

# PILOT CALL FOR EXPRESSIONS OF INTEREST –"LIVING LAB" TESTING FUTURE MOBILITY AND DIGITAL ENERGY SOLUTIONS AT THE EUROPEAN COMMISSION'S JOINT RESEARCH CENTRE IN ISPRA, ITALY AND PETTEN, THE NETHERLANDS

## ***Rationale***

The Joint Research Centre (JRC), the European Commission's science and knowledge service, is launching this pilot call with a view to enhancing its input to **EU policy-making** in the areas of energy and transport, whilst contributing to the process of advancing towards new, intelligent solutions in these fields, to the benefit of European industry, public organisations including regional entities and citizens at large.

The idea of adding digital intelligence to existing urban systems has seized hold of city planners around the world in recent years, propelled by new and cheaper digital devices, better internet connections and the rise of big data. In the City of the Future (or '**Smart City**'), advanced technologies and applications address security, mobility, energy, housing, healthcare, water, waste, civic engagement and possibly more, with the promise of improving the quality of life of urban residents, improving the governance of cities and making cities prosperous, inclusive, sustainable and resilient.

Before putting new smart city technologies and applications into operation they need to be tested under real-life conditions in **agile, controlled environments** and interoperating with a multitude of ICT devices, systems and infrastructures, while dealing with regulatory and safety issues, including privacy and data protection, and a multitude of actors and stakeholders. A modern way of creating environments that enable innovation, co-creation and start-up development, while putting users/citizens at the centre of the innovation process, is the **Living Lab**.

The JRC is now opening two of its research campuses to third parties interested in co-creating Living Labs for two selected smart city application areas: **transport and energy**. The two campuses - located in Ispra<sup>1</sup>, Italy and Petten<sup>2</sup>, the Netherlands - effectively simulate urban environments given the large number of staff, buildings, roads and utilities on the two sites, combined with the scientific expertise in multiple disciplines, dedicated experimental facilities and high-speed communication networks.

## ***Intended applicants***

This pilot call is open to **public and private** organisations in EU Member States and countries associated to the EU Research Programme Horizon 2020, and addresses in particular small and medium-sized enterprises, including start-ups.<sup>3</sup>

## ***Thematic priorities***

The Call for Expressions of Interest is centred on Intelligent Mobility and Digital Energy, covering:

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<sup>1</sup> The Ispra site is located in the province of Varese (Italy), some 60 km northwest of Milan, and is the 3<sup>rd</sup> largest premises of the European Commission after Brussels and Luxembourg

<sup>2</sup> The Petten site is located in the Dutch province of North Holland, about 15 km northwest of Alkmaar, on the North Sea

<sup>3</sup>. See [here](#) for the list of countries associated to Horizon 2020

**Future Mobility Solutions Lab (Ispra)**, encompassing:

- Pre-trip and real-time ride-sharing services allowing staff and visitors to plan, or arrange at very short notice ad-hoc shared rides (including navigation assistance for the pick-up);
- Door-to-door automated delivery services for handling the distribution of internal mail and small-volume goods;
- Vehicle connectivity and communication (V2X), in particular for what concerns the European standard for vehicular communication (ITS G5) and the Long Term Evolution of Vehicle to everything (LTE-V2X) approaches;
- Automated shuttle and/or robo-taxi services;
- Clean vehicle solutions, including retrofitting technologies to reduce pollutant emissions of existing vehicles and systems to support the deployment of alternative fuel infrastructures.

Proposals concerning other types of Innovative Mobility Solutions will also be taken into consideration.

**Digital Energy Solutions Lab (Ispra/Petten)**, encompassing:

Innovative Internet of Things (IoT) solutions for smart-home and smart-city energy management, air/water quality monitoring and well-being, and related components and technologies, such as:

- Smart meters, sensors and devices for the collection of energy, environmental and well-being data; infrastructure for renewable energy production, energy storage and e-mobility, smart lampposts, etc.;
- ICT infrastructure (communication protocols, network units and gateways);
- Interactive user interfaces (eg, apps, web-portals), geographic information systems and tools for data analytics.

Proposals concerning other types of Digital Energy Solutions will also be taken into consideration.

Given the apparent synergies, proposals may also address future mobility and digital energy topics in combination, using the labs as an integrated "smart city and urban platform" prototype. Furthermore, the JRC welcomes proposals that are more ambitious than on-off tests.

