Sheffield City Region: Modern Methods of Construction (MMC) Audit

Eco System & Opportunity in the City-Region

ARCADIS Cast HATCH HARLOW CONSULTING

Enablers for growth

MANUFACTURING IN CONSTRUCTION IS KEY TO THE POST-COVID RECOVERY AND THERE IS BROAD GOVERNMENT SUPPORT FOR MMC GROWTH

Post-Covid recovery

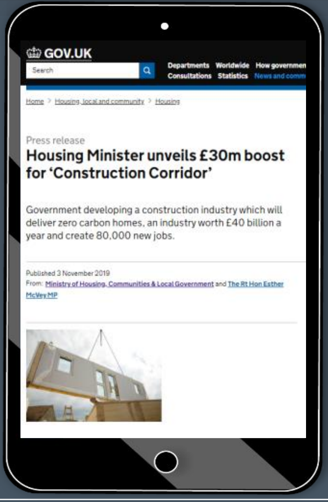
Roadmap to Recovery

Industry Recovery Plan for the UK Construction Sector

Construction Leadership Council

Recovery Plan

	What
ns)	1. **Restart** work on all projects and programmes, and increase this to the highest level possible consistent with Government guidance
	2. **Maximise employment** of all those working in the construction industry and supply chain
	3. **Minimise disruption** due to contractual disputes.
Reset (3-12 months)	1. **Demand and Pipeline** - economic stimulus measures to increase workload across infrastructure, construction, housing and domestic new build and RMI, and develop a robust pipeline of work across the whole construction ecosystem, including contracting, SMEs, merchants and manufacturers.
	2. **Productivity** – new approaches will be needed to compensate for the loss of productivity due to the requirement to implement Government guidelines across construction and the built environment
	3. **Professionalism** – investing in training, collaborative business models, fairer contracts and payment
Reinvent (12+ months)	1. **Transformation** – sustain economic growth through the adoption of digital and manufacturing technologies to consistently deliver low carbon, sustainable and better quality outputs and outcomes
	2. **Value** – adopting procurement models and approaches across the industry and clients to deliver better value and whole life performance
	3. **Partnership** – stronger partnerships between the industry and its clients, supply chain firms, investment in upskilling the workforce



UK housebuilding + Add to myFT

Japanese developer enters UK housing market

Sekisui House enters joint venture with British government to build modular housing

Sekisui House has built more than 2.4m modular homes over 59 years, including One Central Park in Sydney, Australia © Alamy

George Hammond MAY 14 2019 49

Sheffield City Region

IS LOCATED AT THE GEOGRAPHIC AND R&D CENTRE OF **AN EMERGING MODERN METHODS OF CONSTRUCTION INDUSTRY**

CREATING

7,000 JOBS

£1bn GVA

NATIONWIDE

- The sector is projected to grow in response to historic challenges in the construction sector, and future challenges as result of the Covid-19 crisis
- Utilising advanced manufacturing techniques and a different labour model with the promise of delivering high-quality and sustainable homes, faster than traditional approaches
- 27,000 MMC homes were delivered in 2019, estimated to support 6,400 jobs across the UK.
- Based on cautious assumptions, we think that the MMC sector could double in size over a decade, directly creating:

7,000 jobs and more than **£1bn of GVA** nationwide.

Acknowledging the barriers

THERE ARE IMPORTANT **BARRIERS TO GROWTH** IN A NEW AND GROWING INDUSTRY

Practical Barriers

Practical barriers to take up and latent manufacturing capacity show the need for different approaches in the short, medium and long term.

WE ESTIMATE
3,500
VOLUMETRIC MODULAR HOMES
BUILT IN 2019

FROM FACTORIES WITH ANNUAL PRODUCTION CAPABILITIES OF
15,000
HOMES

- Manufacturers need visibility of future orders to justify investment that will drive productivity up and costs down over time
- Procurement, cost, process and capacity issues tend to mean that most MMC schemes are bought on a one-off basis
- There have been significant investments into manufacturing capacity, such as with L&G investing more than £50m in a plant near Leeds.
- We estimate that there is currently 11,500 homes pa of unused manufacturing capacity, but that this number will decrease as MMC starts to scale
- The path to benefiting from MMC growth needs to be varied, not solely about new factories

Playing to the City Region's strengths

THERE ARE
TWO MMC MANUFACTURERS
IN SCR

A FURTHER
26 WITHIN 50 MILES
OF THE REGION

SCR's strengths

SCR benefits from a strong contingent of construction supply chain businesses, a number of which are supplying the MMC sector nationally and have expanded to meet demand.

Alignment

MMC is strongly aligned to economic priorities of SCR, there is clear commitment from Las and Has to work in partnership to support MMC

Geography

SCR is well located to serve most of UK housing markets, and is close to large section of current MMC capacity

Construction sector

Large and more productive relative to other construction sectors, already includes:

2	MMC manufacturers
14	Specialist supply chain businesses including some selling to MMC manufacturers
10+	Consolidation service businesses

And a strong array of construction sub-sectors that can support MMC related activities

Labour market and skills

Strong market for skilled labour; LEP policy is to focus on local supply skills; Construction Sector Deal may allow for new funding opportunities

R&D Innovation

National stand-out strength with the AMRC, combined with other strengths in advanced manufacturing and innovation and a knowledge-rich economy. There is also a will from local academic institutions (HE & FE) to move into MMC/work with industry

The scale of the opportunity

THE GROWTH OF MMC

Background and Assumptions:

Current MMC delivery sourced from NHBC data

Cast/Arcadis review has estimated 15,000 volumetric home per annum capacity against 2019 delivery of 3,400 homes

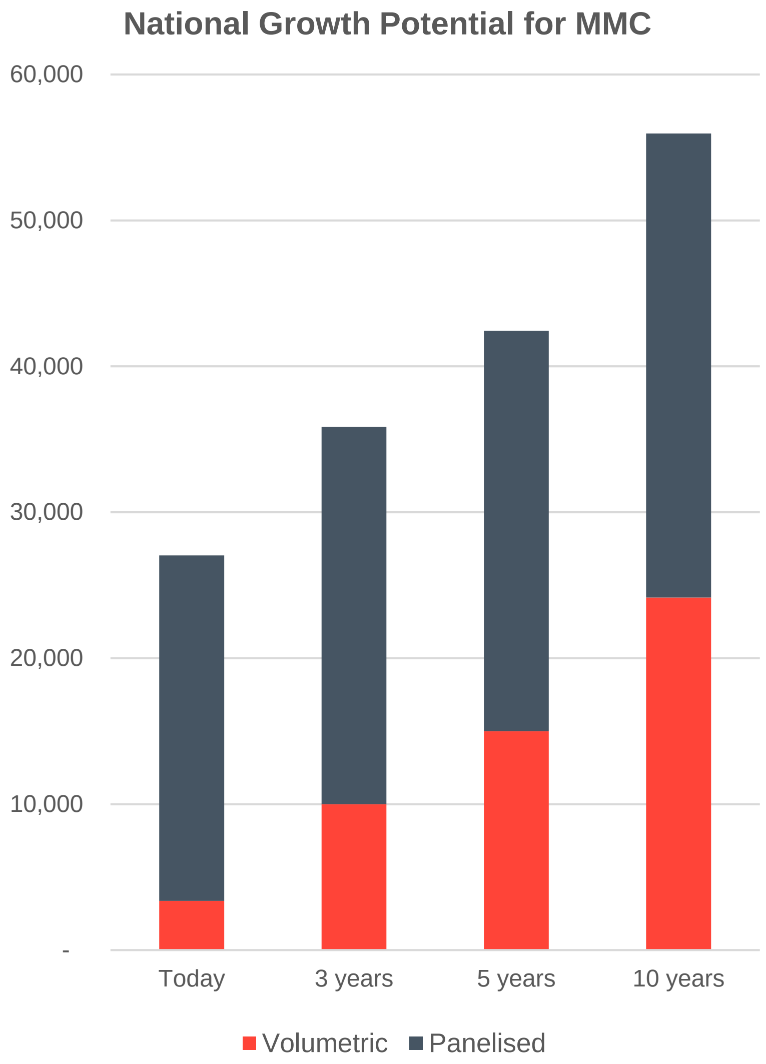
We assume rapid acceleration of volumetric delivery up to year 5, as spare capacity is used

