CONSTRUCTION INNOVATION HUB

Off-site Construction Logistics

11 May 2021

INDUSTRIAL STRATEGY

UK Research and Innovation

Agenda

- Meet the team
- Who is the HUB
- Workshop objectives
- Gap analysis overview
- Breakout room discussion (45 minutes)
    - Lifecycle assessment and early planning, Roles and Responsibilities, and Golden thread of information
    - Auditing and inspection
    - Digital tools for off-site construction logistics
- Collaborative discussion (30 minutes)
    - Share insights from each room

Our Impact Team

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Research Engineer for Compliance and Assurance

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Workstream Lead for Compliance and Assurance

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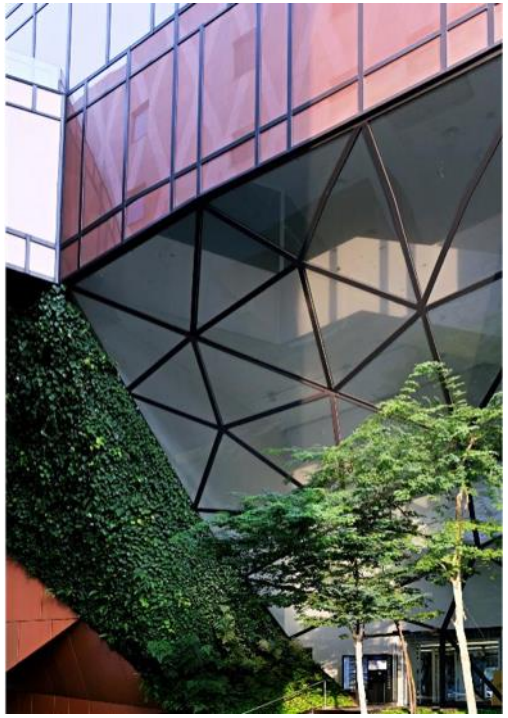
Technical Lead for Construction Innovation Hub

1 Who are we

The **Construction Innovation Hub** brings together world-class expertise from BRE, the Manufacturing Technology Centre (MTC) and the Centre for Digital Built Britain (CDBB) to transform the UK construction industry.



Value

Our Aim

To drive a permanent shift towards value-based decision-making.

Manufacturing

Our Aim

To adopt advanced manufacturing systems which will improve sector productivity, while shifting focus to the quality, performance and whole-life value of assets.

Assurance

Our Aim

To underpin the way we deliver building and infrastructure with robust frameworks and digital tools that provide transparency, assurance and trust.

Our Focus

Supporting the Platform Design Programme with robust testing and validation processes and digital tools that demonstrate compliance and create a golden thread of information.

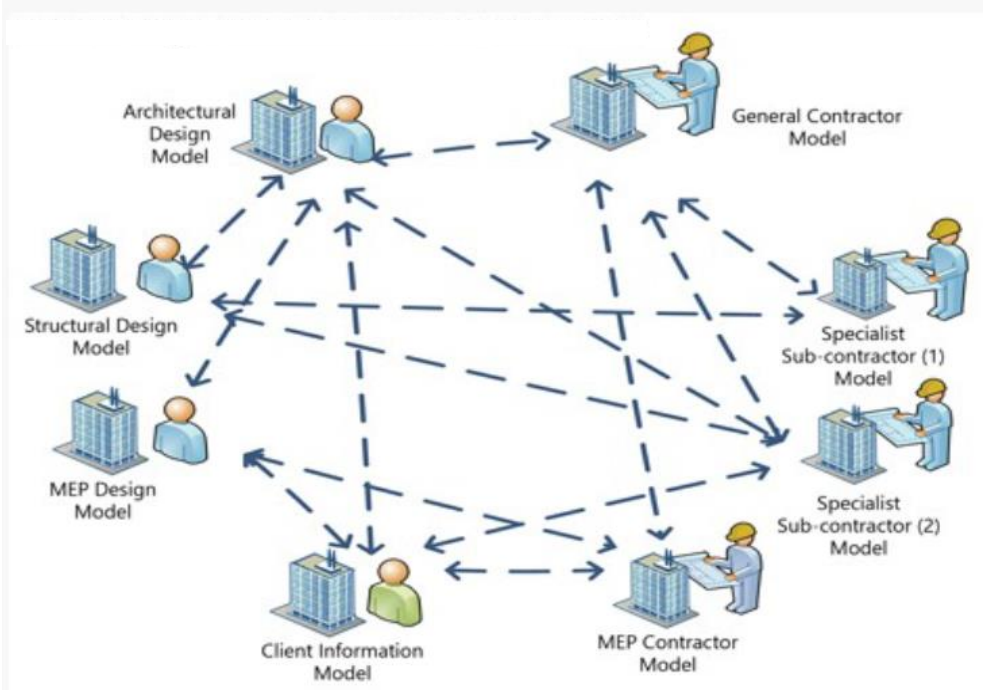
Digital

Our Aim

To enable organisations and governments to realise the benefits of digital transformation.

