

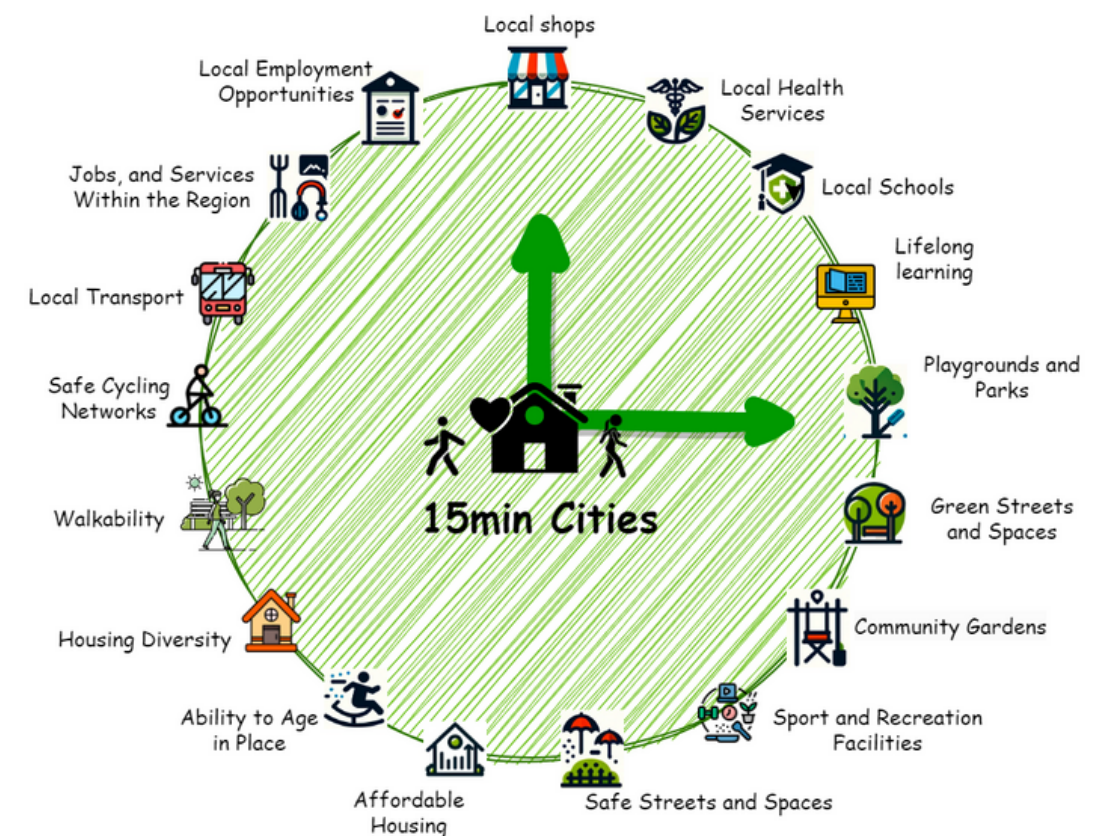
## Project partners

SAITEC, Silesian University of Technology, University of Economics in Katowice, City of Katowice, Budapest University of Technology and Economics, City of Veszprém, and City of Szeged

### PROJECT ABSTRACT

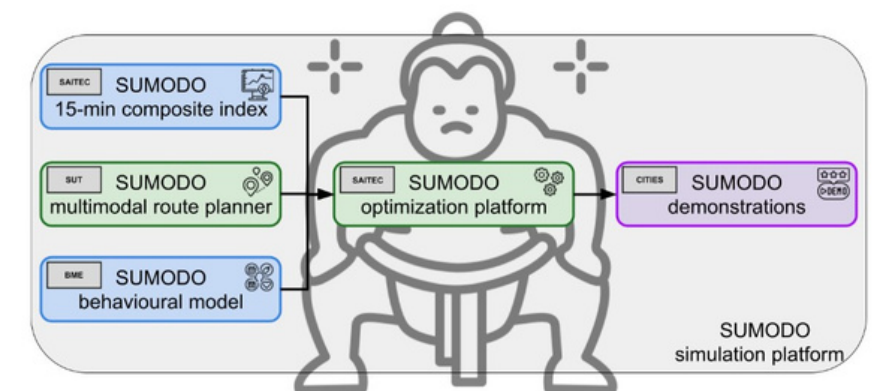
The SUMODO project aims to facilitate the planning and acceptance of 15-minute cities by developing a software platform. The platform will help urban planners to design and optimise the deployment of 15-minute cities as well as aid travellers' decision.

