WWTF Project ESR17-010

Urban pop-up housing environments and their potential as local innovation systems

Abstract

The need for temporary housing particularly in urban environments is expected to increase dramatically. To address these urgent demands, it is important to find affordable and flexible but sustainable and reusable concepts that are easy to construct and rapid to implement. However, to go one step further, temporary housing will be conceptualized as local innovation systems. In this respect, this proposal focuses on an inter- and trans-disciplinary approach to systematically investigate and evaluate existing temporary housing options, and to create holistic, innovative and sustainable models for pop-up living systems in urban environments. Methods from urban and landscape planning, architecture and building systems technologies are interlinked to resource related disciplines such as energy optimization, green technologies, sustainable waste management, water supply and wastewater treatment as well as social and political sciences. Diverse modelling approaches are integrated into a cross-disciplinary model and subsequent scenarios of pop-up housing environments are developed for different target groups and types of urban spaces. Risk assessment approaches as well as energy and life-cycle-assessments are applied to evaluate the housing models. This research clearly goes beyond state-of-the-art, since for the first time a systemic modelling approach is applied to develop high-quality and sustainable temporary housing environments as innovation niches within urban systems.

Scientific disciplines:
201128 - Sustainable building (35%) | 507027 - Sustainable urban development (35%) | 211917 - Technology assessment (30%)

Keywords:
land, water, waste and resource management; sustainable construction; temporary housing; circular economy; local innovation systems; technology assessment; social evaluation; risk evaluation

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Further links about the involved persons and regarding the project you can find at
https://archiv.wwtf.at/programmes/environmental_system/ESR17-010