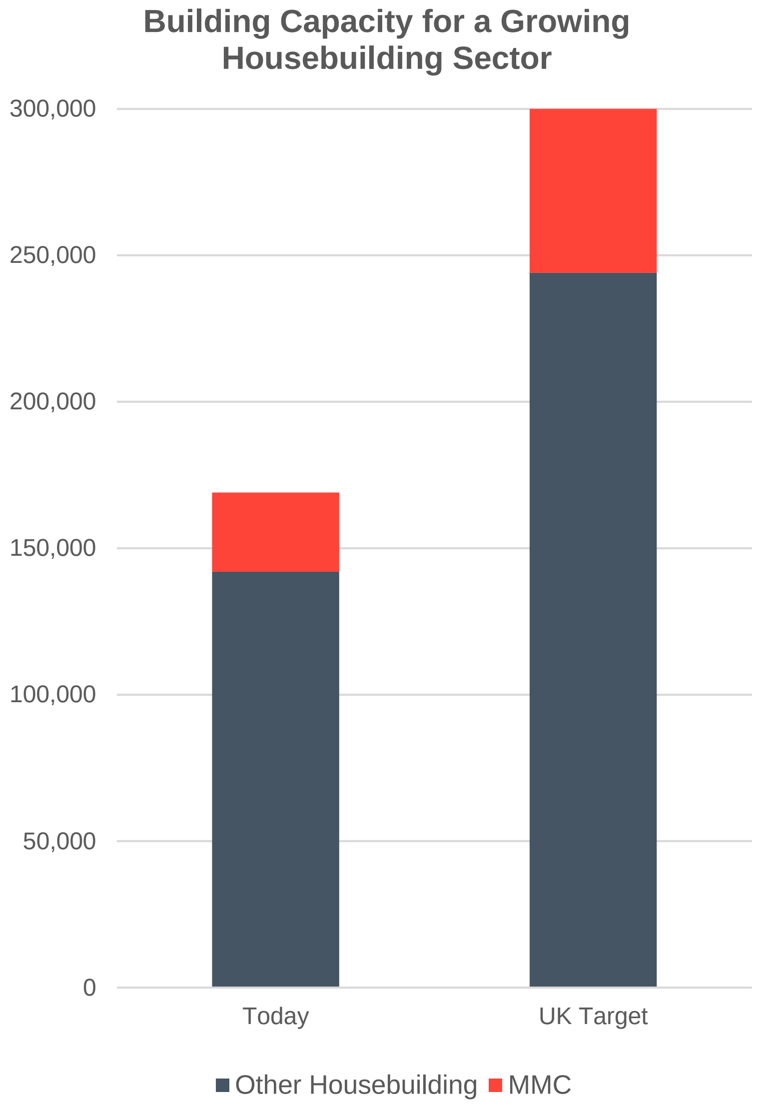
We assume overall MMC sector grows at 6% from year five, referencing Frost & Sullivan forecast of 6.3% pa.

If national housing targets are to be met, significant growth of all sectors (of 8.5% pa) is required.

Projected growth of MMC still requires traditional housebuilding to grow by 100,00 over the same period.

On this basis, the forecast for MMC could be considered as conservative.





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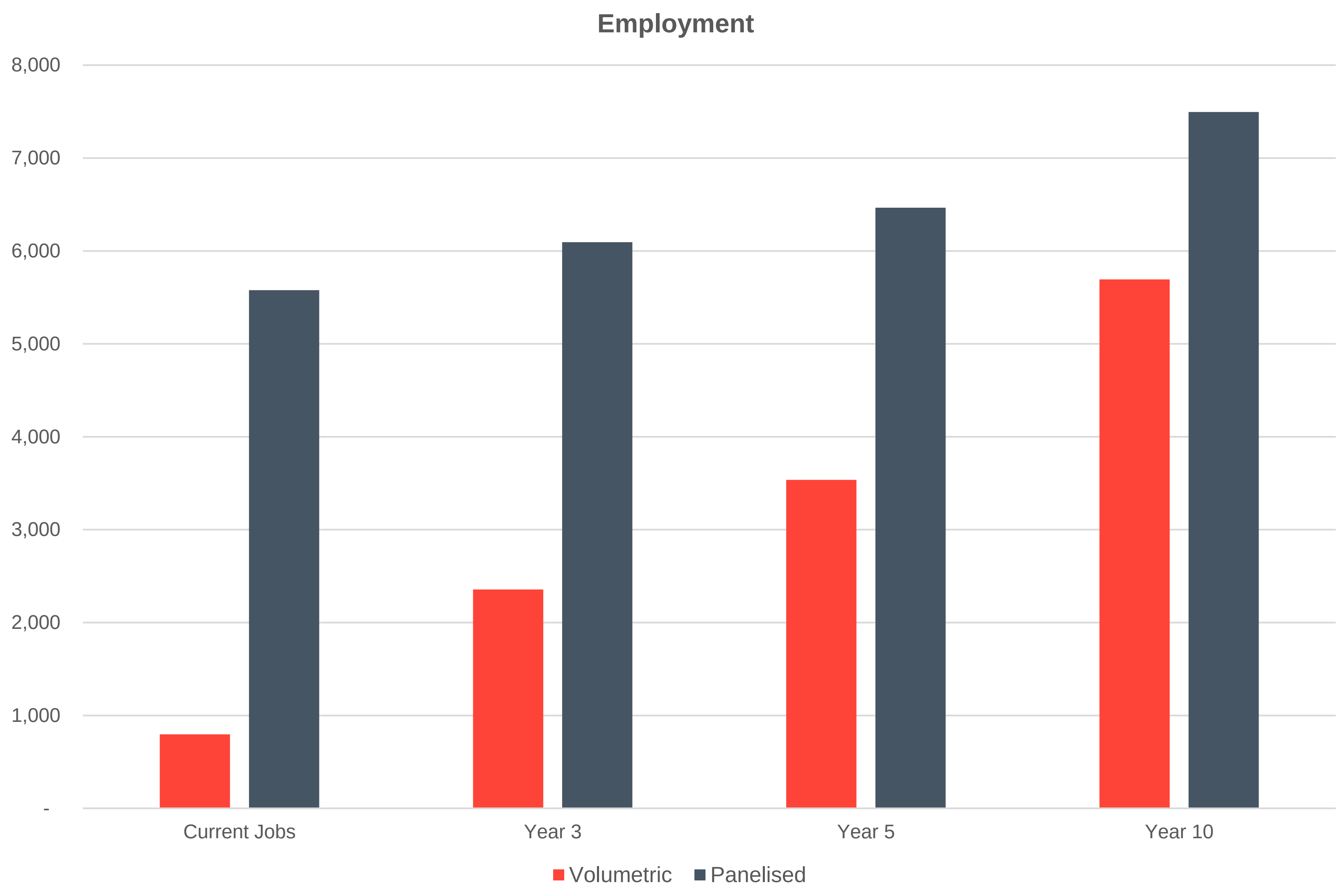
Economic Value by 2030

By 2030, the MMC sector could be worth more than £1bn and support over 13,000 jobs

Would require circa 5-9 new facilities (within capacity of 1-2,000 homes) – assuming that all latent capacity is utilised within the next decade



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What might this look like for Sheffield City Region?

