



reconstruct

RECONSTRUCT's Digital Product Passport

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ITeC - The Catalonia Institute of Construction Technology



Who are we?

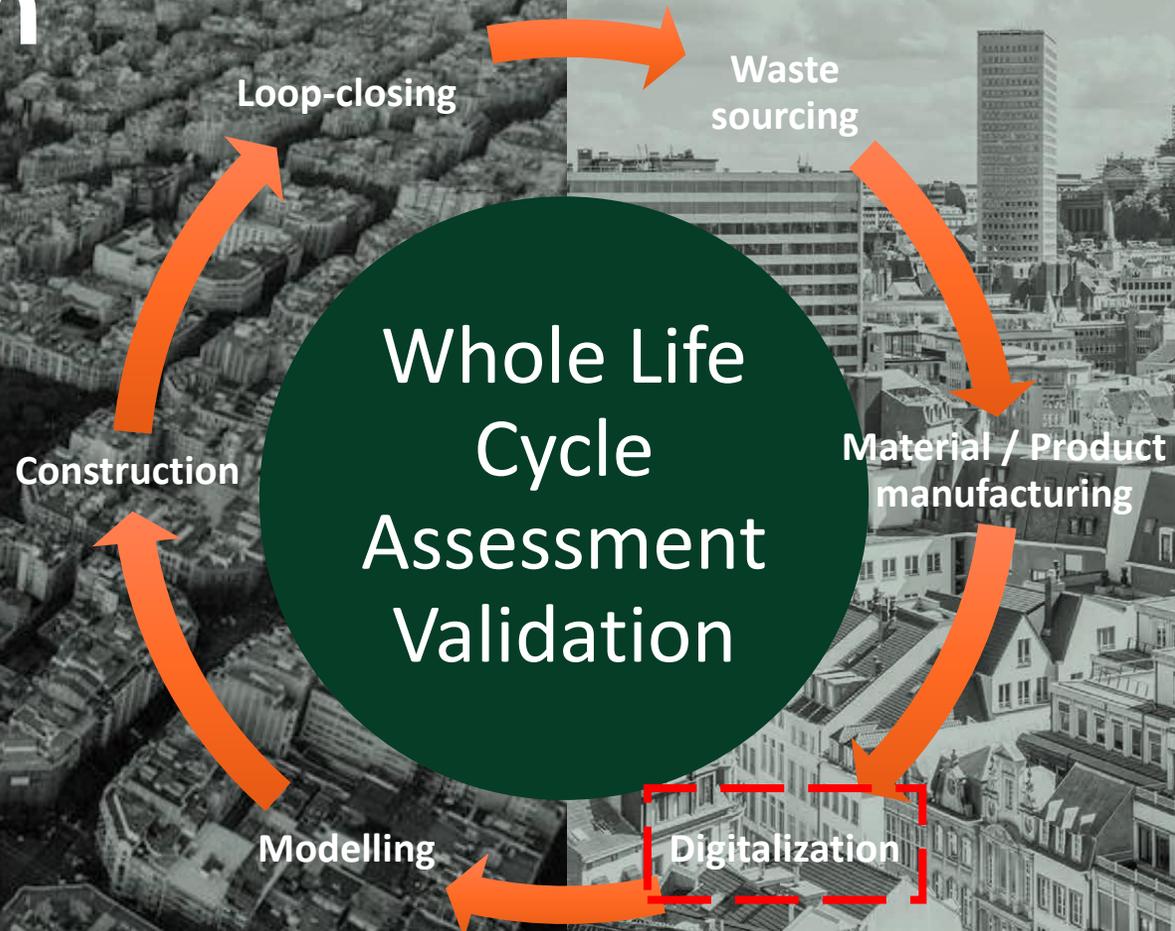


Project Acronym: RECONSTRUCT

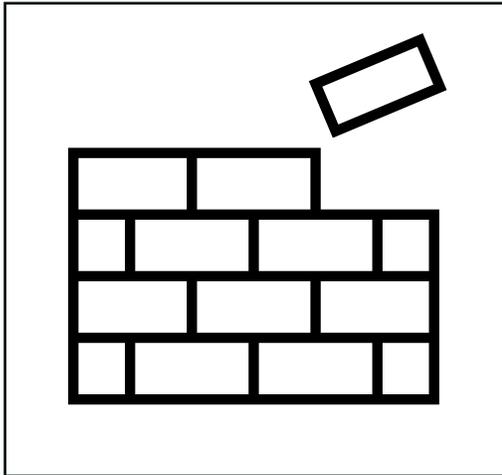
Goal: Developing a low-carbon, circular built environment

Duration: June 2023 – May 2027

