4 Smart homes & inclusive communities: **Abstract livinglab DEEL Academy**

Smart, empathic communities

A methodology to connect and activate neighbourhoods

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Socio-economic and health disparities significantly fragment societies, a reality starkly evident in social housing neighbourhoods. As demographic shifts escalate, marked by increased health vulnerabilities, the lack of (social) care support and a rising number of dementia cases, profoundly impacts social and overall life quality in these settings. Innovative spatial strategies are required to address these inequalities and promote fair community development. Proven social and technological interventions have demonstrated their potential to enhance social cohesion when seamlessly integrated into the fabric of neighbourhoods.

In the city of Waalre, Netherlands, key stakeholders—including a housing association, care organization, local municipality, and a university—have united to develop a SLIM (Socially healthy, Livable, Innovative, and huMan-oriented) neighbourhood in collaboration with its inhabitants.

This quadruple helix collaboration focuses on fostering self-management and (socially) healthy behaviours, improving community participation among residents of three social rental complexes and a nursing home. Advanced techno-spatial interventions, such as augmented reality environments, and social strategies like community-led development workshops, engage and activate older residents, enhancing their satisfaction, mental health, and autonomy.

The project leverages citizen science and co-creation, utilizing research fairs, group interviews, and digital twinning to investigate social interaction and mental health dynamics.

Key elements like (mental) accessibility, inclusiveness, and belonging are pivotal, necessitating a shift by (local) governments and professionals from problem and task-oriented thinking to more integrated and holistic thinking methods. An integrated effort in this living lab has led to a multi-level governance plan improving policy development for engaging older citizens in urban planning. These methods align community-led decision-making with democratic processes, ensuring the accessibility of smart living solutions.

Over the next four years, the focus will be on transforming these insights into actionable spatial models, deepening technological integration, and empirically validating these models. The incorporation of socio-technological innovations will be crucial, advancing spatial planning through data-driven insights and real-time feedback.

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