By year 10

(10% of national market share of volumetric homes)

2,000 Homes per annum

Indicative capacity for

1-2 Factories

By year 10

470 Direct employment

Wider employment opportunities in the supply chains

Potential for **550** Further jobs in the wider supply chains*

Direct economic contribution of

£37m a year

Potential for **£36m** Further GVA in the wider supply chains*

* Source:
Hatch Regeneris Input Output Model, based on Construction Sector multipliers

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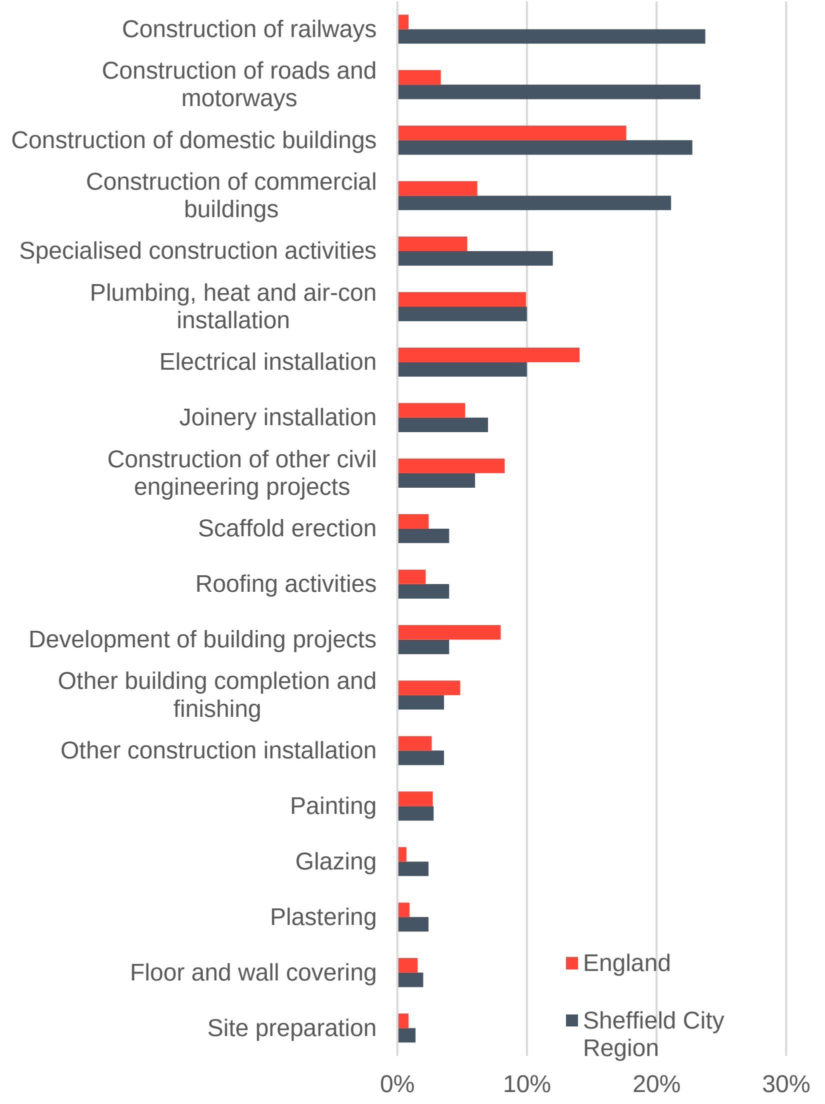
The SCR construction sector

- Sector has a focus on construction of heavier infrastructure (roads, motorways, and railways).
- But SCR is well represented in construction of residential and commercial buildings.
- Sector also comprises a broad range of subsectors that will feed into housebuilding supply chains.
- In addition to Construction Sector jobs, SCR is home to 18,000 advanced manufacturing jobs (+6% since 2015).

Construction share of total employment	
Greater Manchester Combined Authority	4.5%
West Midlands Combined Authority	4.3%
Sheffield City Region	4.3%
Liverpool City Region	4.0%
East Riding of Yorkshire	3.8%
London	3.6%

Employment Growth (2015-18)	Construction	All Employment
London	29%	4%
Greater Manchester Combined Authority	15%	9%
Liverpool City Region	8%	4%
West Midlands Combined Authority	-8%	3%
Sheffield City Region	-11%	3%
East Riding of Yorkshire	-17%	2%