***Benefits to applicants***

Both the Ispra and Petten sites of the JRC provide unique opportunities for creating testbeds for Living Labs in the afore-mentioned areas, for organisations looking to experiment and evaluate innovative concepts and technologies in a pre-competitive, yet real-life environment. Applicants will benefit from the following assets and services, provided by the JRC (see also 'Financial regime' below):

- A **city-like, yet controlled test environment**, featuring in Ispra some 2 300 people daily, over 130 buildings, 36 km of roads, and all the logistical services that are necessary to run a small town, including energy generation and water provision. All this is in a fenced-in area of some 167 ha providing a safe and

secure environment, in which the JRC applies Italian law (related to safety, transportation, highway code and such like) under its own responsibility. The JRC Petten site is part of a larger campus hosting other research organisations in the energy and health fields, as well as some 250 staff and 26 buildings. Both sites embrace a technology-oriented culture and receive high numbers of visits from leading scientists, policy makers and thought leaders from all over the world. The sites are also frequently visited by students from schools of the hosting country.

- **State-of-the-art laboratories and technical support**, including smart grid interoperability laboratories and vehicle testing facilities as well as special technical infrastructure (e.g. ground or aerial sensing or specific infrastructural adaptations) and use of the JRC Makerspace and technical workshops on the Ispra site.
- **Scientific expertise** across a wide range of topics combined with knowledge of the policy context including expertise on real-time simulation, block chain and cyber-security research, as well as high-performance computing, to mention but a few.
- **Advanced digital infrastructures**, including facilities for smart grids, smart homes, smart mobility and advanced communication testing, all of which rely on the international high-speed data network for research and education (GEANT)<sup>4</sup>. Mentoring on
- **Future deployment and commercialisation.**

In addition, subject to availability, the JRC may offer assistance to users concerning the arrangement of accommodation, transport and any other logistics needed for the stay at the site, including the provision of temporary office space.

### ***Benefits to the JRC***

The JRC is embarking on creating Living Labs at its sites to:

- Enhance the JRC's input to **EU policy-making**, particularly in the areas of energy and transport, with the insights gained from the field tests and demonstration activities expected to originate from this call. This applies not only to new regulation but also to the monitoring of the implementation of existing regulation.
- Develop the JRC's profile as a Living Lab for new smart city technologies, service models and participatory approaches, as a showcase for **city mayors**, local and regional authorities and the citizens at large.
- Network with **other Living Labs** by sharing test data and results (if not protected), addressing issues of common concern (e.g. related to privacy) and leveraging the potential for uptake, thanks to a wider community.

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<sup>4</sup> A complete overview of the laboratories and facilities is available [here](#).

### ***Financial regime***

All resources, services and materials made available by the JRC on the one hand, and by the applicant in support of the collaborative project are considered 'in kind' and **no money will flow either way**. The same principle applies to the cost of transport and subsistence incurred by the applicant's team when visiting/staying at the relevant JRC site.

### ***How to apply***

Interested parties are kindly invited to use the **Proposal Submission Form** for their expression of interest and submit it to the email address provided at the bottom of the form. The submission should include:

- **Administrative information** and identification of the chosen Living Lab.
- Brief **outline** of the Living Lab Project (three pages max) including: abstract, description of activities to be conducted and deliverables, scientific and technical value, co-creation approach, originality and innovation, market uptake potential; benefit and added value to the User Institution; relevance to the focus area of the call and to the local features at the JRC; added-value to site services and operations; infrastructure requirements (towards the JRC) and timeframe.
- **Project management team** and list of references, images, web-links, etc. supporting the proposal.

During preparation of the expressions of interest organisations are encouraged to contact, and if deemed useful, visit the JRC sites targeted in this Call.

This call is open until **31/12/2020** and proposals may be submitted at any stage.

### ***Selection and kick off***

A JRC internal expert panel will evaluate incoming applications, using the criteria of:

- Scientific and technical value, innovation and market applicability/uptake potential (weight: 25%);
- Relevance to EU policy context (weight: 25%);
- Relevance to the local features of the JRC site (weight: 25%);
- Feasibility of implementation as to cost and competencies needed (weight: 25%).

The JRC will contact shortlisted applicants with a view to arranging a meeting at the Ispra or Petten site in order to discuss:

- Technical implementation of the proposal;
- Legal and financial parameters, including arrangements to ensure full compliance with data protection legislation;

- Terms of the collaboration agreement.

The discussion will cover the details of the Living Lab Project, the equipment to be used, as well as any provision of in-kind contributions from the applicant. It will also take into account the schedule of the JRC Living Lab and the available resources from the JRC, including the use of JRC research infrastructures.

A **Collaboration Agreement** will be concluded between the applicant and the JRC, covering the modalities for using the site as a Living Lab testbed, including issues such as the rights and obligations of the JRC and the applicant, intellectual property, data protection, confidentiality, site access, third party liability, insurance, in-kind contributions and reports.

More information on the terms of the collaboration is available in the '**Terms and Conditions related to Joint Research Centre Living Labs**'.

### **Contact**

For enquiries please contact us at:

JRC-LivingLabs@ec.europa.eu