

FROM DATA to RECYCLING HOW TO THINK A NEW PARADIGM?

Me, myself & I

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Contact :



TABLE OF PRESENTATION

CHAPTER 1 : Why are we thinking of the world as a set of data?

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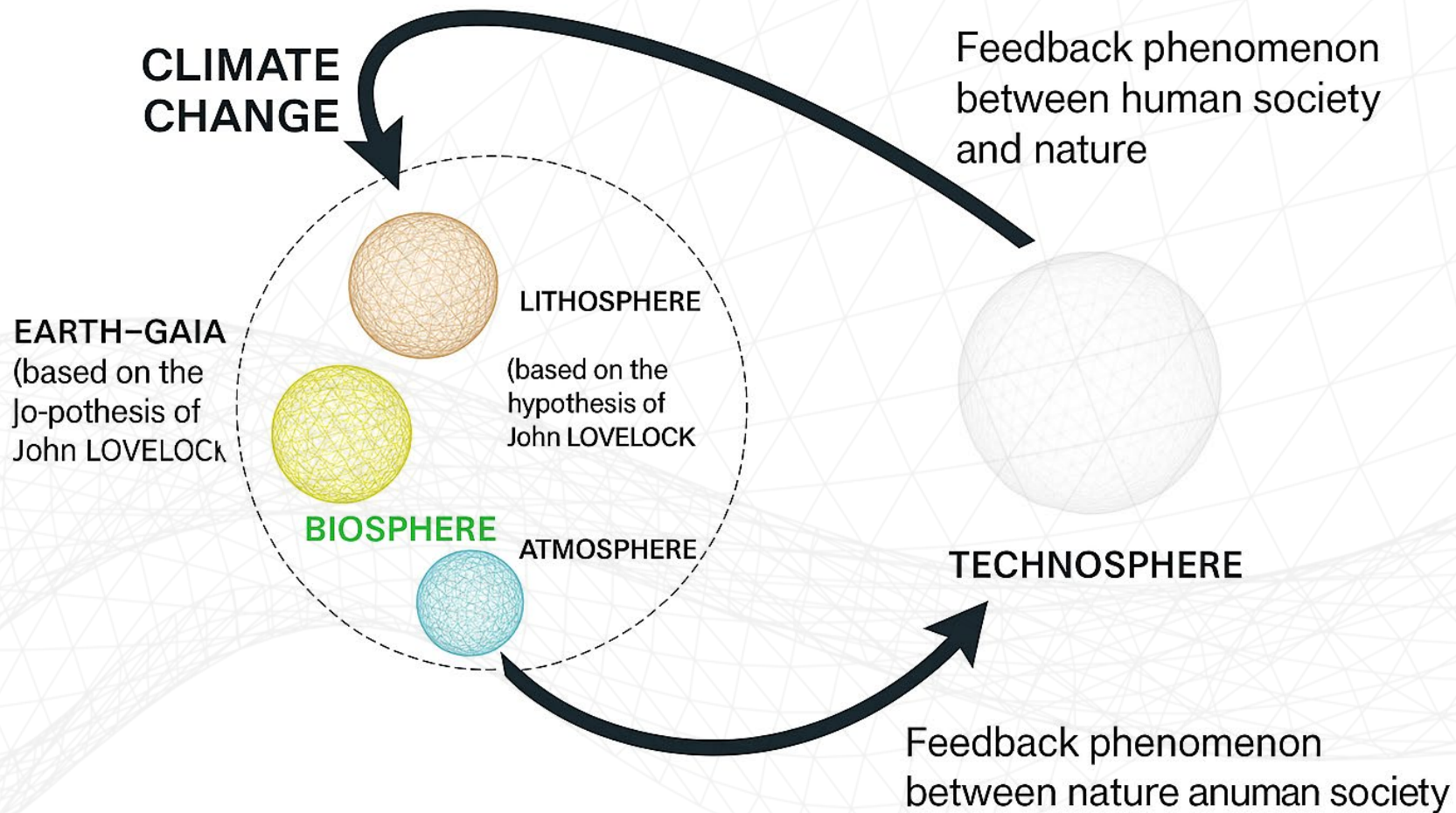
“You cannot fight
against the future. Time
is on our side.”

William Gladstone

THE WORLD IS A DATASPHERE

DATAS, THE WORLD AND US

The concept of Sphere
(J. Lovelock, 1970)