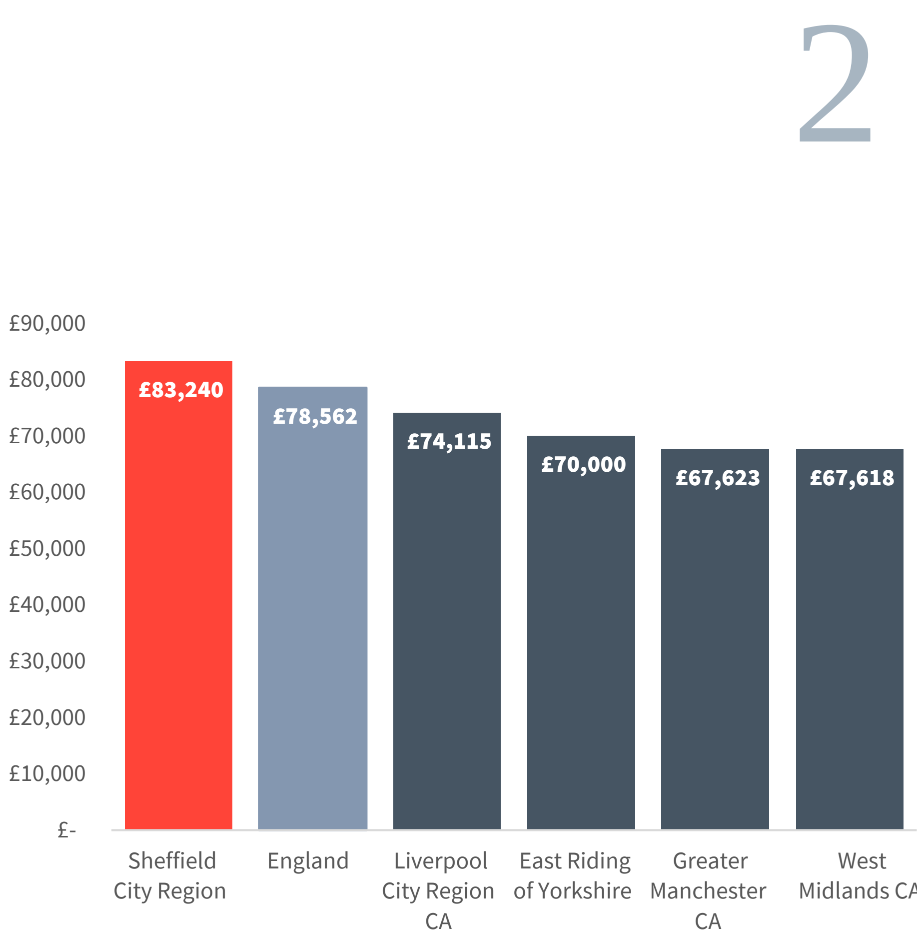
The SCR construction sector

1

Mid-Sized Construction Sector, recent employment decline

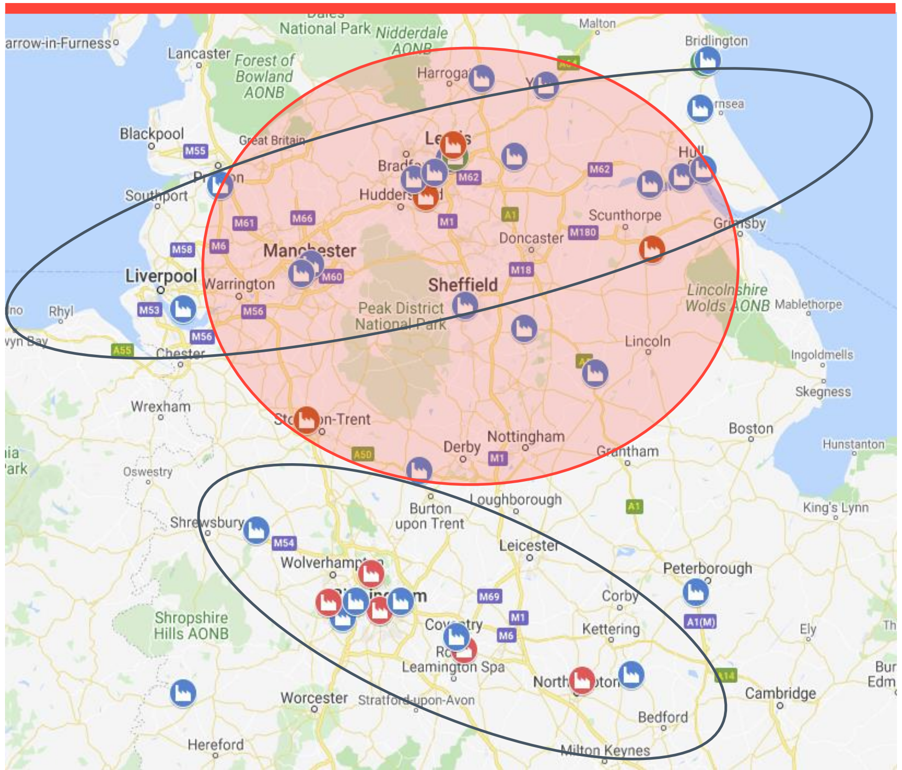
2

It is more productive than comparator locations



MMC Activity in and near SCR

- Two MMC residential manufacturers located within SCR (Laing O'Rourke & Reach Homes)
- Three Large-scale national MMC manufacturers located within 35 miles of Sheffield City Centre (L&G, Top Hat & Urban splash)
- Total of 26 MMC manufacturers located within 50 miles of SCR. Most situated within 2 clusters (M62 corridor – Midlands)



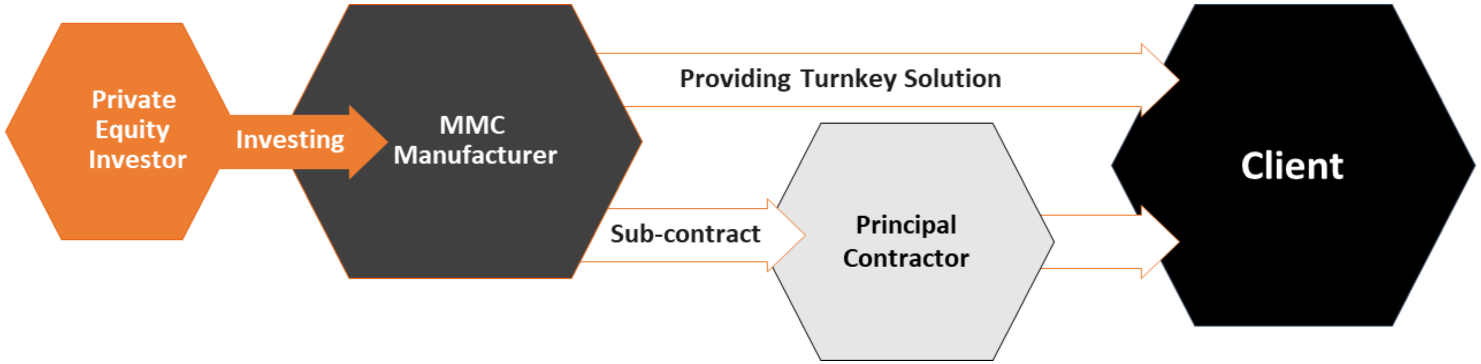
SCR is located central to the core of UK MMC manufacturing activity, there is an opportunity for SCR to be a supply hub for the existing MMC network and in doing so benefit from the heavy demand for affordable housing and MMC expertise in the North and the Midlands.

Contractors

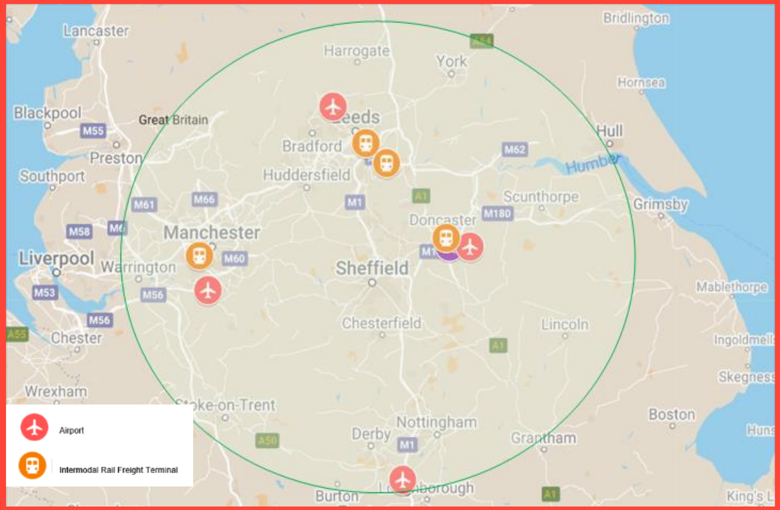
Four principle contractors were identified by the research as being prominent within the Residential MMC sector in the region:

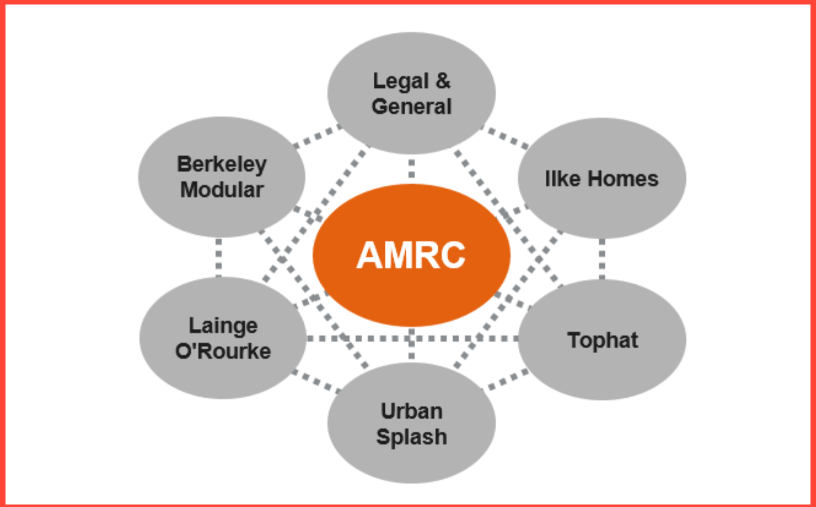
Henry Boot
Harworth
Keepmoat
Strata Homes

- All contractors engaged in this research shared an ambition to improve their MMC capability and scale their offering by increasing the number of houses developed using MMC
- MMC Manufacturers are typically seeking to provide turnkey solutions as principal contractors
- MMC manufacturers and principal contractors with MMC capability also looking into land development
- Private Equity Investing into MMC sector
- Opportunity remains for local developers as MMC is not cannibalizing Construction market



