Press Release

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INSA Lyon to take part in €4M Horizon 2020 project to build collaborative Urban Drainage research labs communities

Co-UDlabs

INSA Lyon is taking part in a new €4 million euro Horizon 2020 project that aims to integrate research and innovation activities in the field of Urban Drainage Systems (UDS) to address pressing public health, flood risks and environmental challenges.

The EU's Urban Drainage Systems (UDS) have been valued at €2.5 trillion. They are essential infrastructures providing safe sanitation and drainage and environmental protection by collecting and then returning securely to the natural water bodies. Many UDS are at risk, their economic life is coming to an end, and it is unclear how limited knowledge on their state and processes, population growth, climate emergency, untreated stormwater and public health threats caused by emerging pollutants and pathogens can be addressed, and how knowledge innovation and best practice is effectively shared. Innovative approaches are urgently needed to tackle these challenges, and largescale laboratory facilities are essential to investigate and validate new approaches and provide confidence in their effectiveness and safety before implementation in existing UDS.

Co-UDlabs (Building Collaborative Urban Drainage research labs communities) is a four-year project starting in May 2021 bringing together **17 unique 'field scale' urban drainage experimental facilities** hosted by seven research organisations in Europe: University of A Coruña (Spain), University of Sheffield (UK), INSA Lyon (France), Aalborg University (Denmark), Deltares (Netherlands), EAWAG (Switzerland) and IKT (Germany). The experimental facilities are designed for research across a range of disciplines, including urban flooding, runoff pollution, physico-chemical and biological in-sewer process, sustainable urban drainage systems (SUDS), performance analysis of urban assets, real time control and asset deterioration.

The **main objective of Co-UDlabs is to provide transnational access** to these facilities allowing stakeholders, academic researchers and innovators in the urban drainage water sector to come together, share ideas, co-produce project concepts and then benefit from access to top-class research infrastructures to develop, improve and demonstrate those concepts, thereby building a collaborative European Urban Drainage innovation community.

The **transnational access** to research infrastructures or installations **is free of charge** and includes the logistical, technological and scientific support as well as specific training: facility providers will provide free of charge support to access the research infrastructure (physical and knowledge-based) and to undertake breakthrough engineering and scientific research and innovation using multi-institutional and multi-sectorial teams. Local teams will help in the preparation of each visit and at least one research assistant and/or laboratory technician will be dedicated to the service of the granted projects. Expert scientific and technical staff will also support users' groups during the visits. Accommodation and travel costs of user group are also covered by the project.

Access to research facilities will be granted to selected applicants through **two calls for applications** that are planned to be opened in **October 2021** and **October 2023**.

Laboratory DEEP at INSA Lyon is involved in different Work Packages of Co-UDlabs and leads WP 6 on "Smart sensing and monitoring in urban drainage". WP 6 aims to i) foster a paradigm shift in UDS management, transitioning from current inefficient approaches towards a digitized, informed, shared, evidence-based decision process based on truly smart monitoring, ii) identify and evaluate new sensors and technologies for hydrological and hydraulic variables, pollutant load monitoring and UD underground asset inspection, iii) define and evaluate new methods and tools to improve evidence base for reliable and validated urban drainage monitoring data, and iv) define and evaluate new methods to analyze and interpret urban drainage space and distributed data.

INSA Lyon is delighted to be part of this important opportunity to co-create better innovative products tested at the full-scale level, supporting the EU's drive to deliver a more knowledge-based economy as well as improving performance of its own urban water infrastructure.

After a recent "Kick-Off" meeting in May 2021 Dr Anta Álvarez, the project coordinator at the University of A Coruña (Spain), said: "Interconnecting our large-scale urban infrastructure testing facilities, and actively create multi-sectorial teams will make it possible to support the take up of novel innovations, mitigating development risk and promoting transition to full scale living labs and urban systems".

For more information on the project, please follow @CoUDlabs on Twitter or on Co-UDlabs on LinkedIn.

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Contact at laboratory DEEP, INSA Lyon: jean-luc.bertrand-krajewski@insa-lyon.fr