Value chain



Production and Digitalization requirements

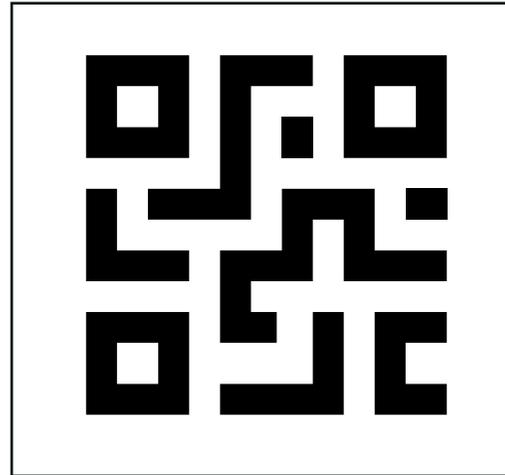


Circular Construction Components

Precast components

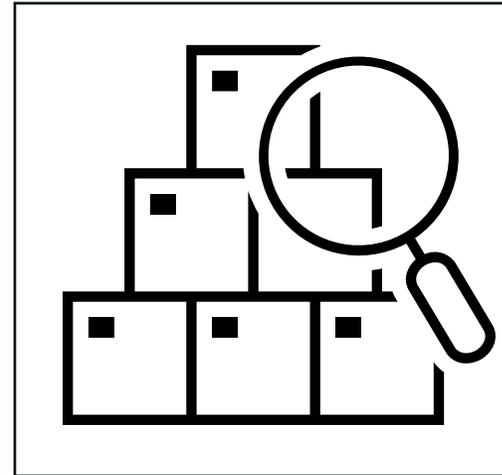
Sandwich panels

In-situ



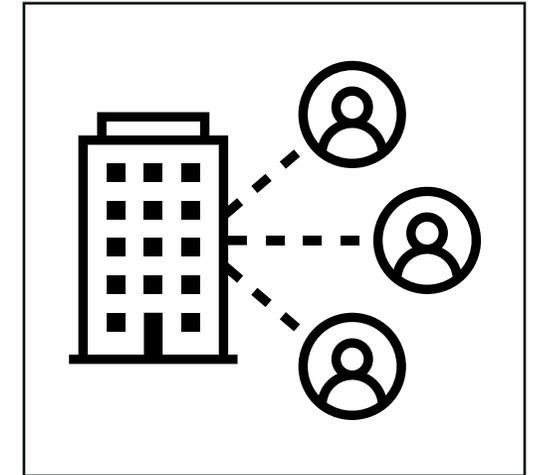
Digital Product Passport

Including its traceability for
secure data sharing
(Blockchain)