Enabling Assets – Transport network & Innovation





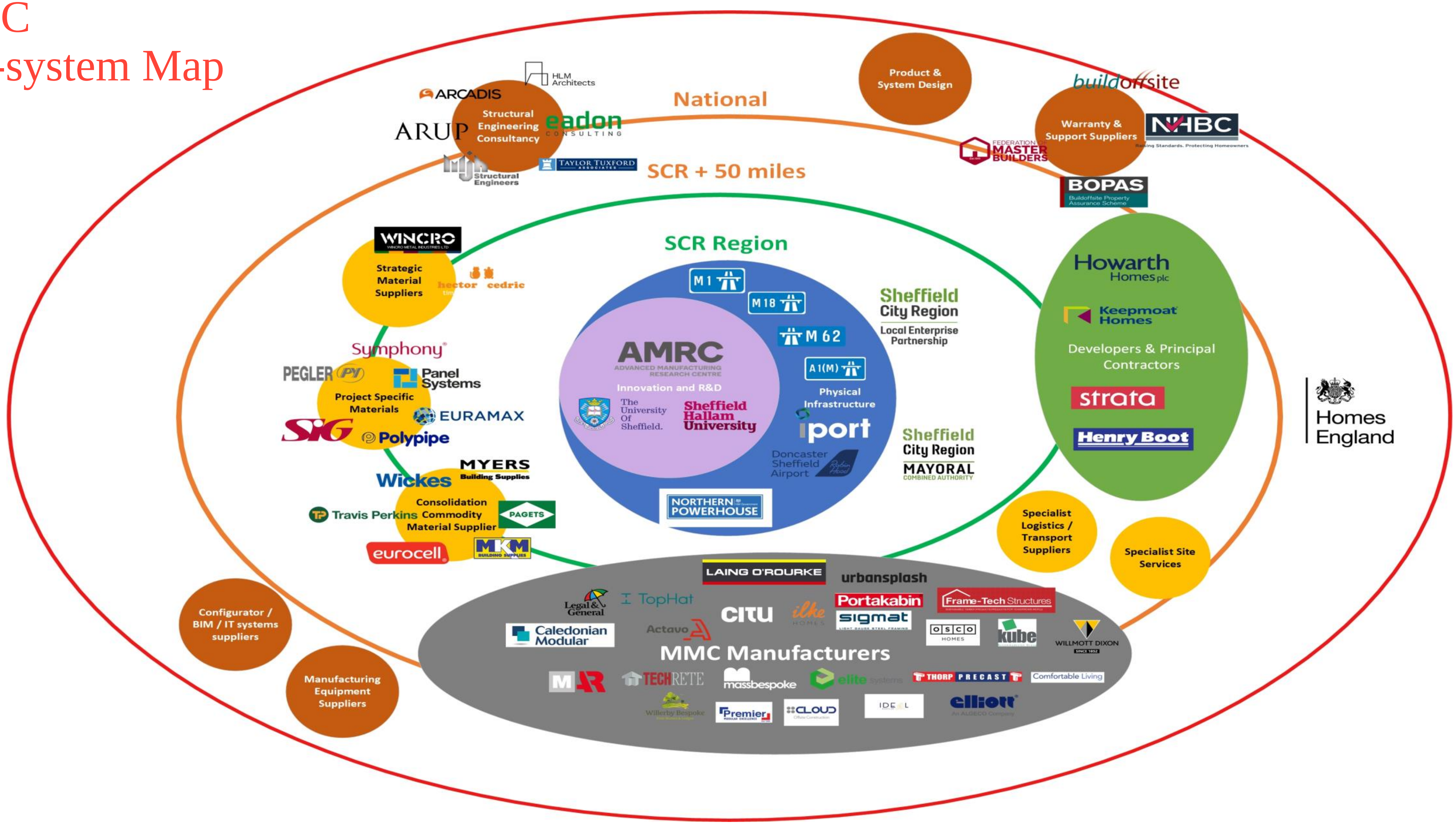
SCR is well positioned at the centre of a strong transport network

- The network of key roads including the M1 motorway, M18, M62 and the A1(M) provide a strong road network to allow efficient logistic operations, with 91% of the UK within a four-hour drive time.
- This strong road network is supported by four intermodal freight terminals and four airports within the 50-mile radius around SCR further displaying the regions connectivity.
- Alongside this strong logistics infrastructure, SCR is the home of iPort in Doncaster. Described as one of the UKs largest logistics developments.

SCR is becoming recognised as the centre for National MMC Innovation & collaboration

- AMRC well positioned to be the Centre of Innovation and Research for MMC and look after the sector with the assets, skills, and experience to transform and propel MMC capability forward.
- AMRC are planning a purpose built MMC facility which would further expand their capability in the sector
- AMRCs collaboration with a group of six national MMC suppliers highlights the prospective role as an Innovation Hub which would support, improve, and shape the sector.

MMC
Eco-system Map



MMC and skills

SKILLS BASELINE IN SCR

The skills
baseline

Strong
market for
skilled
labour

Aging
population =
skills lost from
the labour
market

Large
proportions of
skilled trades
and those in
process, plant
and elementary
occupations

Construction and
manufacturing
suffer from hard
to fill vacancies
due to a lack of
requisite skills

Low
proportions in
managerial
roles and with
NVQ4+
qualification
attainment

MMC and skills

SKILLS BASELINE IN SCR

The skills baseline

Knowledge needs

- Design codes and standards
- Low carbon agenda
- Materials suitability
- Relevant products and systems
- Lean methodologies
- Offsite manufacturing processes
- Current and emerging technologies
- Site specifics
- Safe lifting and handling
- Order or sequencing
- Assembly processes and tolerances
- Quality assurance processes and tests
- Waste management

‘Softer’ skills needs

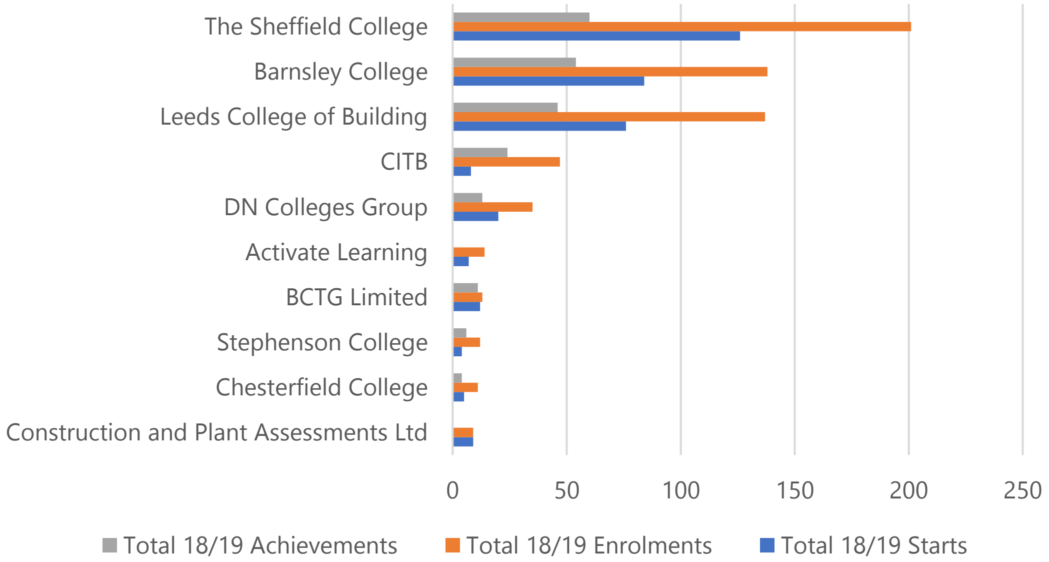
- Effective and ongoing communication
- Problem-solving
- Team-working
- Attention to detail
- Accuracy
- Process improvement
- Commercial awareness
- Customer service
- Business case for offsite
- Negotiation
- Adaptability
- Resilience
- Organisation