THE WORLD IS A DATASPHERE

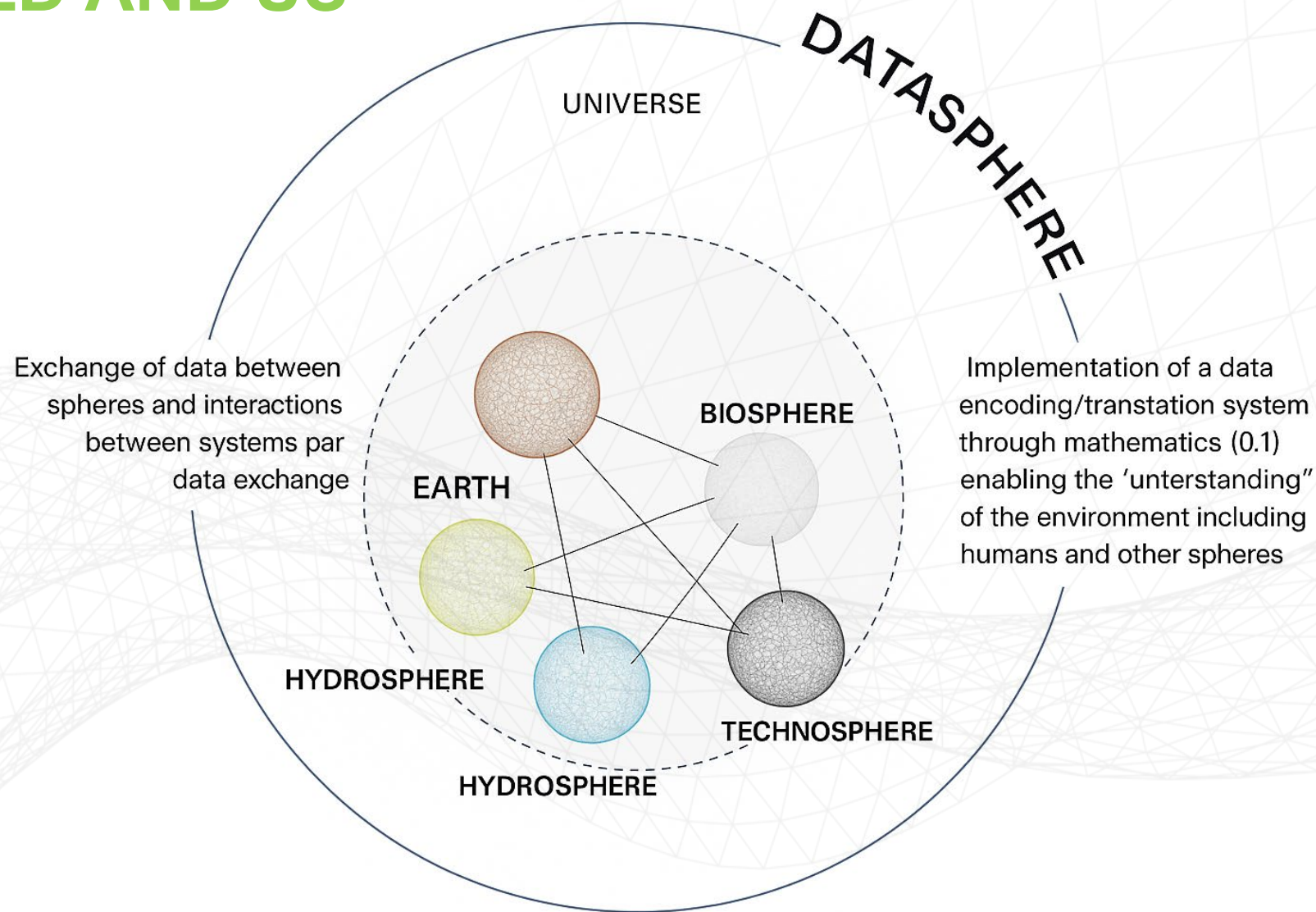
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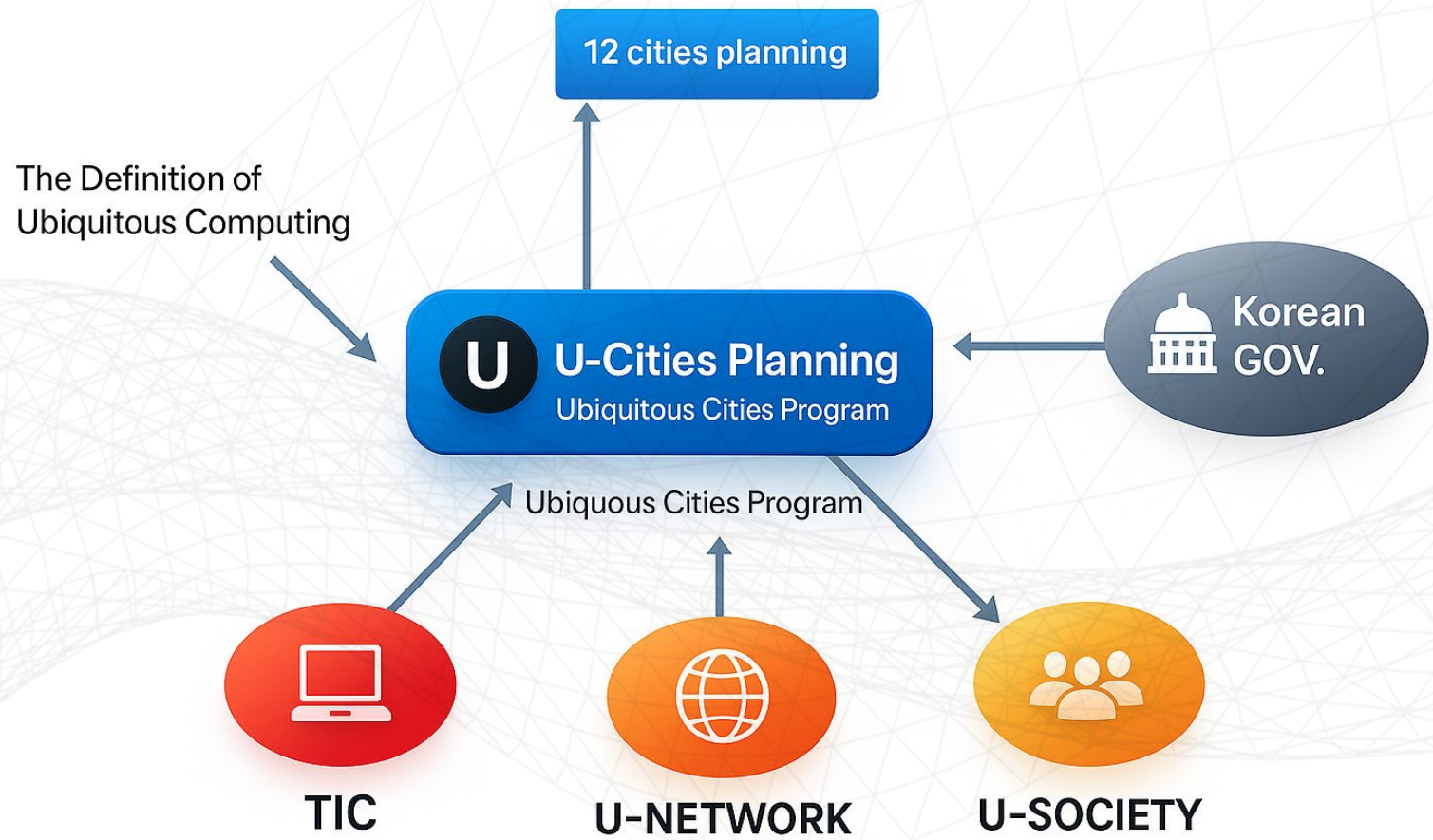
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The City Protocol (2014)

