

EU4BET: EU for building energy transition

MULTI-DISCIPLINARY APPROACH TO BRIDGING ENERGY TRANSITIONS IN EUROPE

Smart Buildings

The EU building industry remains nowadays energy intensive and predominantly inefficient accounting for 40% of final energy consumption and 36% of the EU CO2 emissions. This is mainly caused by poorly designed or old building structures that cannot adapt easily to occupants needs and with an average renovation rate of less than 1% of the EU building stock, a structural modernization seems a very unlikely scenario. Building energy management systems and innovations could drive the change towards a more energy efficient Europe untapping building' efficiency, reducing environmental impact without compromising the comfort of the residents.



Five complementary projects funded by Europe's Horizon 2020 Research and Innovation programme are dedicated to enhancing building energy efficiency. These initiatives are introducing state-of-the-art technologies to monitor and optimize buildings' energy consumption, ultimately fostering more sustainable practices

Key results



Upgrading smartness levels of existing buildings through smart appliances



Developing energy-efficiency solutions from sustainability and costs points of view



The **HRB - Horizon Result Booster** is an initiative funded European Commission, Directorate General for Research and Innovation, Unit J5, Common Service for Horizon 2020 Information and Data.

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Challenges

- ◆ **Societal:** Secure, clean and efficient energy.
- ◆ **Technological:** Development of IoT sensors for building data collection, cloud-based platforms for interoperability, and user-centric services. Addressing scalability issues, lack of financing tools, and orchestrating building energy systems for sustainability.
- ◆ **Industrial:** Integrating legacy equipment, smart appliances, and IoT sensors for building efficiency while addressing cost, cybersecurity, and EU market standardization challenges.

Who benefits?



Policy makers



Researchers and Academia



ICT Operators and Service Providers



Civil Society, NGOs and Citizens



Start-ups and SMEs

Projects



Smart2B aims to upgrade smartness levels of existing buildings through coordinated control of legacy equipment and smart appliances. smart2b-project.eu



COLLECTiEF implements and tests an interoperable and scalable energy management system based on collective intelligence. collectief-project.eu



The PRECEPT project aims to facilitate the smooth and almost zero operational costs of transformation increasing the buildings' performance, energy efficiency, and the occupants' well-being. www.precept-project.eu



PRELUDE facilitates the transition to clean energy by combining innovative, smart, low-cost solutions into a proactive optimization service. prelude-project.eu



The **SATO** project aims to implement and test a cost-effective solution to assess the real-life energy performance of a building and its energy consuming equipment. www.sato-project.eu



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