



EBENTO

Energy efficiency Building Enhancement
through performance guarantee Tools



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Co-op





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- Pilots overview
- Scenarios



EBENTO AT A GLANCE

Consortium

- 11 Partners (7 countries)
- 4 Pilots
- Total Budget 5,6 M€
- Duration 36 Months



Research entities

JR, UL, IECCP, IRI



Legal and EPC expert

JR, UL, IECCP



Technology providers

ETRA, HYPERTECH, CCOOP



End users

VCE, CEMOSA, TalTech, MYT, CCOOP





General

- Integrate innovative technology solutions for a cost-effective building enhancement using performance guarantees.
- Investigate new performance-based business models for performance guarantees based on one-stop-shop tools
- Valorise energy and environmental performance, resource and energy efficiency, energy flexibility and comfort for all building elements after renovation
- Increase the traceability of performance and the replication





Specific

- Development of a a one-stop-shop platform for all actors involved in the building and renovation sector to better coordinate and manage energy performance contracts and energy saving measures.
- Focuses on citizens as key players in the energy transition, assisting them in making decisions to invest in improving the efficiency of their homes.
- Increase the involvement of public institutions and energy communities by helping them to identify potential buildings for improvement.
- Explore the best financing for users by studying the type of support available.
- Study how to improve EPCs to include savings from demand response mechanisms, user comfort and energy efficiency.
- Create new business models including consumers and companies needs





Reach the objectives

TOOLS

One Stop Shop



Building performance contract module



Monitoring Module



Simulation Module





One unique platform

One Stop Shop



One-stop shop tool for the management of energy efficiency contracts, simulation and monitoring of buildings, with the aim of improving the dialogue between the actors involved in the renovation of buildings and the citizen.



REACH THE OBJECTIVES

Energy Performance contract management



Contract management and storage

- Decision support: generation of "standard" contracts.
- Contract management and control: EPC life cycle and validating metrics.

Working as a Logbook where energy efficiency certificates and financial information for the different contracts will also be stored.



REACH THE OBJECTIVES

Monitoring is the key

One Stop Shop



Building performance contract module



Monitoring Module



Simulation Module

Monitoring module and KPIs

- Monitoring the state of the houses.
- List of KPIs that allow the evaluation of energy contracts (both parties).
- Metrics of housing behavior for consumers.



REACH THE OBJECTIVES

Simulate to understand



Physical simulation:

- Calculations based on BIM and specific energy simulation programs..

Economic simulation:

- Profitability calculation coming by the physical simulation and actuations
- Including loans or grants offered by public institutions.
- Simulation of the best performance contract to increase the benefits for the end user.



PILOTS OVERVIEW

Pilots

Stage 1: Only metering (sensor, HEMS...). Energy consumption optimization and interaction with DR mechanism and flexibility.

Stage 2: Metering, control and automation of the house elements to enhance the energy performance. DR mechanism and energy saving will be achieved. Including comfort as guarantee for EPC.

Stage 3: Monitoring + physical and ICT renovation. EPC link with profits and savings.

Stage 4: All stages combined → Monitoring, control and physical renovations. Complex EPCs (comfort, energy, flexibility...)





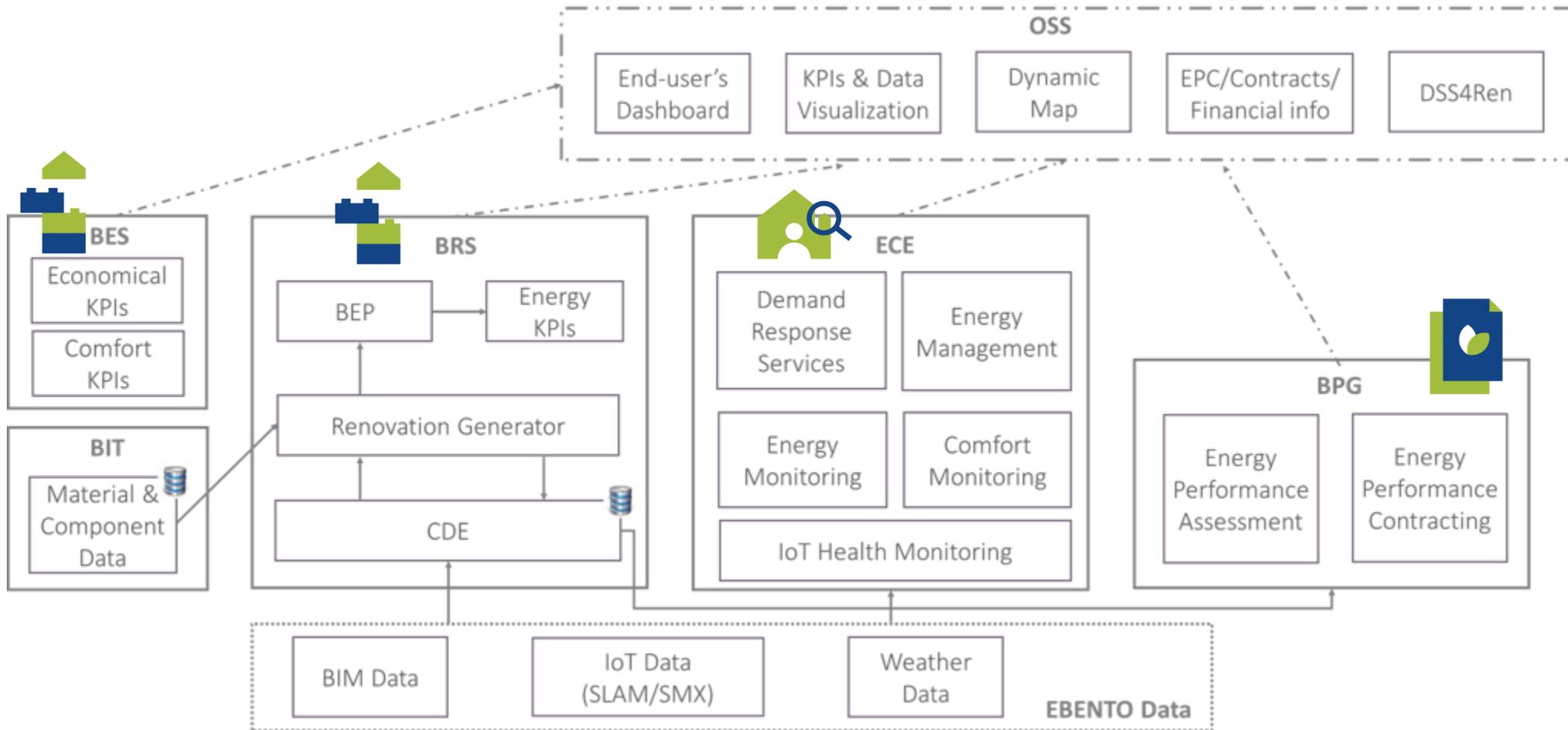
Testing the solutions

- **EPC framwork**
Innovative energy performance contracts to improve not only the energy efficiency of buildings but also their maintenance.
- **Social awareness**
Improve advice to citizens on the actions to be carried out linked to the EPC.
Involve citizens and end-users in the entire tool development process.
- **Flexibility and DR**
Incentivize projects with flexibility mechanisms in residential buildings by increasing revenues from renovation actions.





REACH THE OBJECTIVES



THANKS

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