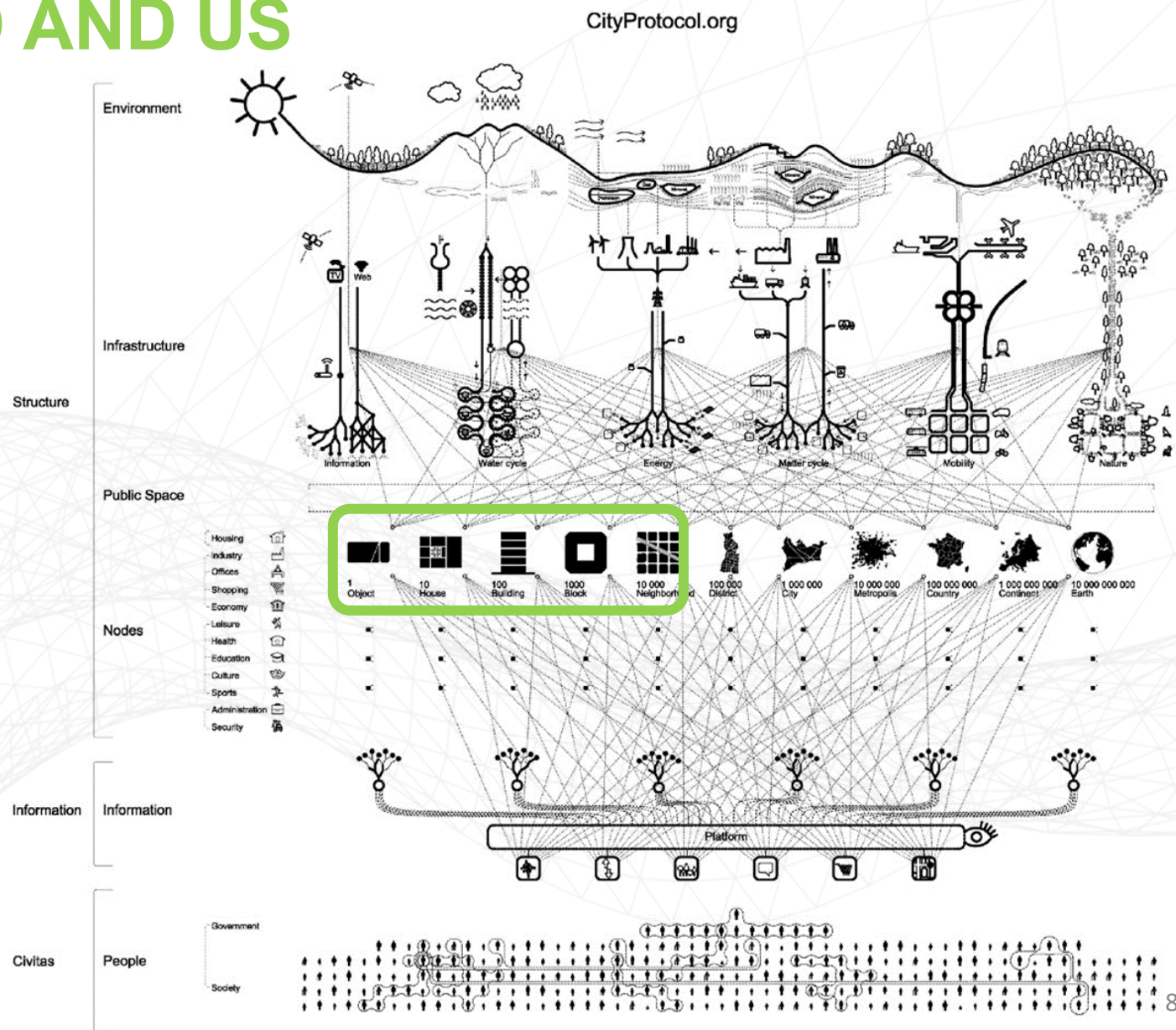


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ARCHITECTURE – DATA – CIRCULARITY/DECONSTRUCTION

CONSTRUCTION AND DECONSTRUCTION IMPACT**Environmental Impact of Construction**

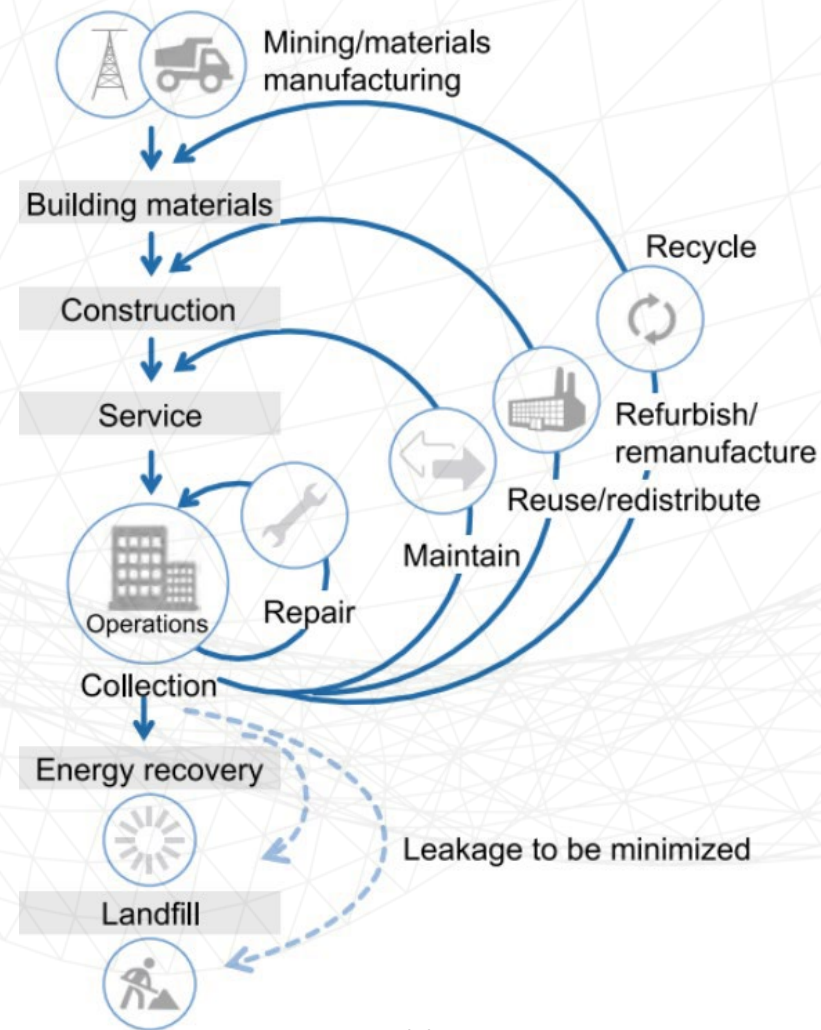
- The construction sector one of the largest waste contributors

Growth of Construction and Demolition Waste (CDW)

- Nearly 40% of the EU's total waste
- Expected to double between 2020 and 2050 due to increasing demolition and renovation activities

Challenges and Opportunities in CDW Management

