

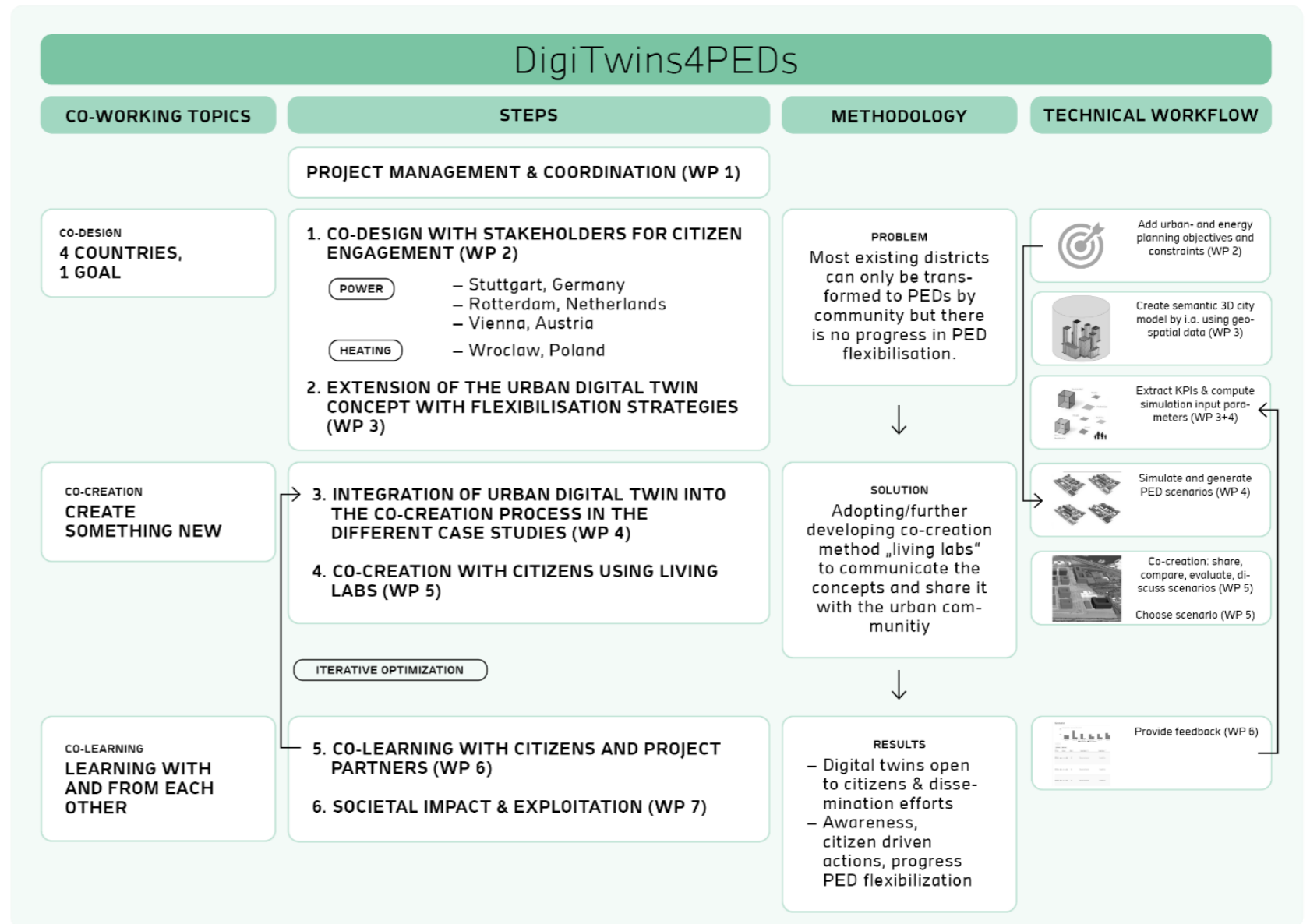


DigiTwins4PEDs

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So far, there are hardly any examples that investigate the community-driven urban energy transformation towards Positive Energy Districts (PEDs). Despite different urban energy simulation tools available to help in planning and management of PEDs, the community-wide adaptability of PEDs is still a major concern. To close this gap, DigiTwins4PEDs project will use innovative research methods and implementation strategies supported by a participatory process involving key stakeholders and citizens within the stages of co-design, co-creation and co-learning which will be developed, evaluated and iteratively adapted. Through the framework of living labs supported by different case studies, citizens will be continuously engaged throughout the project so that citizen-driven actions can be considered and implemented more easily in the future. To support this public participation process, new tools and methods using Urban Digital Twins will be developed and adapted, allowing citizens to push forward the energy transition of their communities and take more informed decisions.



Objective

Developing and implementing urban digital twin framework in different case study areas for an innovative public participatory living lab process to address the multifaceted aspects crucial for establishing PEDs with the citizens.

Advancing scientific knowledge and technical know-how in planning and realisation of community-driven PEDs.

Approaches

Using a bottom up approach to model urban energy systems with integrated local socio-economic and demographic parameters to identify and visualise current and future energy demand, renewable potential and, different energy flexibility strategies in a district.

Implementation of innovative living labs which uses urban digital twins to support co-design, co-creation and co-learning of community-driven solutions for energy transformation.

Expected result and impacts

Creation of open and shared urban data and modeling framework with specialised tools for applications in PEDs.

Innovative, holistic citizen-driven process using urban digital twins for the successful implementation of PEDs as an enabler of the sustainable energy transition.

Best practice catalogue, simulation and visualization toolkit to further progress in developing PEDs will be made available for use by other cities and regions.

DigiTwins4PEDs

– Utilisation of urban digital twins to co-create flexible positive energy systems for districts

Duration : 2023–2026

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Involved Cities

- Stuttgart (Germany)
- Vienna (Austria)
- Rotterdam (Netherlands)
- Wroclaw (Poland)

DUT Call 2022

The purpose of this Call is to support transnational research and/or innovation projects addressing urban challenges to help cities in their transition towards a more sustainable economy and functioning. The challenges are grouped into three themes called Transition Pathways: Positive Energy Districts (PED), the 15-Minute City (15mC) and Circular Urban Economies (CUE).

https://dutpartnership.eu/funding-opportunities/dut_call_2022/

This project has received funding from the European Union’s Horizon Europe research and innovation programme under grant agreement no. 101069506

