



GReSBAS

Grid Responsive Society Through Building Automation Systems

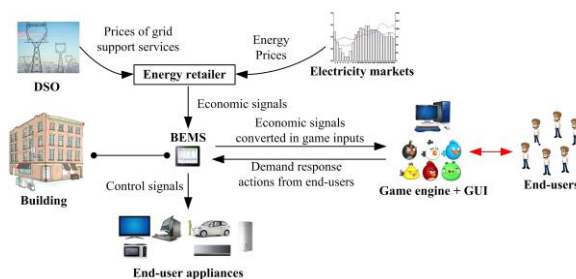
” GReSBAS aims to implement an innovative gamification system for promoting DR actions in buildings.

Gamification of Demand Response

This project aims to achieve grid responsive consumer-side resources through gamified competition between the building owners with widely used automation technologies.

GReSBAS project will propose an innovative gamification system to leverage the active participation of building occupants/owners in DR (Demand Response) actions. The project will use advanced gamification techniques together with building automation technologies to achieve significant energy efficiency gains. An important emphasis will be given to DR programs capable of supporting and improving the operation of distribution grids.

The project includes national awareness analysis and real world implementation in distinct environments: in Turkey and Portugal. These studies will allow evaluating at a transnational level the performance of the developed gamification techniques for end-user engagement.



GReSBAS concept

Project Duration

01.04.2016 - 01.04.2019

Project Budget

Total Budget: € 665,058

Funding: € 570,587

Project Coordinator

Istanbul Technical University (ITU),
TR

Project Partners

- INESC TEC- Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência, (PT)
- MAKEL Companies Group, (TR)

Project Website

www.gresbas.eu

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Main Objectives

- Setup of demonstration sites in Portugal and Turkey, equipped with building automation systems to monitor consumption and to implement DR actions;
- Development and implementation of gamification techniques for end-user engagement in order to educate and motivate building occupants/owners to actively participate in DR schemes;
- Development and implementation of game mechanics and graphical user interfaces to enable the participation of building occupants/owners in DR actions, providing them access to their performance and individual ranking;
- Development and implementation of DR algorithms to improve the performance of the distribution grid and to promote optimal economic management of the building's energy consumption levels;
- Design, development and improvement of building automation hardware and software to enable/support the participation of end-users in DR schemes.

Key Impacts

The project aims at promoting an active participation of small-scale consumers in DR actions. Through statistical evaluation and performance measures of the consumers derived from stored data, they will be informed about their consumption as well as how efficient they are. Moreover, the importance and the advantages of their behaviour will be explained by quantifying their economic and technical benefits. In addition, the proposed system will create personalized suggestions with respect to inferred statistical measures to improve their benefits.

GReSBAS project also aims at convincing the consumers about the importance of socialized electricity consumption. All these efforts are targeted to provide high quality, reliable and cheaper electricity service to the consumers, which can be regarded as key impacts on the consumers.

The project will also provide a chance for the building automation system industry to extend the application areas of their products as well as to improve their features in accordance with the developments made within the project. Briefly, the new challenging features of the GReSBAS project will force and motivate the building automation system manufacturers to improve the content of their current systems.

The key impact of this project on the distribution utilities is the provision of new flexible assets in supply/demand balancing together with locally analyzed performance measures and detailed statistics. In fact, the project will promote the effective usage of local assets by encouraging small-scale consumers to participate in grid operation.

From Local Trials towards a
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<http://www.eranet-smartgridsplus.eu>

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ASSOCIATE LABORATORY
PORTUGAL

MAKEL

This project is part of the 1st Joint Call for transnational RDD projects of the ERA-Net Smart Grids Plus initiative. More than EUR 31 million of funding have been made available to 21 projects from 19 regions/countries.

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