MMC and skills

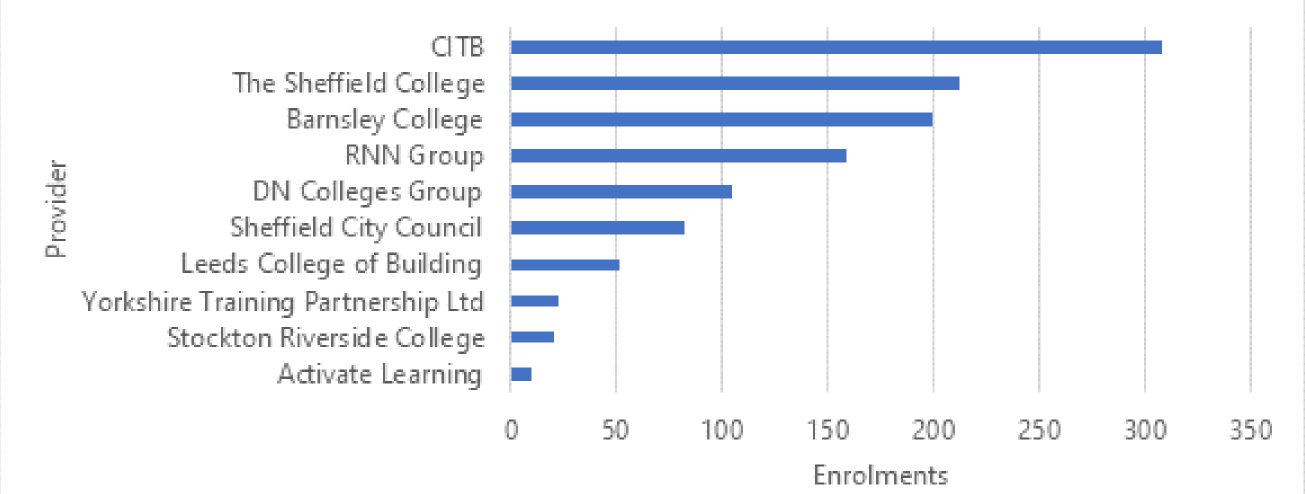
WHERE ARE LEARNERS BEING TRAINED?

The skills baseline

Top 10 providers of relevant FE programmes to learners in the SCR



Construction, engineering &manufacturing technology apprenticeships



MMC and skills

GAP ANALYSIS AGAINST CURRENT PROVISION

The skills baseline

- Low/no gaps in demand for low-level qualifications due to low-skilled/de-skilled workforce in manufacturing
- Minimal MMC content in high take-up qualifications and training
- Skills gaps in BIM amongst industry and academia
- No BIM offer in the SCR
- Design, digital and management skills needs set to increase
- Providers face difficulty recruiting appropriately skilled tutors/assessors for digital and professional roles

MMC and skills

OPPORTUNTIES FOR SCR TO EXPLOIT

The skills baseline

- Bolster construction-related courses offered in the SCR with bolt-on coverage of MMC
- Unlock knowledge held in HE by improving links with FE to improve MMC knowledge and awareness of tutors
- Realise the opportunities provided by R&D capabilities at the AMRC by facilitating collaboration with industry
- A growing market for digital and low carbon skills – promote facilities at SCR Colleges to industry

SWOT Analysis: Strengths

STRENGTHS
Alignment: MMC is strongly aligned to economic priorities of SCR; there is clear commitment from LAs and HAs to work in partnership to support MMC
Geography: SCR is well located to serve most of UK housing markets, and is close to large section of current MMC capacity
Construction sector: Large and more productive relative to other construction sectors, already includes: two MMC manufacturers, 14 specialist supply chain businesses including some selling to MMC manufacturers, 10+ consolidation service businesses; strong array of construction sub-sectors that can support MMC related activities
R&D and innovation: National stand-out strength with the AMRC, combined with other strengths in advanced manufacturing and innovation and a knowledge-rich economy. There is also a will from local academic institutions (HE & FE) to move into MMC/work with industry
Labour market and skills: Strong market for skilled labour; LEP policy is to focus on local supply skills; Construction Sector Deal may allow for new funding opportunities

SWOT Analysis: Weaknesses

WEAKNESSES
Labour market: Fragmented labour market, short travel to work distances, construction industry historically has difficulty attracting new entrants
MMC skills: Lack of demand locally for MMC-specific provision; low levels of engagement between local providers and manufacturers, lack of digital training, providers struggle to recruit appropriately skilled staff
MMC sector: Only one national MMC manufacturer within region; employees currently have to leave the region to work for MMC manufacturers; like everywhere there has been a focus on prototyping MMC projects, difficult to quantify precise extent of MMC supply chain
Construction sector: Some evidence of recent employment decline in the region

SWOT Analysis: Opportunities

OPPORTUNITIES

MMC sector:
At national level, MMC is expected to grow significantly

Manufacturing:
At least one MMC manufacturer currently considering SCR; development of smart approach to sector could build relationships and encourage further growth into region

Employment:
Manufacturing growth could bring employment into the region; trend for manufacturers recruiting low-skilled workers creates opportunities for employment and social value uplift; MMC tends to represent new jobs, not replacement of old jobs

Construction sector:
Potential to grow supply chain – material suppliers and local contractors that support MMC manufacturer’s local sourcing policy; upskill local contractors and develop a specialism in on-site elements of MMC.

R&D:
AMRC could become the national centre for R&D in MMC; AMRC can further develop links to other HE/FE

Housing delivery:
Be first to crack demand aggregation problem and use this to supply from within the region; through collaboration and a standard requirement for MMC homes SCR can engage in “mature” way with MMC sector

MMC skills:
Potential for collaboration between providers and other centres – e.g. AMRC and centres such as Dudley College; Doncaster College Group keen to move into MMC space; demand from industry most likely to come from digital upskilling and higher level programmes

Regeneration:
At least on large landowner/developer considering utilising MMC – can enable a partnership here to deliver an exemplar scheme and create momentum

SWOT Analysis: Threats

THREATS
Labour market and skills: Trend for young people to move away from Sheffield for technical training; potential for a loss of skills in the region due to ageing population; MMC skills agenda is not moving forward, appears to be stagnating; FE funding has been cut and predicted to fall further; difficult to attract tutors and assessors due to wage competition.
Construction sector: Low level of interest/awareness from traditional construction sector in MMC;
Manufacturing growth: Competitor locations may have stronger ecosystems than SCR; Latent capacity in MMC sector presents a challenge to new entrants setting up new facilities
R&D: Other regions prioritise R&D and innovation development, and SCR misses current opportunity
Housing delivery: Limited scope for LAs/HAs to commit actual pipeline due to governance and limited data in MMC
Wider barriers: Planning can present a barrier to MMC schemes; Lack of knowledge and experience of MMC leads to a lack of confidence and low take up

Recommendations

Medium term priorities and action plans

5.
Pursue new factory facilities in-region as a medium term priority

6.
Develop MMC skills provision with focus on digital

7.
Support growth in the local MMC supply chain

8.
Focus on R&D strengths

Immediate actions

3.
Lead on standardisation and aggregation of demand

4.
Enable MMC-led development

Foundations

1.
Take a leadership role

2.
Create an MMC 'intelligent client' resource

Recommendations

1

Take a leadership role

RATIONALE

- MMC is an industry in its infancy, but it has a strong local presence, clear growth potential and clear links to the economic and skills policy objectives of SCR and partners.
- SCR could take a leadership role in advocating for MMC, while being realistic about the present constraints on take up.
- The wider actions set out in these recommendations are intended to form a coherent package of activity, all of which could be championed at SCR level to ensure the region benefits from the projected growth.