- Most CDW is currently handled through low-value methods like backfilling
- Better implementation of reuse, preparation for reuse, and high-quality recycling



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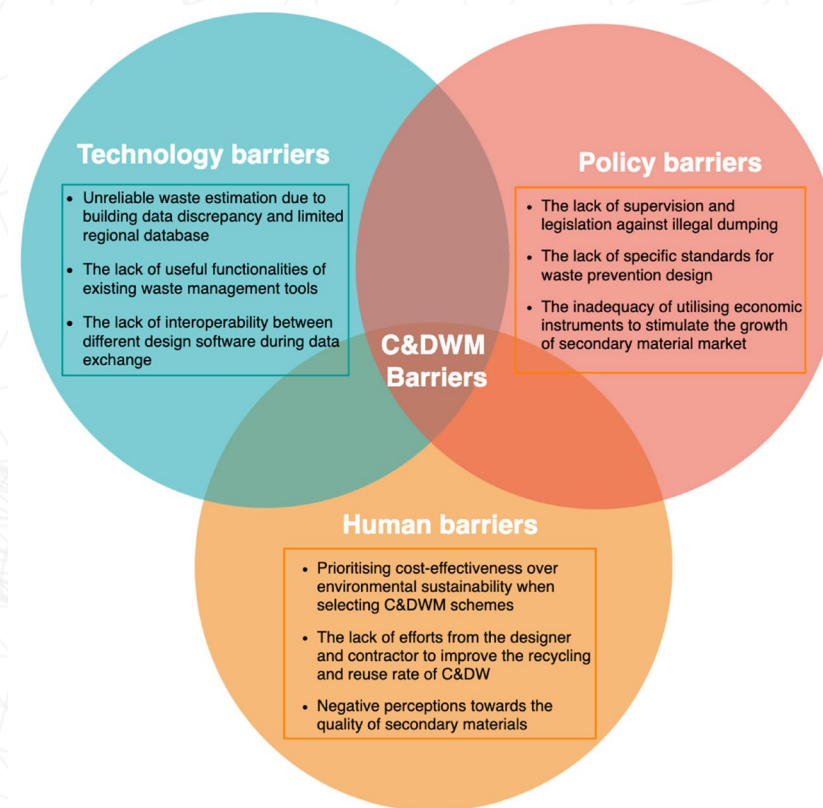
CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT BARRIERS (CDW)

Human Barriers

Policy Barriers

Technological Barriers

- Low adoption of **digital and advanced technologies** (e.g., limited BIM use)
- Lack of accurate data and **up-to-date building documentation**
- Limited capabilities in current waste **estimation and planning tools**



