



# Breakout Room 3

Digital tools for offsite construction logistics

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## Breakout room 3 facilitators



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- **Digital tools for off-site construction logistics**



# Let's get to know you!



## Agenda

- Introduction and problem statement
- Active industry discussion
- General vision of potential improvements





# Introduction

- This breakout room aims at discussing and brainstorming relevant digital tools and functionalities and how the logistic chain can benefit from them.
- We welcome you to share your experiences, thoughts, reservations, and potential solutions to the problems that are presented.



# Problem Statement

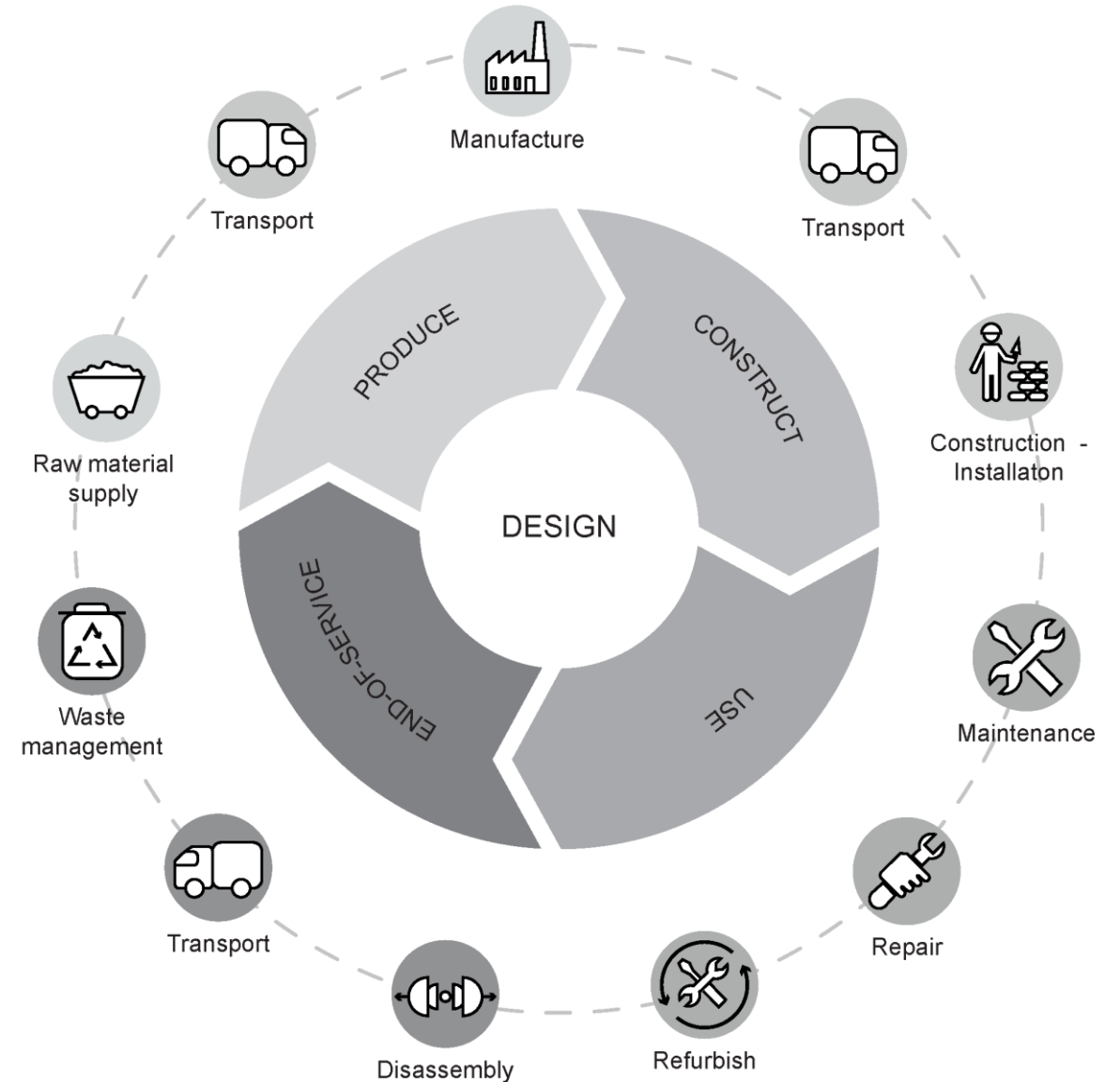
Manufacturing-led and offsite construction approaches require a great level of **collaboration, up-front planning** and **coordination**.

