



Eidgenössische Technische Hochschule Zürich Swiss Federal Institute of Technology Zurich

# **Building stock characterization:** a pathway to increase circularity in construction sector





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The implementation of reinforced measures for the understanding and better management of the material composition of the building stock will allow more sustainable use of resources and, consequently, an increase in their value from an environmental and circular economy point of view.

(depending on the country)

energy efficiency

## Which materials, products or elements compose the existing building stock?

## THESIS

## > Purpose

Provide a model for characterizing the materiality of the existing building stock.

- Characterization of the entire French territory by integrating the residential and non-residential sector
- Allowing a multi-criteria assessment: energy, environment and circular economy



## > Data mining example

Wall materials for a neighborhood in Ile de France – Saint-Denis





### Conclusion and outlook

The method that will be proposed will allow assessing the building stock on several scales (building - territory). It will provide an enriched description of the buildings that enable stakeholders to carry out multi-trade studies to increase circularity in the construction sector.

Knowing and understanding the city of today is essential for building the city of tomorrow, sustainable and resilient

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Parameter