ARCHITECTURE – DATA – CIRCULARITY/DECONSTRUCTION

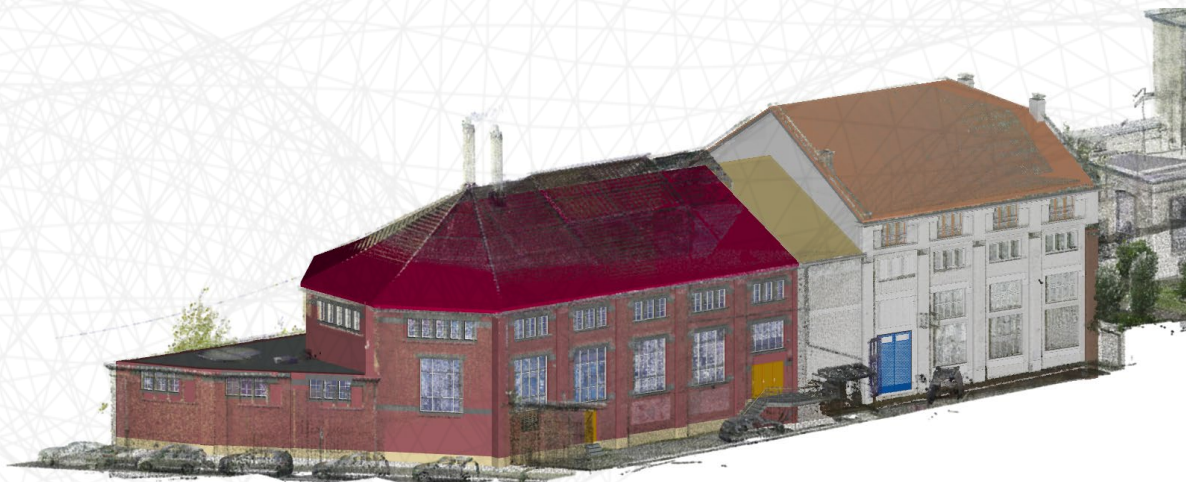
ACCURATE DATA & BUILDING DOCUMENTATION

SCAN to BIM

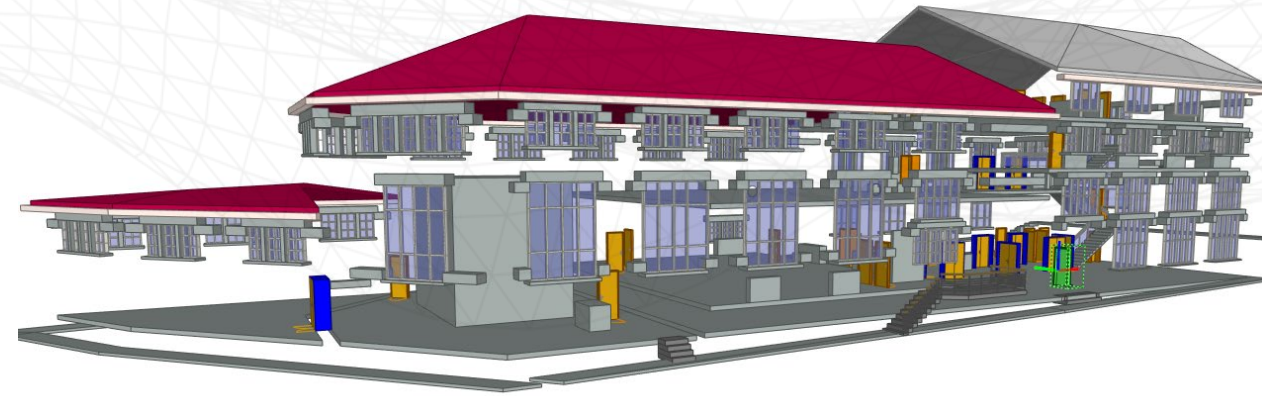
- Capture building reality
- Create an evolutionary modeling process
- Enhance the accuracy and reliability of the models



