Upcycling construction and demolition waste into new building materials

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DBI - The Danish Institute of Fire and Security Technology
DBI’s services cover several stages of a building’s lifetime
Boosting the development of more sustainable building materials

DBI has a large team of innovative experts who help guide manufacturers of bio-based and recycled building materials develop new products and reach their targeted fire classification.

We aim to show that fire requirements are not a barrier by integrating fire as an early design parameter in the product development.

Our goal is to ensure rapid and efficient product development that supports the green transition.
ReSource – upcycling construction and demolition waste to new building materials

DBI leads a consortium that will create a supply chain across the construction and waste sector, enabling a circular economy with the use of geopolymer technology.

We replace cement with geopolymer-binder in Komproment’s facade tiles and Troldtekt’s acoustic panels.

RGS Nordic and E-mineral seek to transition from waste managers to resource providers.

Currently at proof-of-concept (TRL 4) next phase aims for demonstration and full-scale production (TRL 6-8).
Komproment’s overlapping facade tiles produced with geopolymer-binder
Troldtekt’s acoustic panels produced with geopolymer-binder
Challenge 1: Creating a coherent supply chain while ensuring the right final cost with the right CO2- and resource profile
**Challenge 2: Design of Experiments for Geopolymers**

**Formulation**

**Binder**
- Sodium and Potassium – Silicate
- Metakaolin

**Fillers**
- Red Brick Powder
- Biomass fly ash & Bottom ash
QUESTIONS?

Please feel free to reach out to us:

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