Material Passport

At a Circular Construction
Component level and
Building level

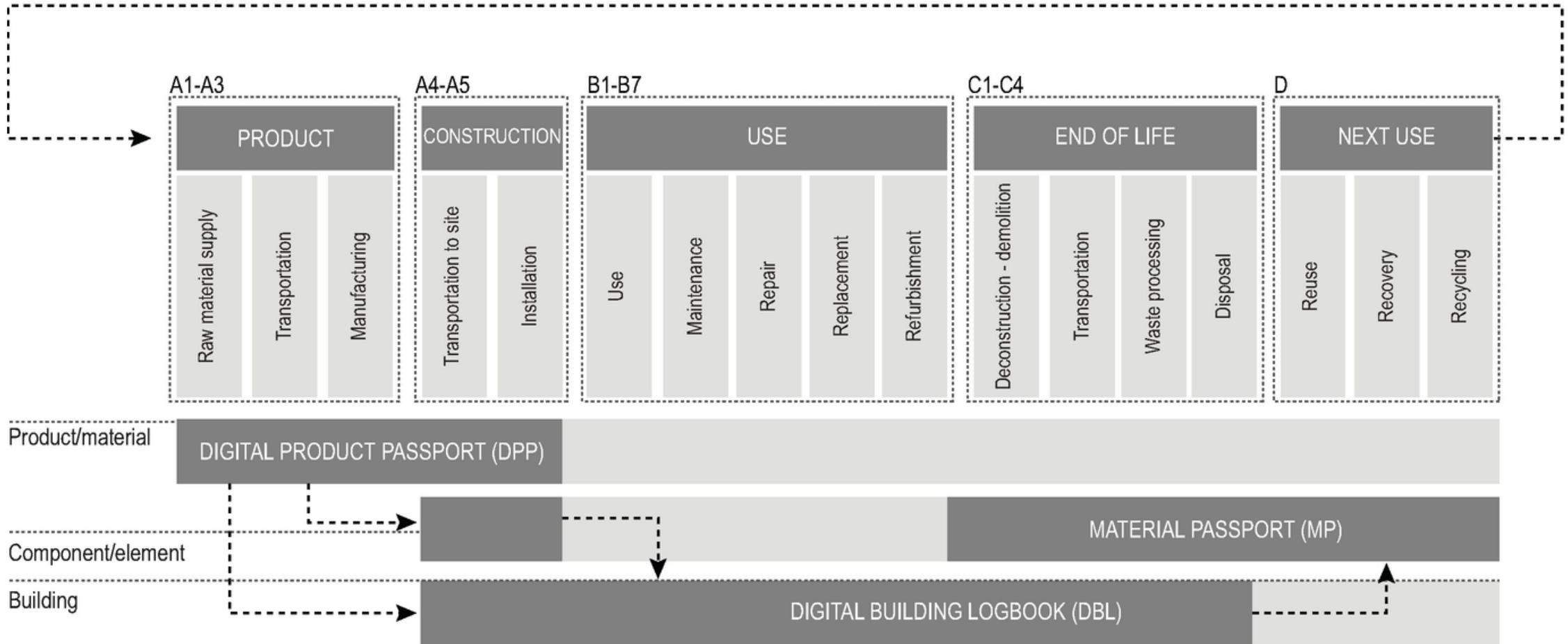


Digital Twin

6D-BIM with dynamic 4D

Optimization tool

Current Status



Relation of DPP, MPs and DBLs across scales and life cycle stages, with the darker shade highlighting the focus life cycle stages.

Gonçalves, J.D.S., Lam, W.C., Ritzen, M. (2024). The Role of Digital Building Logbooks for a Circular Built Environment. A Circular Built Environment in the Digital Age. Circular Economy and Sustainability. Springer, Cham. https://doi.org/10.1007/978-3-031-39675-5_13