Urban planners can encourage active transport modes by designing new green areas, pedestrian and cycling infrastructure. Yet, reducing the surface once reserved for private vehicles requires careful consideration of transport preferences to secure citizen's acceptance of change in their neighbourhood. The SUMODO project will provide a simulation platform with tools to explore aspects such as the frequency and transport mode preferences of citizens and how to compute the accessibility to services. Using SUMODO's simulations, urban planners will be able to optimise physical (e.g. pedestrianisation) and policy based (e.g. slow zones) interventions to foster the deployment of 15-min cities with minimum economic and social cost.



### OBJECTIVES

The primary objective of this project is to provide tools to help urban planners: to define and optimise 15-min city concepts in their neighborhoods. In particular, to provide tools based on EA to automatically identify neighborhoods in the outskirts where the density of POIs makes it possible to define a 15-min city. The tool will automatically determine the improvements in walkability, bikeability and accessibility to infrastructures to transform a not suitable outskirts into a 15-min city. To this end, the project will combine 4 components:



#### Behaviour model

Frequency and transport mode preferences of citizens when visiting points of interest.

#### Activity based multimodal travel planner

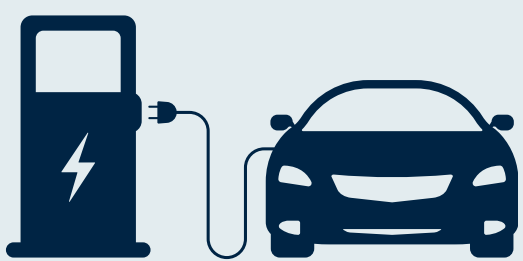
Methods to compute the accessibility to services using active and sustainable transport modes.

#### 15-min composite index

A panel of indicators for the assessment of 15-min cities.

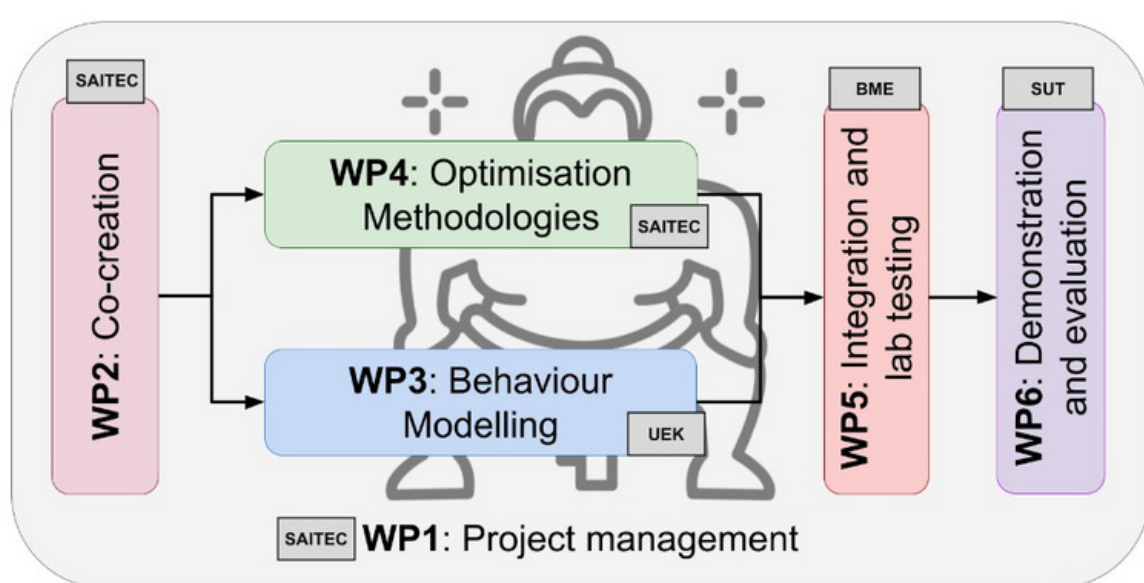
#### Optimisation system

Implementation of multi-objective optimization algorithms in a Geographical Information System (GIS).



- The optimization platform will use the SUMODO behaviour model to create realistic travel needs for the population.
- The multimodal travel planner will simulate the traffic in the outskirts of a city candidate to be a 15-min city.
- Next, the SUMODO 15-min composite index will be used to evaluate the considered zone's suitability.
- Finally, the optimization platform will allow multi-criteria-constrained optimization EA to define the optimal set of boundaries for the 15-min cities and any potential modification on the location of POIs to maximise its suitability.
- The SUMODO simulation platform will be the outcome of the 4 components implementation in a GIS system. It will be validated in a demonstration test assessing the zones designated by the three urban government authorities participating in the project.

### WORK PACKAGES



### DEMONSTRATION CASE STUDIES

A pilot program will be implemented in a selected neighborhood within each city under study. These areas will undergo assessment and receive customized advice aimed at enhancing their 15-minute city composite index and modeling outcomes to fulfill the objectives of the 15-minute city concept.



Katowice  
Poland



Veszprém  
Hungary



Szeged  
Hungary