Pointcloud model



BIM model checking

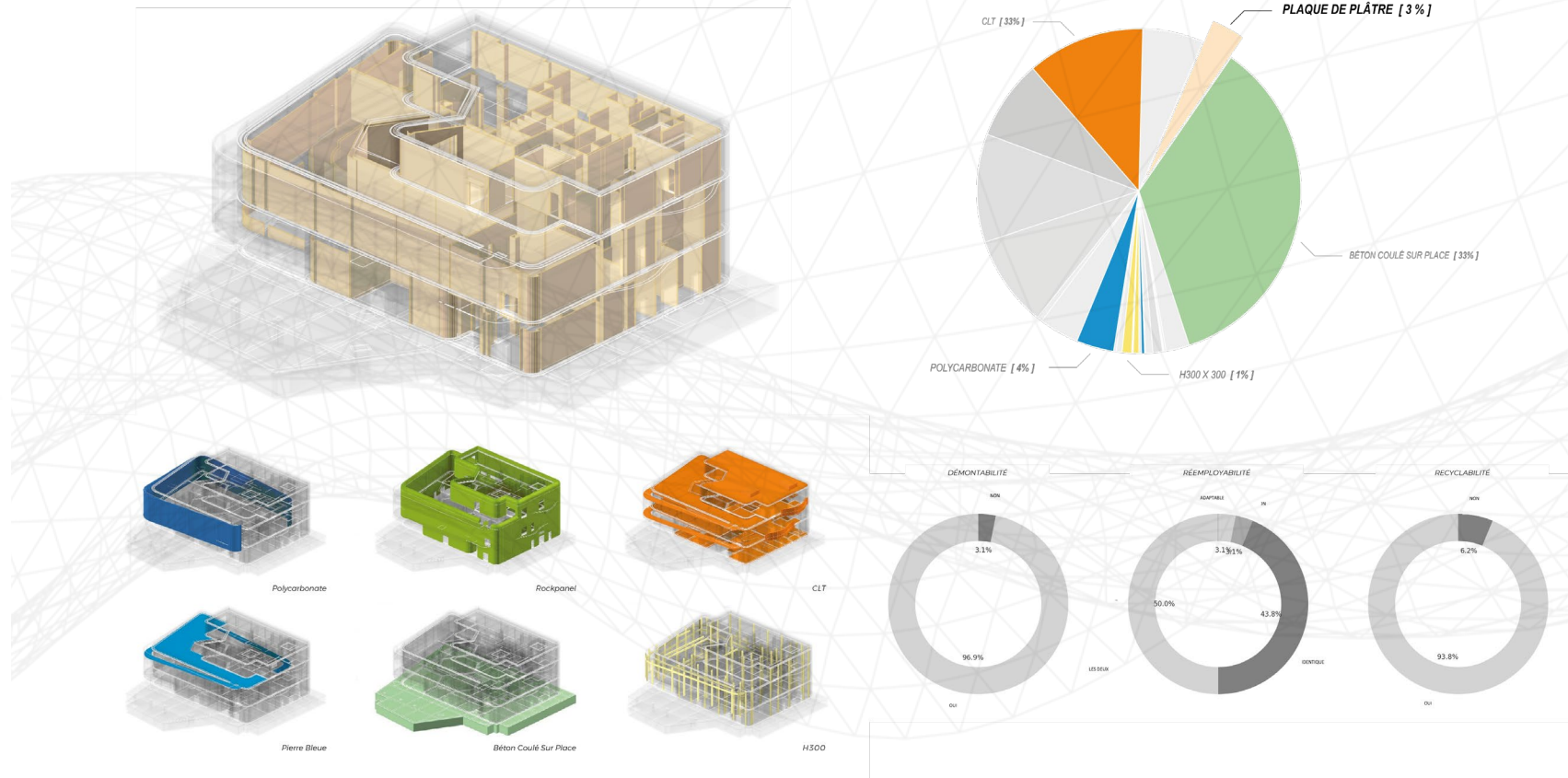
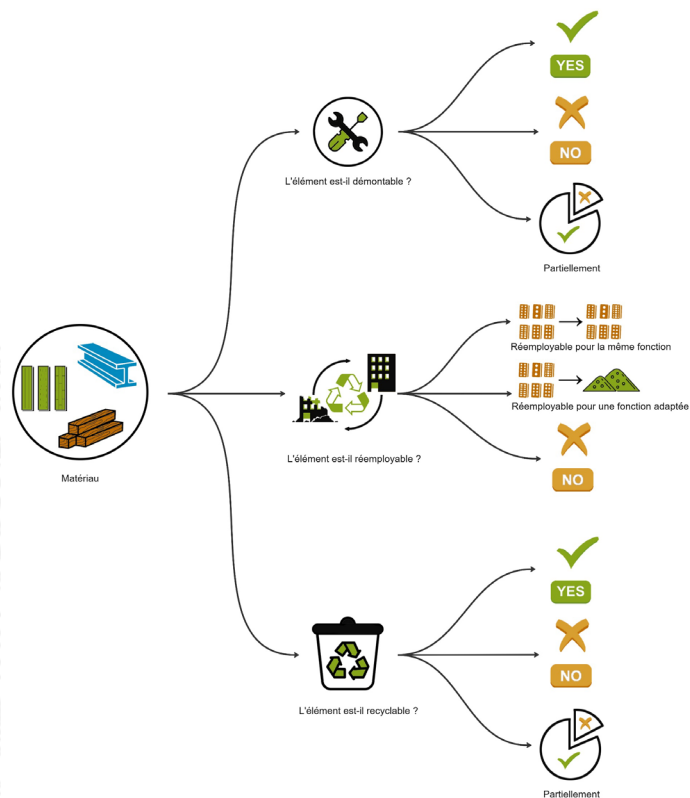


BIM model

ARCHITECTURE – DATA – CIRCULARITY/DECONSTRUCTION

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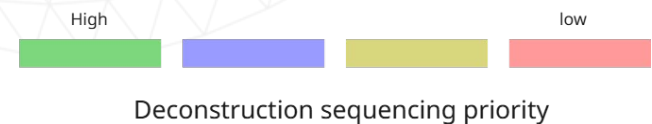
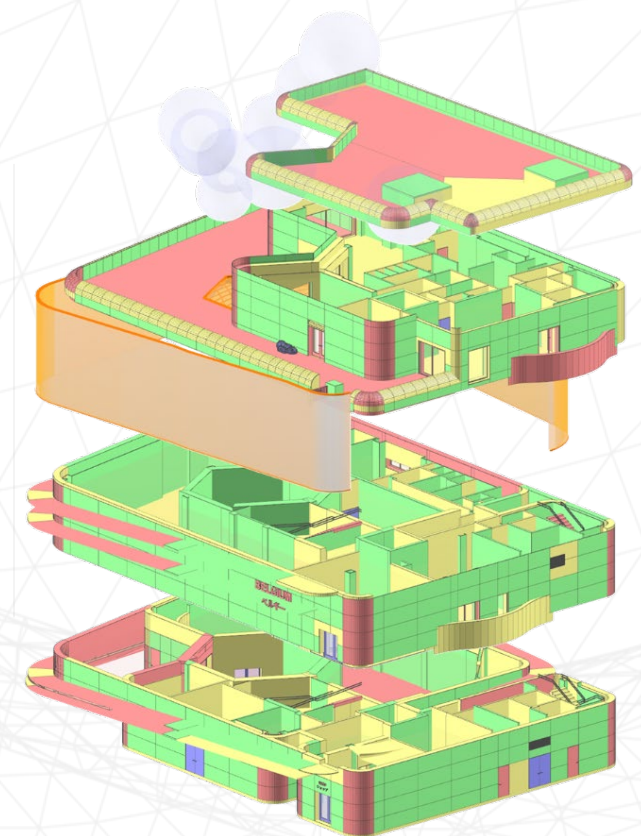
BIM to CIRCULARITY