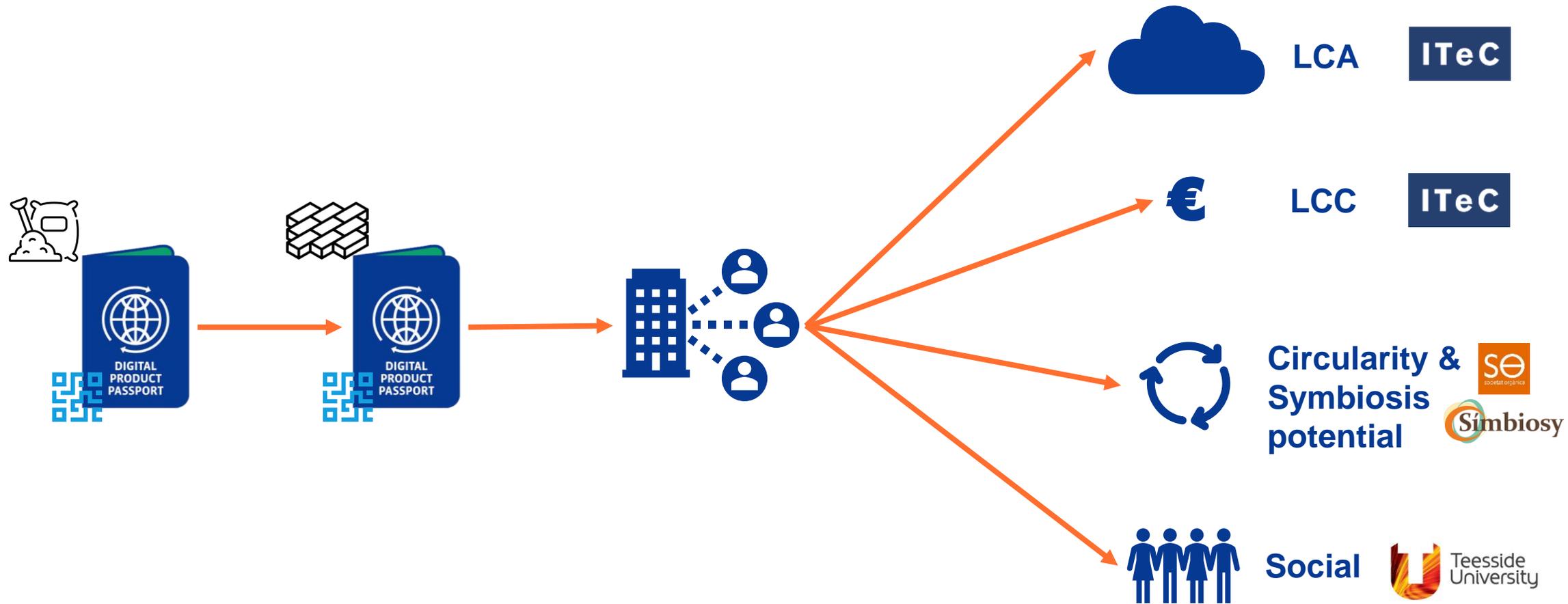
Current Status



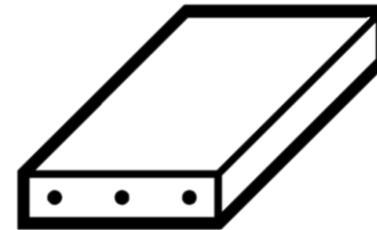
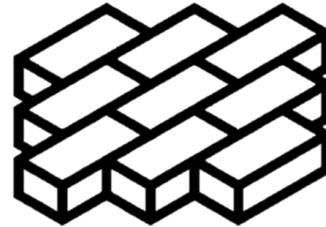
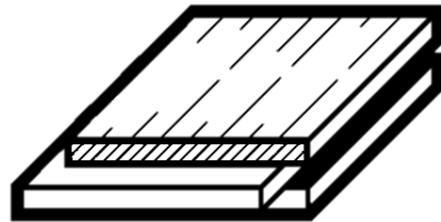
ESPR, CPR and assessment methodologies.

European Commission. Construction Products Regulation acquis.