LINKS TO EVIDENCE

- Stakeholder feedback highlighted a will among a range of SCR partners, including HAs, LAs, academic institutions and developers all to work together to drive change in house building
- Several barriers to uptake of MMC remain, especially in relation to capacity and process on the commissioning side, to a gradual scaling up on the manufacturing side, and barriers between supply and demand such as warrantee issues, financing for some housing associations, and especially procurement.

ACTION PLAN

- SCR needs to chart the right path, at the right pace, to maximises the benefits of an emerging industry while recognising its current constraints
- To achieve this, and to overcome some of the inevitable barriers to delivery which may block or slow progress, high-level leadership will be essential
- On that basis, we feel that SCR should strive for a high-level political commitment that::
    - Supports a move towards MMC in principle
    - Recognises that barriers to uptake remain, but that the potential upside to the City Region is significant
    - Agrees that collaboration between sectors and between organisations is key to maximising the opportunity
    - Supports the immediate next steps in relation to collaboration/aggregation and to enabling MMC developments, which will further prove the case for longer term action
    - Supports the immediate steps we propose in relation to the four medium term themes of skills development, jobs growth, research & development and supply chain growth

Creating an MMC ‘intelligent client’ resource

RATIONALE

- The range and breadth of activities here, if pursued, will need to be co-ordinated to ensure speed and avoid duplication.
- A single co-ordinated and consistent “voice” from SCR to the manufacturing market would strengthen the City Region’s impact and influence.
- Co-ordinating MMC manufacturers engagement for the City Region through a shared team or resource will be more efficient than having a series of smaller dialogues, which tend to be ineffectual and waste time.
- A single team could develop greater understanding of the MMC sector, and share that knowledge and understanding to partners around the City Region. Again this is likely to be more effective than spreading that capacity across several client teams.

LINKS TO EVIDENCE

- A number of LAs noted that they had each had separate engagements with manufacturers, with mixed success.
- MMC manufacturers also reported that their interactions with individual bodies such as Councils tended not to lead to action.
- For manufacturers to grow the scale, and achieve the benefits of manufacturing in relation to cost and quality that will be accrued over time, they need visibility of pipeline and the certainty to invest. This is much harder to achieve when dealing with larger numbers of potential partners.
- Some LAs felt that there was an important need to share learning given the new and different nature of MMC and that this would be better co-ordinated by a specialist team.

ACTION PLAN

- For all of these reasons there is a case for considering a dedicated “intelligent-client” resource, which could co-ordinate all activity to support MMC growth, act as a lead in engaging the MMC market to ensure the region speaks to manufacturers with one voice, and finally to develop a level of technical expertise and understanding which can then be shared with partners, LAs
- We propose an immediate next step for the client team at SCR to explore the most appropriate approach to achieving this in terms of size, scale, purpose and location.
- The consultant team is able to advise and support an initial conversation of this type, and this recommendation can subsequently develop accordingly.

Lead on standardisation and aggregation of demand

RATIONALE

- The MMC market, including the Category 1 volumetric modular market has evolved in a fragmented way with a huge variety of system designs.
- Lack of common design standards and interoperability between suppliers increases cost and risk
- Lumpy demand results in inefficient operations and constrains investment/growth for MMC manufacturers; making it hard for land- owners to procure with confidence.

LINKS TO EVIDENCE

- Significant feedback about the inefficiency of one-off spot purchasing from both LAs/HAs and from manufacturers as a means for future growth of the sector, and to capitalise on learning from pilots
- Feedback included evidence of stalled conversations with manufacturers about providing guaranteed supply as a means to support investment in production

ACTION PLAN

- Understand all the housing development plans within the region and aggregated demand of all developers
- Seek opportunities to develop a mechanism to aggregate demand within the region and explore opportunities to aggregate with other clients in the North
  - Allow demand to build slightly ahead of capacity to ensure there is a measured and sustainable growth of the MMC sector
  - Demand could be aggregated across programmes and supply can be aggregated by more collaborative intra-MMC industry groupings sharing and smoothing their factory capacity, geographic reach and coordinating their different product ranges
- SCR should seek opportunities for intra-MMC sector collaboration aimed at agreeing, with the architectural profession, other technical designers & supply chain, some generic standardisation rules that enable gradual convergence between system form and function performance so there is greater inter-operability between systems

The following are suggested as practical steps towards achieving the actions:

- Work in collaboration with SCR Local Authorities to create an initial phase of aggregated demand, targeted on providing new social housing on public land
- Establish the extent to which technical requirements for new homes can be standardised, to maximise suitability for MMC
- Collectively procure an MMC manufacturer partner to develop these homes in partnership, actively seeking a relationship that enables the development of a SCR home “product” over time
- Note that in this approach will create momentum and learning which can support all of the other strands of activity. Engaging an existing provider and building a productive relationship is also a sensible step towards attracting manufacturer activity into the city region in due course.

Enable MMC-led development

RATIONALE

- Our work has identified live potential MMC projects that might be brought forward in partnership with a range of stakeholders, including local landowners, Homes England and housing associations.
- SCR could play an enabling role in bringing these partners together, to explore “the art of the possible” on identified sites in the region.
- If one or more of these can be enabled in a timely fashion, they would create momentum around SCR’s wider MMC aims and a template for future similar developments.
- We see this as a tactical approach, grabbing live opportunities as they occur and utilising them to build confidence, understanding and momentum around the more strategic medium term aims that will follow on
- Live projects also have the capacity to attract funding and/or support the capitalisation of staff resources which could bolster or support the client team proposed in recommendation 2

LINKS TO EVIDENCE

- Stakeholder engagement with LAs and HAs identified that there has been MMC development in the region and that a number of organisations are keen to pursue it further.
- However, and quite naturally, the barriers to take up of MMC at scale have led to these typically being smaller and one-off projects. This is the case across the country, not just in SCR
- We identified at least one development opportunity where there was potential for MMC to be used at reasonable scale, as part of a larger development.

ACTION PLAN

- The proposal here is for SCR and partners to remain alert to opportunities to enable MMC development at reasonable scale, not necessarily to seek those opportunities immediately – the priority instead should be the collaborative aggregation project.
- Where opportunities do arise, SCR and partners should seek to rapidly identify the appropriate roles that they can each play in supporting and enabling that development.
- In relation to the potential opportunity we have identified, we see the next steps as follows:
    - SCR to further establish the progress of the scheme and the partner engagement that has already been undertaken
    - SCR, very likely, to act as an enabler by:
        - Bringing together Homes England, one or more HAs, the LA and the City Region to develop a co-ordinated approach
        - Ensuring pace and progress of the scheme, avoiding duplication and/or unnecessary delay
- We are keen to stress the need for opportunities like these not to be delayed, rather utilised to tactical advantage if possible, and if not then allowed to follow their natural course
- The project team is able to further scope this recommendation in partnership with SCR if that would be appropriate.