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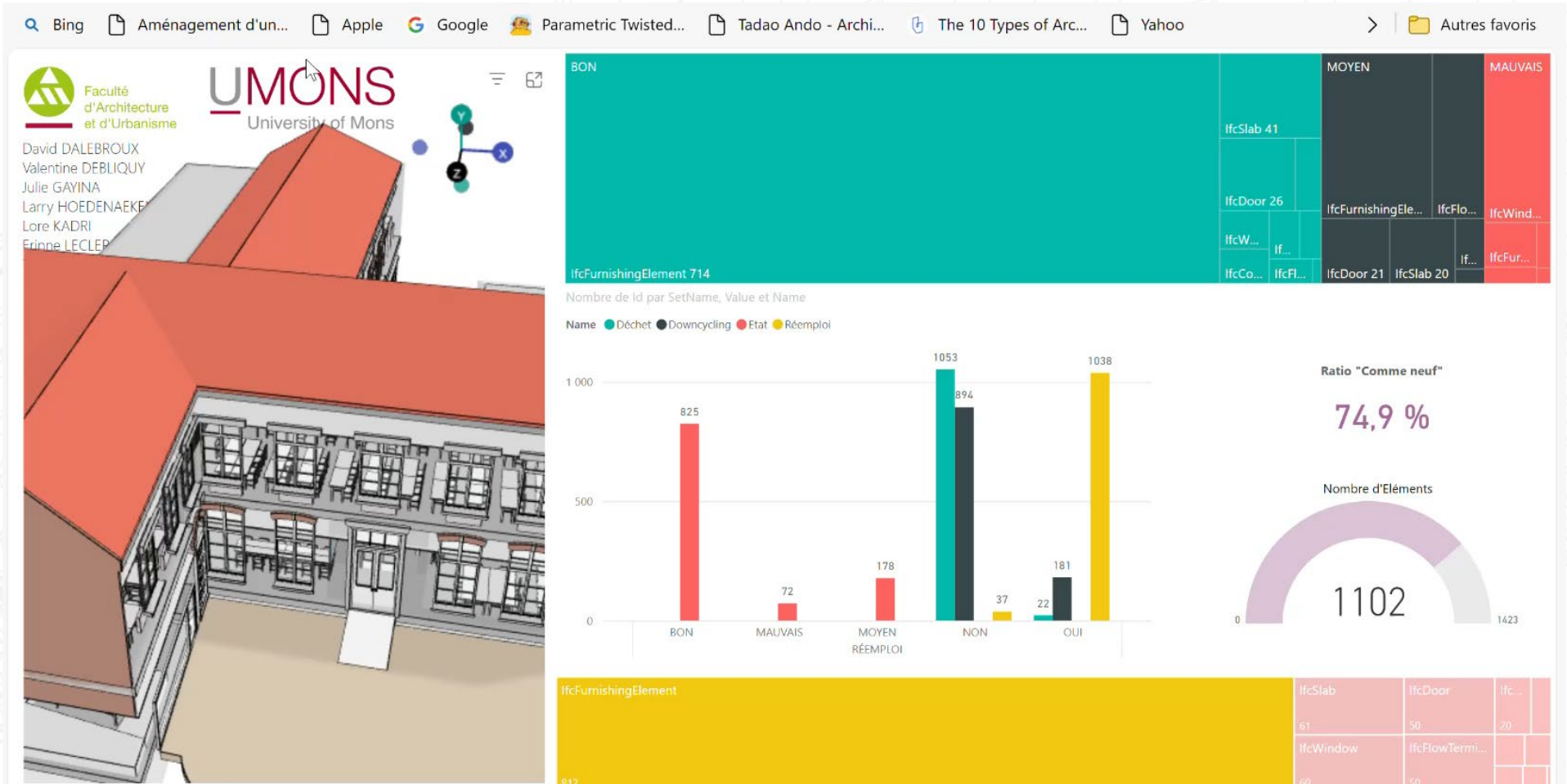
BIM to DECONSTRUCTION