Digitalization levels & Assessments



RECONSTRUCT elements



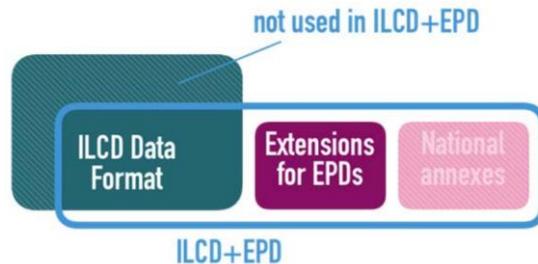
Digital Product Passport contents



- Unique product identifier
- Unique economic operator identifier
- Unique facility identifier
- Declaration of Performance (DoP)
- Declaration of Conformity (DoC)



- Sustainability data: This data may include but is not limited to:
 - Product Lifecycle Data
 - Environmental Impact

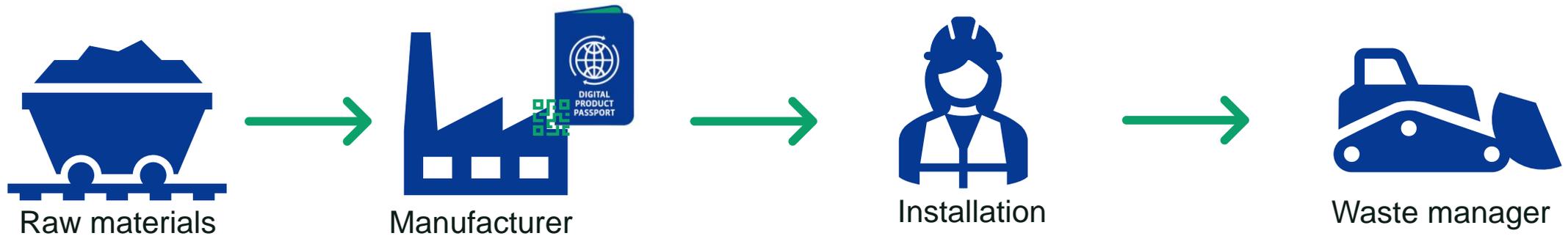


- Material Composition
- Product Circularity sheet

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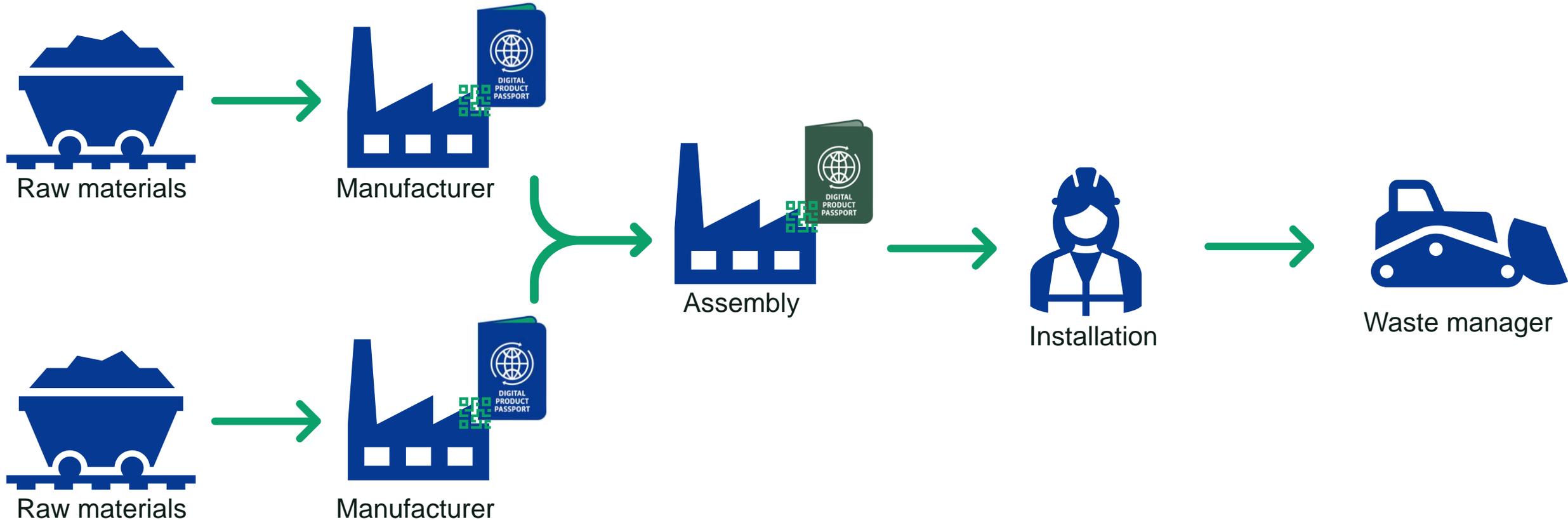
Construction product challenges