The construction industry is not unlocking the full potential that digitization can bring for the logistics activities. The areas where digital tools can unlock potential are in:

- Early engagement - life cycle approach
- Communication
- Information flow: Align with the exchange information requirements
- Auditing & inspection trails

# Digital tool for logistics in Offsite Construction

- Here we'd like you to share with us where (in the life cycle) can digital tools help logistics in off-site construction industry?
- What kind of functionalities can digital tools use to address these areas?



# Early Life Cycle Planning and Communication Exchange

We are already aware of the logistics chain's concern for the late involvement in the projects.

- What have the industry done to improve the situation (to improve up-front planning) and have you made use of digital tools or initiatives to solve it?
- What would be your wish list of functionalities to address the lack of coordination?



# Tracking, Tracing and Record Keeping

- There is not a common agreement on what “logistics” comprises for different sub-sectors of the construction industry.
- **Common agreement** becomes imperative for off-site projects, where assembly and installation tasks could be directly undertaken or supported by logistic operators.
- Digital tools facilitating communication, supporting auditing and inspection trails become relevant to ensure the golden thread of information.
- Capturing logistic related information digitally (handling requirements, record of logistics operations etc)

# Tracking, Tracing and Record Keeping

There is not a standardised protocol in the construction industry for auditing and inspection.

- What are the current practices for auditing and inspection for offsite construction products?
- How are records kept and who has access to them? Is it somehow linked to the asset so it can be accessible for relevant stakeholders?
- What tracking technologies are being used? Both at fleet level but also at product level?

# Existing Market Functionalities for Logistics Tools

## Auditing, Inspection and Tracking



Inspections

Vehicle Certifications FORS

Digital Audit Trail

Online documentation

GPS Tracking

Barcoding/ RFID

Electronic Proof of delivery

Incident Reporting

## Communication



Reporting Updates

Analytics & Optimisation

Customer Relations Management

Notifications / Driver ETA / Mobile signature

Project information

## Route Planning & Management



Pre-Route Planning

Live Route Planning

Inventory Management

Order Management

Dispatch and Delivery Management

Supplier Management

Fleet Management

# Proposed Functionalities for an Offsite digital logistics tool

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## Auditing, Inspection and Tracking

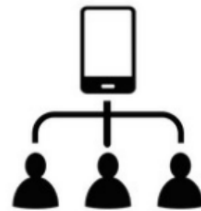


Product tracking / material passports

Tracking of Carbon emissions per delivery

Online digital audit trail for construction products

## Communication



Communication with design team

## Route Planning & Management

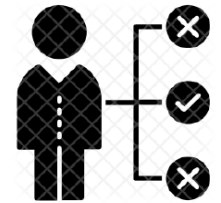


Allowable dimensions and loading en route

Route planning according to size of Prefabricated components

Computation of delay factors

## Decision Making Function



Determines best delivery method, i.e. JIT or use of CCC

Determination if OSC best method from logistics POV

Site Layout Planning / 4D BIM

# Proposal

- For OSC, the design team have to be aware of the logistical requirements.
- A logistic tool which communicates with the design team has not yet been investigated.
- Enable designers, on an online BIM software, to understand the logistical requirements and create their components accordingly.
- Allow for collaboration of designers and logistic experts, creasing out any potential design flaws which may be extremely expensive to remediate later in the project timeline

We have proposed a functionality within a digital logistics tools which enables communication of logistics pertinent information to be shared with the designers early in the project. What are your thoughts on this proposal ?



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