It starts with a vision…

- Transformation of construction industry to off-site manufacturing approach introduces new challenges.
- Footprint of the logistics in the entire lifecycle of a project, from the design stage to assembly, installation and operational stages, highlights impact in this transformation.
- Research is needed to address the identified gaps by the construction industry and relevant government departments.



It is necessary to…

- Coordinate between design, production, delivery and assembly of large-scale components.
- Collaborate between on-road and off-road parties.
- Recognize construction logistics as one of the key factors for successful transition.

Benefits of off-site manufacturing approach

- Greater saving on costs
- Faster building
- Lower emission of greenhouse gas

Efficient construction logistics contribute to…

- Direct reduction of whole life cost and delivery time of assets
- Reduction of greenhouse gas emissions aligning with objectives defined in The Construction Sector Deal (2018)

Objectives

- **Discuss the relevance of early planning and the consideration of construction logistics in the entire project life cycle.**
- **Discuss current practices for inspection and auditing in construction logistics with the aim of identifying main issues as well as best practices that support the development of industry guidelines.**
- **Discussing and brainstorming relevant functionalities for digital tools and how the off-site logistic chain can benefit from them.**

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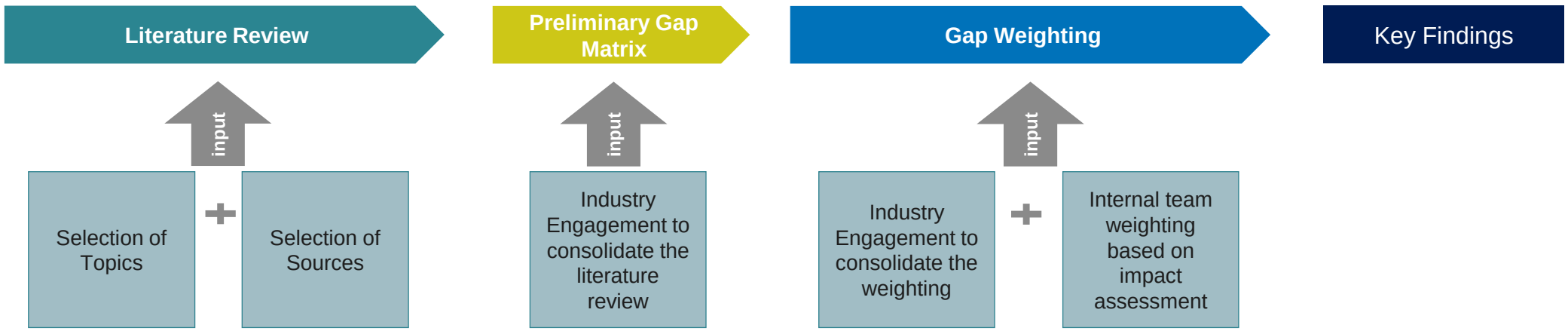
What we have done



Key Findings

- Considering life cycle approach and early planning are critical success factors
- Roles and Responsibilities
  - Need to a structured approach to address lack of clarity in roles and responsibilities within construction logistics chain
- Communication and Information flow
  - Need to golden thread of information
- Inspection and Auditing
  - Lack of standardised protocols for off-site construction
  - Need to finer regulations to mitigate impacts on Logistics supply chain
- Potential use of digital logistics tool to facilitate off-site construction

Breakout room discussion

- **Room 1) Construction logistics considerations through the project lifecycle**
- **Room 2) Auditing and inspection protocols for off-site construction**
- **Room 3) Digital tools and their functionalities for off-site construction**

Please accept the invite to breakout room discussion

(45 minutes)

Collaborative discussion

- Share the key findings of each breakout room by room facilitators
- Discuss overlaps between key findings from different rooms
- Potential next steps for industry and academia (looking to add a poll for obtaining information on which one of the topics has highest priority to be addressed by construction logisitics)

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