Pursue new factory facilities in-region as a medium term priority

RATIONALE

- Using local supply to create local jobs
- More chance of getting right vernacular for Sheffield
- More sustainable because less travel
- Will automatically increase volumes through the local supply chain – hence even more local jobs
- Less transportation and more sustainable

But:

- Lots of factories in the area that are not using their capacity
- There are high setup costs without demand in place

LINKS TO EVIDENCE

- Strong demand for homes but low MMC manufacturing capability physically within the region.
- Our research shows the potential economic value of the national MMC sector being worth more than £1bn and supporting 13,000 new jobs by 2030.
- To sustain this growth a requirement of 5-9 new factories with a capacity of between 1,000-2,000 homes annually would be required.
- Even at this new MMC level, and with traditional construction standing still, there would be a gap of 90,000 homes pa against the Government's target of 300,000 homes pa
- Sheffield could reasonably aim for be producing 10% of this market share, which would likely mean 1-2 new facilities

ACTION PLAN

SHORT TERM

- Spot buy from manufacturers close to the region to start building momentum
- Utilise the aggregated pipeline to build knowledge, capacity, understanding of MMC and develop relationships with manufacturers
- Promote the carbon agenda as MMC is the only way to get to a carbon neutral building

MEDIUM TERM

- Encourage investment from private equity or other parties through grants and/or other inducements
- Work with LEP partners to be ready to respond to manufacturers as necessary

The following are suggested as practical steps towards achieving the actions:

- Use the market engagement stage of the aggregated pipeline workstream to test manufacturer growth plans, and likely incentives required to expand
- Develop an "intelligent client" capacity to co-ordinate local LAs and HAs, so that they speak to the MMC sector with one voice and develop close professional relationships with providers
- Explore the potential for SCR to connect into the AMRC's structured collaboration with manufacturers, as that evolves in the coming year.

Develop MMC skills provision with focus on digital

RATIONALE

- Demand for digital skills from industry – specifically in terms of design/BIM, but also digital more generally (Big Data, workforce management, project management, data capture etc.)
- The focus of demand for skills is at higher levels. There is extremely limited demand for 'skilled'/qualified labour at the lower levels
- Digital-related roles are most likely to evolve

LINKS TO EVIDENCE

- There are no regulated BIM qualifications provided in the region, or taken up by SCR learners
- Providers/colleges are investing in digital, particularly Barnsley College
- New Level 3 Digital Engineering Technician apprenticeship – but no local End Point Assessment Organisation (EPAO)

ACTION PLAN

- Support colleges in the recruitment of digital and technical/professional staff
- Fund bite-sized bolt-on provision for MMC to construction courses to build the knowledge-base amongst college/school leavers
- Begin a dialogue with providers about how they could expand their provision, in partnership with other local specialists like the AMRC and potentially with national partners
- Support capacity-building for the provision of an EPAO locally

The following are suggested as practical steps towards achieving the actions:

- Consider whether funding could be made available for recruitment of staff with digital specialisms, and from which sources
- Liaise with CITB regarding potential funding options for bite-size bolt on provision
- Build on existing or establish a new provider Working Group to assess scope for expansion of existing provision and what this would need e.g. new/expanded facilities, additional resources, upskilling and training of tutors, buy-in from senior management teams, a potential 'hub and spoke' delivery model underpinning provider collaboration within the SCR
- Consider opportunities to deploy AEB funding to support MMC skills growth to upskill existing workers (as apprenticeships are not in scope of this funding)
- On-going actions undertaken where possible by the LEP, local authorities, stakeholders, providers and employers to stimulate demand for MMC (as without this, funding and support to expand MMC provision is unlikely to be unlocked)
- Conduct a feasibility study into establishing an EPAO locally, potentially sited within Barnsley College.
- Map digital skills requirements for job roles to be incorporated into relevant FE and HE provision (noting digitisation is constantly evolving)
- Harness any opportunities to lobby for government funding into MMC skills and training. There is already strong commitment for the use of MMC in housebuilding, but targets will only be achieved if there is upskilling and capacity building in the existing supply chain.
- Similarly, harness opportunities to lobby for longevity of funding, legislation and policy – to provide consistency and certainty in the form of a long-term pipeline of work, a critical stimulus for employers to invest into upskilling and training

Support growth in the local MMC supply chain

RATIONALE

- The region has a strong supply base which can be developed to support MMC activity and other future opportunities
- A local supply chain has lower carbon output and is more sustainable.

LINKS TO EVIDENCE

- Eight organisations are actively supplying Tier-1 manufacturers and other key organisations within the MMC network situated around the region.
- These organisations could play a key role in setting the foundation for the development and opportunities the supply chain within SCR presents.

The organisations are:

1. Symphony – Modular Kitchen supplier
2. Polypipe – Plastic Piping systems
3. Pegler – Integrated heating & plumbing system
4. Panel systems – Insulated board, CNC machined panels & cladding
5. SIG Distribution – Specialist building materials
6. MKM building supplies – Builders merchants
7. Pagets – Builders merchants
8. Euramax – UPVS windows and door manufacturer

ACTION PLAN

SHORT TERM

- Build up local supply chain in readiness to supply a new MMC factory.
- Encourage local sourcing by actively promoting suppliers in the region to MMC manufacturers.

MEDIUM TERM

- Encourage investment into new facilities or growing existing facilities though supply chain parties through grants, subsidies, and/or other inducements

LONG TERM

- MMC orientated Business park or MMC strategic zone to encourage Investment and development of local MMC ecosystem

The following are suggested as practical steps towards achieving the actions:

- Organise a collective workshop with strategic material suppliers identified to create a roadmap for supporting the MMC ecosystem and understand specific support required around funding.

Focus on R&D strengths

RATIONALE

- Presence of AMRC and universities in the region with knowledge-base
- Strong market for skilled labour from high-value sectors across the region such as advanced manufacturing, automotive and aerospace
- Will of AMRC to expand – particularly into MMC – but hampered by:
  - Lack of space for facilities
  - Lack of engagement from construction industry
- Movement from colleges into technology and a desire to expand into MMC and digital:
  - Barnsley College secured funding to develop provision in low carbon construction and environmentally sustainable principles and practice. Doncaster UTC due to open in September 2020, specialising in Advanced Engineering and Digital Design
  - The Sheffield College is leading the establishment of a digital engineering skills development network
- This focus will have the potential to expand the number of higher-level professional roles at NVQ4+

LINKS TO EVIDENCE

- AMRC has already worked with various companies including Laing O'Rourke, Ilke etc., but interest from the wider sector is constrained by historic lack of investment into and engagement with R&D.
- SCR has a below average number of NVQ4+ qualified individuals
- Low proportions of managerial/professional roles

ACTION PLAN

- Support collaboration between academia and industry to realise R&D opportunities
- Facilitate links between FE colleges in Barnsley, Doncaster, Rotherham and Sheffield and AMRC to unlock potential for collaboration and shared facilities
- Support the AMRC to develop as the UK leading centre of R&D in the MMC sector, including potential expansion plans and nearby MMC developments

The following are suggested as practical steps towards achieving the actions:

- Consider funding options: Innovate UK's Transforming Construction Industrial Strategy Challenge Fund is now closed to new applications, but scope for collaboration with existing projects could be explored. The Active Building Centre receives funding through this source, and the University of Sheffield and Sheffield Council are existing partners.
- Explore opportunities for collaboration and key learnings arising from on-going work and outcomes/outputs of the EPSRC Research Leaders and Collaborative R&D fund (University of Sheffield/AMRC received funding for the latter).
- Establish a Working Group between the FE colleges and AMRC to identify scope for sharing resource, facilities etc.
- Stimulating demand for MMC should be an underlying, on-going action, as there must be an evidence case supporting investment into R&D. A 'business case' should demonstrate MMC's role in boosting productivity, a critical catalyst for investment. Existing data should be synthesised and disseminated to best effect, and it will be essential to harness all future opportunities to gather data to demonstrate the value of MMC (.e.g. energy savings, faster build etc.).
- Tap into learning from other sectors, such as automotive, and other models that exist to support R&D e.g. Construction Scotland Innovation Centre.
- Monitor funding developments and opportunities. Where feasible, lobby for grants to be made available for R&D.