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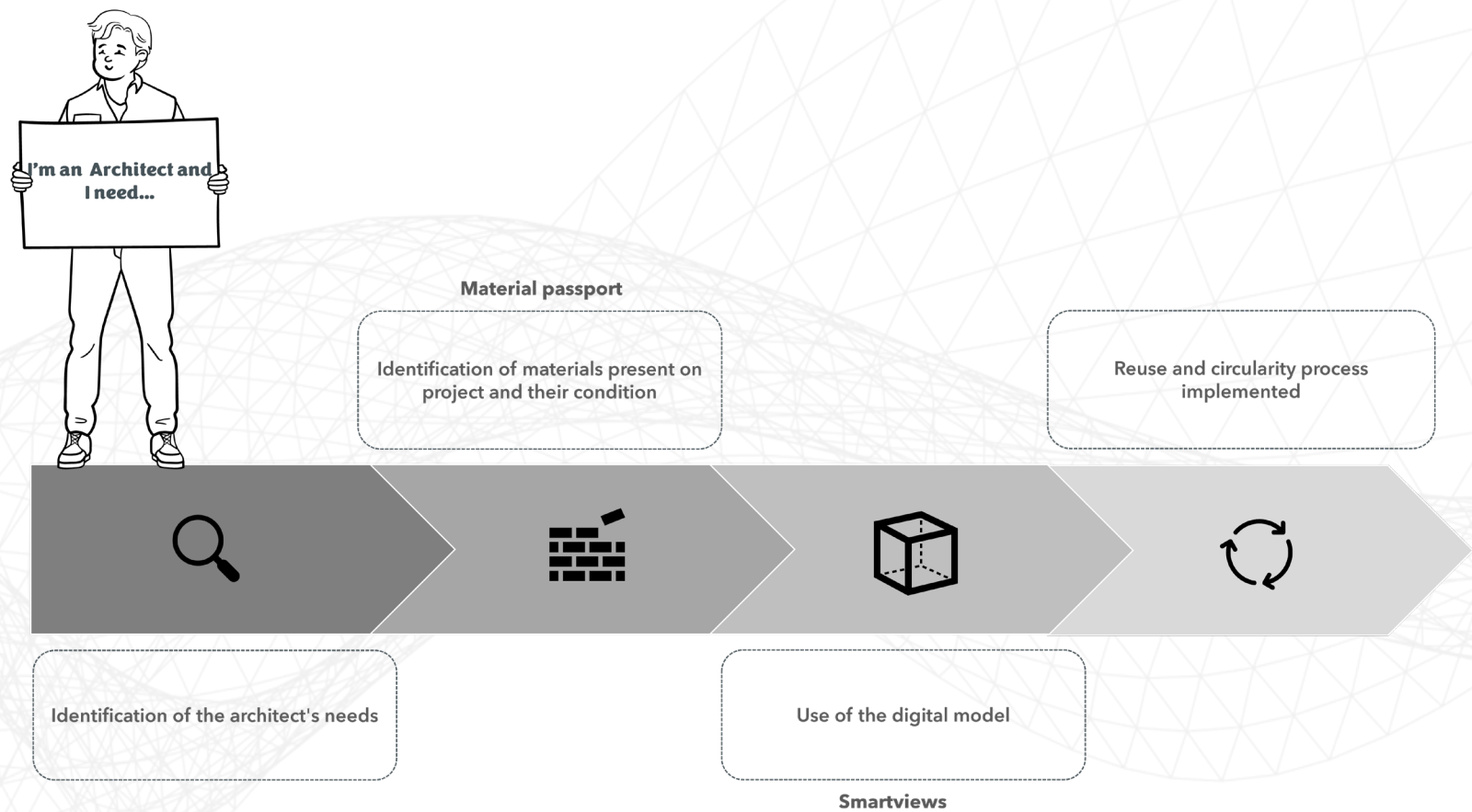
Uses-Practices / Interfaces



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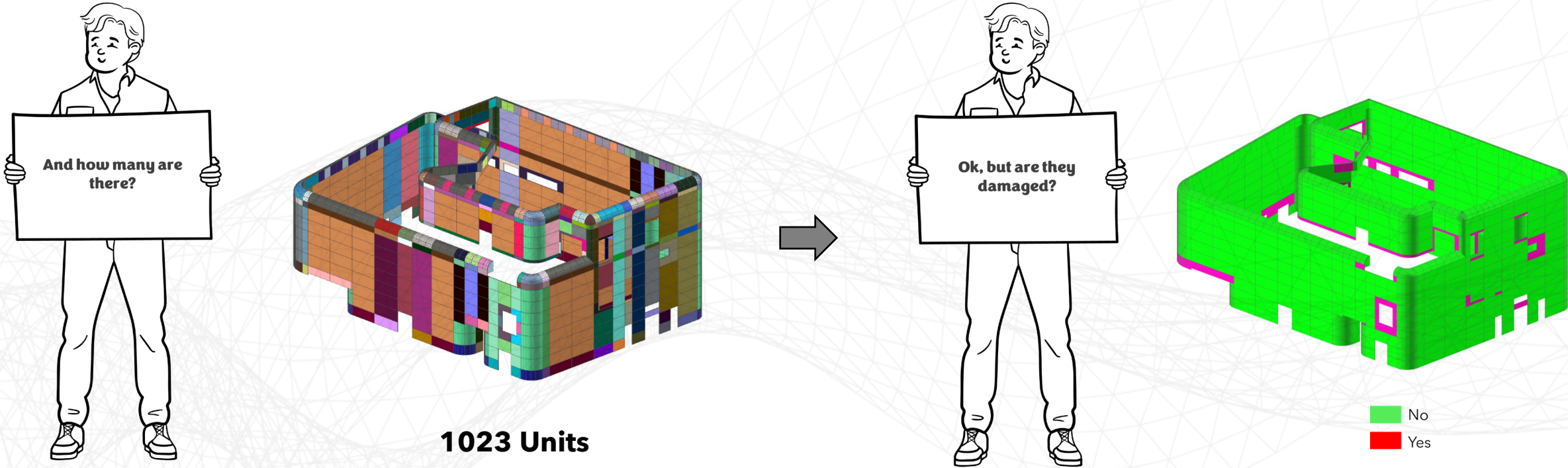
BIM and Deconstruction for Design



ARCHITECTURE – DATA – CIRCULARITY/DECONSTRUCTION

ACCURATE DATA & BUILDING DOCUMENTATION

BIM and Deconstruction for Design



Merci!



Pascal Simoens



Mohamed-Anis GALLAS



**SMART & SUSTAINABLE
ENGINEERING**



Faculté
d'Architecture
et d'Urbanisme

UMONS
Université de Mons