ongoing feedback assessment and corrective action.



The 'Scheme' – Possible Principles

No.	APQP Element	No.	APQP Element
1	Sourcing decision	13	Measurement systems evaluation
2	Customer input requirements	14	Manufacturing process instructions
3	Craftsmanship	15	Packaging specifications
4	Design FMEA	16	Production trial run control plan
5	Design verification plan and report	17	Production trial run
6	Prototype build control plan	18	Preliminary process capability study
7	Prototype build(s)	19	Production validation plan and report
8	Drawings and specifications	20	Production control plan
9	Manufacturing feasibility commitment	21	Production part approval process
10	Manufacturing process flowchart	22	Design and manufacturing review(s)
11	Facilities, tools, and gauges	23	Subcontractor APQP status
12	Process FMEA		



Next Steps

- Progress 'Sectorisation' Audit of How APQP can work in construction as backbone of new assurance protocols
- Look at a possible progressive road map
- Look at practical implementation aspects of any 'scheme' including skills audit for on site work
- Look at wider ramifications on broader warranty protocols including identifying 'red lines' of coverage and risk
- Gain buy in and endorsement from lenders, insurers and government & launch a branded 'scheme' to market with a transition / passporting plan