Product = Element



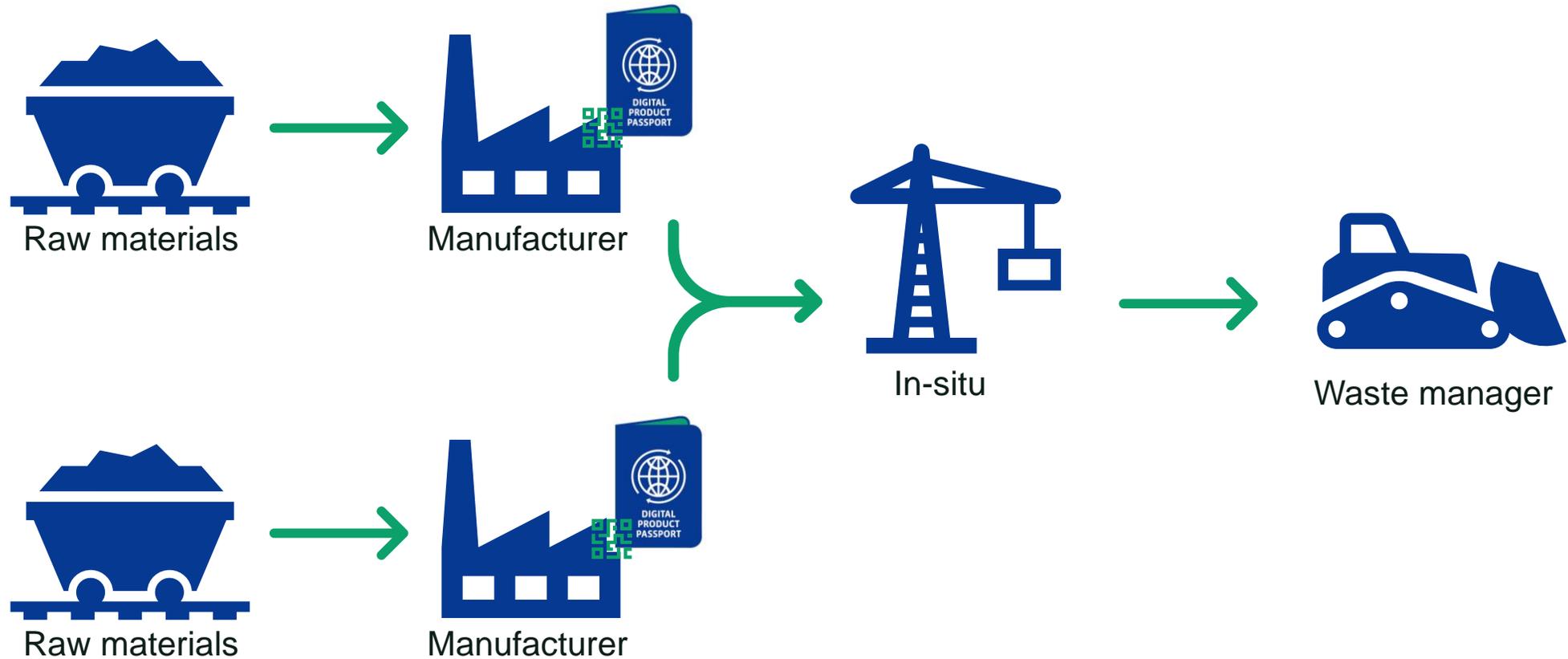
Construction product challenges

Multi-Product = Element



Construction product challenges

Product ≠ Element



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Thank you

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reconstruct-project.eu



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UK Research
and Innovation