

The faculty of Engineering of the Vrije Universiteit Brussel invites you to attend the public defense leading to the degree of

DOCTOR OF ENGINEERING SCIENCES

of **Gabrielle Kawa**

The public defense will take place on **Thursday 11th December 2025 at 4 pm** in room **1.2.02** (Building I, VUB Main Campus)

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CIRCULARITY IN TEMPORALITY

**EXPLORING BRUSSELS' SOCIO-CULTURAL TEMPORARY USE TO
EMPOWER ACTORS IN THEIR TRANSITION TOWARDS CIRCULAR
BUILDING**

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Abstract of the PhD research

While vacant buildings present challenges in cities, they can also be opportunities in the transition towards a circular building economy. In such a building economy, resources like buildings and materials are reused in continuous cycles. However, the transition is slower than needed. Temporary use of vacant urban spaces presents a promising opportunity to accelerate this transition, save resources and enable societal and environmental experimentation. Yet, the outcomes of temporary use depend on how these initiatives are structured, and by whom. The challenge, therefore, lies in understanding the complex processes and collaborations that shape temporary use's operation and architectural design.

This research explores Brussels' socio-cultural temporary use from a circular building perspective. Drawing on Participatory Action Research (PAR), the study shows that circular strategies, actor relations, and architectural interventions are inseparable. It highlights how actors, through partnerships, governance arrangements and financial structures, directly shape architectural outcomes within temporary use projects. Insights gained from fieldwork and project analysis guided the research towards an overarching goal of empowerment. Through a series of workshops, this research aimed to empower practitioners to embed circular strategies into temporary use. By translating findings to practice and experimenting with a prototype built around three interconnected perspectives: Actors, Architectural Design and Materialisation, this research offers insights on how circularity can be integrated across these dimensions.

In addition to its practical contributions, the dissertation advances the methodological application of participatory action research within architectural engineering. By engaging directly with practitioners and embedding research within real-world contexts, it demonstrates how participatory methods can uncover nuanced understandings of circular design processes and governance dynamics. By using a combination of methods, including the Iceberg Model for systemic analysis, case study analysis, Value Network Mapping within PAR, this research is grounded in practice and provides a robust analytical framework to capture both visible outcomes and hidden dynamics. By integrating these methods, the dissertation contributes academic value by showing how temporary use can be unpacked as a layered system, how actor relations and value transactions can be mapped, and how actionable knowledge on circularity can be generated to inform both theory and practice.