

SMART CITY CHALLENGE 2025

City Challenge

Max 3 pages

send to smartcity@taltech.ee by Sept 30, 2025

Challenge Title – Empowering Citizens to Change Mobility Habits

City/county and country: City of Venice, Italy

Main contact from your city/county – name, organization, job title, e-mail, phone

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1. What is the future urban challenge that would need a solution to?

- **Please describe the challenge of your city / county neighboring a city?**

In recent years, the City of Venice has been enhancing its sustainable mobility infrastructure and services. However, these efforts have not yet resulted in a proportional increase in the number of residents and visitors choosing more sustainable modes of transportation. The primary challenge faced by the City is to overcome operational, social, and cultural barriers to promote behavior change toward more sustainable mobility choices, with a particular emphasis on cycling, while reducing reliance on private cars. This shift aims to reduce land consumption, lower greenhouse gas emissions, decrease air pollution, and improve the overall quality of life for the local community.

- **Which category your challenge is primarily in: safe city, happy city, and climate resilient city?**

Happy cities - with a secondary impact also at the level of safe happy and resilient city - since the challenge is to helping residents and users of the city to choose more sustainable modes of transport through behavioral change and to improve the quality of life also through human centered designed services.

- **Why is it important for your city to solve it? How big priority it is for you and why?**

Solving this challenge would benefit both the environment and the City intended as a community. Several societal actors may profit from the innovations acquired through this program: to begin with, residents would primarily benefit from such changes. In particular, vulnerable groups such as the elderly and children, would especially benefit from fewer private vehicles circulating throughout the city: changes in mobility habits could reduce the concentration of greenhouse gases in the air and lower the risk of pulmonary diseases, asthma, and other lung conditions brought on by exposure to air pollution. Moreover, road safety would also improve leading to a safer urban environment where children can play and walk more freely. Similarly, some areas of the city would also become more pedestrian friendly, thanks to the possibility to widen traffic calming measures. Such developments could improve the quality of life of local residents and city-users. Additionally, visitors and city-users, especially daily commuters, would also experience

positive effects, such as less time spent in traffic thanks to reduced traffic congestion, and a decreased danger of incurring into car accidents.

- **Is this a unique challenge/problem of your city, why or is this by your knowledge a challenge/problem that many cities have – which kind of other cities?**

The challenge that Venice intends to address concerns a large number of Italian and European cities; therefore, solutions developed for the Venetian territory can be of great interest worldwide with a high potential for transferability.

In general, all modern cities suffer from over-exploitation of land resources, increasing urbanization, and a type of mobility strongly linked to the use of private vehicles. This phenomenon has led to highly congested urban environments and detrimental conditions for the quality of life of the inhabitants, with negative effects on public health and the environment.

In this context, given its high visibility and popularity, Venice could truly become an important global reference for the development of new strategies capable of promoting sustainable mobility choices by activating all the resources of the territory in terms of innovation. Venice would also represent an interesting transferable case due to its eclectic and double nature of being simultaneously an ancient and a modern city, as well as a water and a land-based city. Therefore, solutions developed in the City of Venice could be applied to various cities around the world, whether they are ancient or modern, built on water or land. Lastly, Venice is located in the Po Valley, one of the most polluted areas in Europe, as well other important Italian cities as Milan, Bologna, Cremona and others. This area is prone to pollution due to its industrial plants and geographical location, where wind levels are low and air pollution tends to concentrate. By finding ways to increase the modal split share of sustainable and innovative means of transport, other cities in the same valley could benefit from Venice's achievements.

2. Innovation.

- **How have you solved that issue so far? Why aren't the present solutions good enough? Are there legal obstacles, which ones?**

The challenge faced by the City of Venice is to encourage behavior change, supporting residents and city-users in choosing more sustainable transportation modes (active mobility, bike sharing, car sharing, scooter sharing, LPT, etc.), thus reducing the use of private, fossil fuel-powered vehicles and increasing the share of sustainable transportation modes in the local modal split.

Venice has invested in developing an impressive range of sustainable mobility options, that include water, land, and railway. A few highlights:

- A growing local bike lane network (almost 200 km)
- A pioneering hybrid car-sharing service, the first of its kind in Italy
- Widespread shared micro mobility services
- An extensive public transport system via water, land, and railway, which is being made ever more sustainable with 30 new electric buses and plans for 44 more, along with 90 fuel cell buses by 2026.
- An expected 32 hybrid water buses in Venice's waterways by 2029

However, this diverse range of low to zero-carbon modes of transport is currently underutilized. To solve the problem, Venice has invested in several funded projects to gather innovative solutions to the problem. Among the most significant initiatives, it is worth mentioning its participation in the "Sustainable City Challenge." and in the "European Urban Initiative" which led to the realization of an exchange with the city of Antwerp.

- **What should be the main features, characteristics of the future solution to be potentially best for that challenge or problem?**

The proposed solution should meet the following criteria:



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- **Innovation**_The solution offers an innovative approach to improving Venice residents' motivation to choose and adopt low to zero-carbon modes of transportation for part or all of their everyday travel within the city. The solution can be brand-new or adapted from other contexts to suit the local context.
- **Impact**_The solution significantly and tangibly increases the adoption and use of low to zero carbon transportation modes by Venice residents in their everyday journeys around the city.
- **Usability**_The solution continuously engages with its target users. Based on the insights and understanding gained, the solution addresses the needs, preferences, and behaviors of its target user groups.
- **Viability**_The solution is viable and sustainable beyond the lifespan of the Challenge. The solution has the potential to scale or to be replicated in other contexts.

3. Expected impact of your pilot solution.

- What is the expected impact to your city environment you expect to see if the challenge gets solved?
- What is the expected impact to your citizens you expect to see if the challenge gets solved?
- What is the expected impact to your city governance you expect to see if the challenge gets solved?

If the challenge is met, there will be **a marked improvement in citizens' quality of life**, as the use of alternative and more sustainable means of transport means better air quality, lower levels of environmental pollution, but also a more active lifestyle and greater social interaction. It will also result in lower traffic levels and road congestion, leading to shorter travel times and fewer accidents.

It is expected that **new knowledge and tools will be acquired** that can be replicated in the future in other contexts facing similar challenges. It is therefore expected that the local government will become a model and set an example for other municipalities.

Furthermore, thanks to this project, the city will benefit from **a tailor-made project** - also through the **use of new technologies** - proposed by European researchers that would otherwise have been difficult to achieve. This innovative approach will help to weave a **network with new partners** that can also be implemented in the future for other fruitful collaborations.

4. Piloting

- **Why would you be interested to become a piloting partner of a proposed solution to the challenge you are describing here? Describe shortly your capability to participate.**

The Venetian territory has unique characteristics in that it encompasses two very different types of territory (islands on the water and mainland). This makes it **the perfect testing ground**, as a solution capable of responding to such a diverse territory will be easily replicable and shareable by other entities. Furthermore, previous participation in European innovative collaboration initiatives (such as the Sustainable Cities Challenge Venice or the city to city exchange - European Urban Initiative) has meant that Venice is already a partner accustomed to working with international groups to solve contemporary challenges. To effectively achieve a shift in mobility habits and diminish relying on one's own vehicle, there is the need to create synergy between different disciplines and actors: technology, IT, environmental science, economics, sociology, psychology, but also public and private sector cooperation. Given the multi-disciplinary nature of such a challenge, so far, national procurement regulations have not proved sufficient to identify an operator that could undertake such a complex task. Participating in the Smart City Challenge 2025 program would enable the City to explore and implement several innovative proposals more freely, overcoming some of the limitations often posed by the national regulatory framework.