

Work Package Title

SpacePlay: Gamified Co-Creation for Sustainable Neighbourhoods

Overview

This work package develops an innovative co-creation methodology that uses gamified interaction to involve communities directly in shaping inclusive and climate-resilient public spaces. Rather than consultation, participants actively explore spatial trade-offs through structured digital and material engagement tools that make accessibility, safety, biodiversity, and climate adaptation visible and understandable within the design process.

The approach generates evidence on how different genders, age groups, and identities experience and use space, and it enables systematic assessment of multisensory perception, aesthetics, and wellbeing. By embedding clear signaling of green transition principles within these interactions, the process strengthens understanding, ownership, and acceptance of sustainable spatial interventions.

Evaluated across urban, peri-urban, and rural neighborhoods, the methodology produces transferable toolkits and implementation guidance that support replicability and policy uptake. Within the overall project, this work package strengthens inclusive participation, integrates cultural and creative expertise, and ensures that environmental design solutions are grounded in lived experience and community adoption, directly addressing the call's expectations for innovative methods, co-creation, and scalable green transition planning.

ATU Profile

Atlantic Technological University's School of Design and Creative Arts provides a distributed creative innovation platform spanning both urban and rural contexts in western Ireland. From our Galway City campus, we contribute expertise in digital creative practice, immersive media, animation, and participatory design supported by advanced studio, XR, and prototyping infrastructure that enables multisensory evaluation and co-creation methods aligned with the call.

This is complemented by our Letterfrack campus in Connemara, Ireland's recognized center of excellence in furniture design and wood technology, where material-led prototyping, human-scale fabrication, and craft-based sustainability practices support testing of spatial interventions and circular material approaches.

Together, these capabilities position ATU to integrate cultural and creative sector expertise into neighborhood innovation, delivering participatory methods, experiential

assessment, and tangible prototyping that strengthen community engagement, green transition signaling, and scalable spatial solutions.

Objectives

This work package develops and demonstrates an innovative and transferable approach to designing and planning public spaces. It integrates inclusive co-creation and supports implementation of the green transition of neighborhoods. The work assesses how spatial design determines, age-appropriate, and identity-related patterns of use. It addresses mobility, accessibility, safety, and sense of security. It embeds clear signaling of climate resilience, water resilience, biodiversity, and environmental responsibility within participatory processes. The work package generates structured evidence on multisensory perception, including beauty and aesthetics. These insights inform neighborhood demonstrations and support adaptability, replicability, and scalability across Member States and Associated Countries. At the forefront of the package will be a community focused design and planning tool which evaluates and evaluates the goals of the green transition with the needs of the community.

Description of Work

ATU and Pilot Projects will develop an innovative gamified co-creation framework. The framework responds to the call requirement to analyze the values, practices, and stakeholder relations that underpin spatial design. It translates planning challenges into interactive formats. These include access to public space, civil security, and environmental resilience. Participants explore spatial trade-offs through structured engagement.

Activities include role-based planning scenarios that represent different age, gender, or mobility perspectives. Resource-allocation simulations test trade-offs between accessibility and green infrastructure. Participatory mapping exercises capture perceived mobility routes and safety conditions. These activities reveal stakeholder priorities and sociocultural influences on design decisions, while foregrounding green transition goals.

Digital and material interaction environments will operationalize the framework. Examples include augmented visualization platforms for placing nature-based solutions. Modular prototyping kits allow collaborative configuration of human-scale spatial elements. Interactive mapping tools capture behavioral responses and spatial preferences. These tools integrate cultural and creative sector expertise into the planning process.

The approach will be demonstrated in co-creation sessions across urban, peri-urban, and rural neighborhood pilots. These pilots will be in different Member States or Associated Countries with a balanced mixture of urban, peri-urban, and rural communities. Led by demonstration cases in the west of Ireland. Workshops will engage residents and stakeholders in testing spatial configurations addressing biodiversity enhancement, water-sensitive design, accessibility, and safety. Interaction data will assess inclusive use patterns and sociocultural adaptation. The process will also build familiarity with green transition measures and support behavioral uptake.

The work package will conduct structured evaluation of multisensory perception. Participants will interact with prototypes and immersive spatial representations. Activities include sensory mapping of comfort and atmosphere. Participants will rank spatial alternatives and evaluate aesthetic qualities. Experiential walkthrough simulations will assess perceived usability and wellbeing. These findings complement technical environmental modelling and inform design refinement.

Green transition priorities remain embedded throughout implementation. Climate resilience, biodiversity, water management, and civil security are present in all participatory scenarios. This improves comprehension and ownership among users and stakeholders. It will identify and reduce barriers to adoption and strengthen acceptance of sustainable spatial approaches.

The work concludes with synthesis and transfer planning. Guidance will be produced to support take-up of the demonstrated approach. This includes application to water-resilient planning, public service design, and procurement frameworks. Skills needs and capacity gaps for creative participatory spatial planning methods will be identified.

Expected Outputs

The work package delivers a demonstrated innovative co-creation approach aligned with call expectations. It produces transferable engagement toolkits that integrate cultural and creative sector methods. It generates datasets on inclusive spatial use and multisensory perception. It provides recommendations supporting uptake, replication, and scaling within neighborhood green transition initiatives.

Role Within the Overall Project

This work package directly addresses scope requirements relating to inclusive accessibility approaches and stakeholder analysis. It integrates cultural and creative sector expertise into spatial planning. It supports multisensory and aesthetic assessment of public space. It contributes to implementation of the green transition of

neighborhoods. The work package operates as a cross-cutting component within the project. It ensures spatial interventions are socially embedded and experientially validated. By strengthening co-creation quality and environmental awareness, it improves scalability, societal relevance, and policy uptake potential.