GLocalFlex Advances Real-World Implementation of Energy Flexibility at Oulu Pilot Site

The Horizon Europe initiative accelerates its European pilot deployment, translating automated flexibility trading concepts into live testing environments.

The GLocalFlex project, a pioneering initiative aimed at advancing energy flexibility in Europe, continues to make critical strides in its deployment phase. Recently, consortium partners gathered in Oulu, Finland, to conduct technical site visits and advance the integration of the Oulun Energia demonstrator. Led by VTT, Finland's leading research institution, the project is moving steadily from theoretical architecture to live, on-the-ground validation of its flexibility marketplace.

GLocalFlex, a project funded by the European Commission under the Horizon Europe programme, aims to boost the flexibility of the European energy system. Its main objective is to mobilise replicable demand response solutions and services, enabling rapid adoption of flexibility in local energy systems. To achieve this, GLocalFlex facilitates access to energy flexibility markets, encouraging active consumer participation across all energy sectors.

Building upon the execution roadmap established during the project's first year, the recent activities in Oulu represent a significant milestone for the project's six locations across Europe: France, Spain, Switzerland, Finland, Germany and the Czech Republic. The pilots will assess the impact of the proposed services, platforms, and architectures, focusing on both technology and active consumer engagement. During this phase, partners are successfully establishing communication with the GLocalFlex platform, developed by VTT, to integrate and analyse data from all demonstrators.

One of the key aspects of the GLocalFlex project is the close collaboration among its 17 partners and 6 affiliated entities that make up the consortium. This multidisciplinary collaboration brings together a wide range of stakeholders from the energy systems value chain across 7 European countries. By bringing together energy distribution companies, research and development centres, industrial suppliers, aggregators, market platform operators, technology integrators, ICT developers, and municipalities, GLocalFlex ensures a holistic approach and innovative solutions.

Participation is key for flexibility GLocalFlex fosters interoperable solutions and products at all levels of the grid, from consumers to producers, retailers and aggregators, by selecting modular standards and tools to ensure flexibility in both energy consumption and the evolution of energy systems. Any local energy system, positive energy district, community, or appliance will be able to adapt and offer flexibility through suitable hardware accessories in a cost-effective and systematic manner. Additionally, the GLocalFlex concept adapts to the scale of the energy system, the availability of local resources and regulations.

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The aim of GLocalFlex is to automate flexibility trading and the execution of flexibility orders between machines within local energy systems. An open and interoperable flexibility market, with open-source IT tools, will allow the participation of a greater number of flexibility consumers. GLocalFlex will drive the integration of disruptive renewable technologies, improving the stability of the electricity grid.

Press Contact:

Carolina Villoria Torres
European Project Manager, Construcciones García Rama, S.L.
idi@garciarama.com

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