

Joint Research Centre living labs

To test new technologies and applications under real-life conditions, the Joint Research Centre (JRC) has opened two of its research sites, Ispra (IT) and Petten (NL), to host living labs. The two sites allow new applications to be tested in urban environments with a large number of staff, buildings, roads and utilities, dedicated experimental facilities and high-speed communication networks.

As the European Commission's science and knowledge service, the JRC aims to bring real added-value and innovation to the policy-making process. With the use of living labs, the JRC wants to co-create high-quality, policy-relevant and people-oriented solutions in particular with relation to smart cities. With this, it shares knowledge and best practice with policy-makers, mayors and urban planners, who are facing the challenges of implementing smart cities.

Description



Living labs are a key part of a strategy to transform the JRC sites into efficient, smart, open and sustainable sites. The idea is to profile the sites as test beds and demonstrators of advanced technologies and citizen engagement. The JRC is co-designing and testing new technologies and application in real-life and controlled environments to gain scientific insights, not only into technology-related aspects but also trust, user acceptance and user-feedback. The two urban sectors addressed for now are mobility and energy. The Digital Energy Solutions Lab is being implemented in Ispra and Petten, and the Future Mobility Solutions Lab in Ispra. The main objective of the mobility lab is to achieve sustainable and smart mobility in urban area.

In July 2019, the JRC opened a call for expressions of interest where external participants may submit an outline proposal for a collaboration project. For the mobility living lab, three applications have been approved, and are about to start.

This call is providing opportunities to external entities (mainly start-ups and SMEs) to co-create their smart city solutions. The JRC offers its facilities, laboratories and testing infrastructure, but also the scientific and specialised staff that can support the development, future deployment and commercialisation process. Through co-creation and experimentation activities on JRC sites, the applicants can evaluate and improve their innovative solutions, in terms of technical aspects, market uptake potential and societal impact.

The proposals obtained are first pre-screened by an expert panel that evaluates the proposal based on the following criteria:

- Value of proposals in terms of scientific and technical aspects;

- Application potential on the market, i.e., the potential that this solution will be adopted by the users and will have an uptake on the market;
- Relevance to EU policy priorities;
- Relevance to what the local site has to offer;
- Feasibility in terms of costs and competencies in implementing the proposal – this is important, because there is no monetary exchange between the parties. The JRC is not offering any funding. However, at the same time, as the JRC is not asking for any fee to be paid, it is pursuing a win-win situation for the relevant parties.

The engagement of the external entities varies according to the maturity of the applications. If the applications are already mature, they can be directly tested in real-life environments. Applications at conceptual stage can benefit from co-creation activities to analyse and define their value proposition and user needs early on in the development stage.

For citizen engagement, the JRC Ispra and Petten staff are involved in the design of living labs, as the sites simulate small-scale city environments. As the innovative technologies are inserted into the day-to-day functioning and operation of the sites, the staff have access to the solutions on a daily basis. JRC has run several engagement activities in the context of the mobility living lab initiative at the JRC, for example, focus group discussions about citizens' expectations of Connected and Automated Vehicles or user interviews organized during an experimentation with drones.

However, JRC recognizes the limitations of extrapolating the end user/citizen insights to the general population because of the characteristics of the Ispra population in terms of socio-economic and educational background. In focus group discussions, the aim is to look beyond the JRC population and engage with a broader population, with other groups of users and citizens. There are also limitations because of the geographical access. The site is fully fenced with controlled access. The vision is to gradually open up the sites for citizens. In Ispra, there is also a makerspace designed for different citizen engagement activities, which is open for collaboration activities with external institutions.

The JRC is very interested in exchanging but also establishing concrete collaborations with other living labs, to learn from each other's experiences, identify synergies and complementarities, and work towards the same goals.

References

- <https://ec.europa.eu/jrc/en/research-facility/living-labs-at-the-jrc>
- https://ec.europa.eu/info/departments/joint-research-centre_en
- Interview with Maria Alonso-Raposo and Andromachi Mourtzouchou (19/11/2020)
- Picture (https://ec.europa.eu/info/departments/joint-research-centre_en)