

SmartGreenHomes



Thermotechnology solutions for a sustainable and connected home

The Smart Green Homes project aims to strengthen research, technological development and innovation. It is developed in copromotion between Bosch Termotecnologia S.A. and the University of Aveiro. It is financed by Portugal 2020, under the Competitiveness and Internationalization Operational Program, and by the European Regional Development Fund.

In the last decades there has been a growing awareness on shortage of resources associated with the increasing of the energy consumption, as well as to the problems inherent to these facts, which are known to have a negative impact on the environment and even to the current society. Thus, profound changes in the behavioral patterns of society have been identified, leading to new consumer trends and market offers. The present project was created in order to provide answers to the mentioned problems, aiming to develop innovative solutions for the household environment, with an improved comfort perception in addition to a higher sustainability and lower environmental impact. In this sense, we intend to take advantage of the continuous developments in materials science and energy, combined with innovative strategies for technology integration, process control and automation incorporated in the products to be developed. Potential synergies between the different devices that are part of the household environment will also be explored, in order to improve ease of use, promote operation benefits, synchronize and complement the different functions provided by them.

The implementation of this project is focused on six lines for the development of products and services, mainly based on: 1) heat pumps & air purification systems, 2) heating by gas combustion, 3) electric heating, 4) water treatment, 5) interface and communication for equipment comfort and, 6) integrated control of residential systems. The main goals of SmartGreenHomes is to achieve the increase of more than 20% of energy efficiency in housing; the reduction of CO₂ emissions by more than 20% per residence; the reduction of water consumption by more than 50 L per day in each residence and the increase in the home comfort index.

All these product & service lines are integrated into four main research areas, namely: materials, energy, environment and EICT (electronic, information and communication technologies). As a leading supplier of hot water heating solutions and a manufacturer of a diversified range of residential products, Bosch is in a unique position to contribute to the challenges identified in the project, which will be complemented by the excellent research carried out by the University of Aveiro.