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Press release

## **Energy savings of 22 to 56%: results of experiments on pilot buildings under the HOMES program in association with the French Electrical Contractors' Association (FFIE)**

Over the past 20 months, a series of experiments conducted on 5 pilot sites by the HOMES program and the FFIE have produced exceptional results in terms of energy savings. As well as identifying several improvement drivers, the initiative has also unlocked the potential for commercializing a number of prototype technical innovations.

**Paris (France), November 25, 2011** – The HOMES (Homes and buildings Optimized for Mastery of Energy and Services) collaborative program and the French Electrical Contractors' Association (FFIE) have announced the results of experiments carried out at 5 pilot sites (a school, an office block, 2 hotels and a residential apartment block).

### **Promising results**

To reduce the energy consumption of equipment and systems in buildings, the HOMES program has defined 150 control functions based on 2 key principles:

- > Reduction of the energy demand in each room based on the room's occupancy and levels of activity, using a "multi-application" approach which combines and optimizes all the energy-consuming equipment
- > Secondly, optimization of the energy supply on the 3 energy vectors which feed a building: electrical systems, water systems (heating, hot water, etc.) and ducting systems (ventilation, etc.)

Using these active control solutions, it has been possible to measure a considerable reduction in energy consumption at the pilot sites.

> **Montbonnot primary school (Isère region): 56% saving in energy consumption**, mainly by controlling the air quality and the thermal comfort (according to the occupancy level - which is very intermittent), and by controlling the heat production according to the requirements of the classrooms

> **Savoie Technolac office building (Savoie region): 36% saving in energy consumption**, by multi-application control operating mainly on controlling the automatic switching off of lighting and office equipment when staff leave, and making optimum use of natural light

> **3-star hotel in Nice (Alpes-Maritimes region): 37% saving in energy consumption**, by multi-application control operating mainly on controlling thermal comfort and air quality using data provided by CO<sub>2</sub> sensors

> **1-star hotel in Carcassonne (Aude region): 30% saving in energy consumption**, mainly by setting to energy idle mode when the rooms are not occupied, and also due to optimized control of external lighting, in particular of signs, according to meteorological data provided by the weather station installed on the hotel's roof.

> **Residential apartment block at Vaux-sur-Seine (Yvelines region): 22% saving in energy consumption** as a result of optimized management of heating according to occupancy level, of ventilation using data provided by CO<sub>2</sub> sensors, and of lighting according to user requirements (this parameter is linked to the opening/closing of roller blinds in order to benefit from free natural light)



During 2012, the program will assess the control functions based on two other key principles:

- > Control of the various energy sources (renewable, storage, etc.) according to their availability (electricity grid peak demand) and how they change
- > Supplying the various users of the building (occupant, manager, owner, maintenance manager) with information systems which will enable them to identify potential savings

### **One program, numerous innovations**

HOMES, which was started in 2008, is Europe's largest innovation program in the field of active energy efficiency in buildings. The aim of this 4-year program is to provide every type of building with optimum solutions to achieve the best possible energy performance. Supported by OSEO (French public organization which supports entrepreneurship and innovation), it brings together 13 industrial partners in the sector and 120 researchers.

This synergy between researchers has led to the development of new technologies. Examples of this include:

- > A self-powered, batteryless comfort sensor
- > A multi-application zone controller which powers, protects and controls lighting, shutters and blinds as well as heating, ventilation and air-conditioning (HVAC), all at the same time

This controller performs the key functions of electrical distribution, consumption measurement, etc. while reducing the use of cables by 30 to 60%, and it halves the installation and reconfiguration time.

For more information on HOMES: [www.homesprogramme.com](http://www.homesprogramme.com)

Press release and illustrations available on request.

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### **About HOMES**

HOMES ("Homes and buildings Optimized for Mastery of Energy and Services") is a collaborative innovation program. Its aim is to provide every building with solutions to achieve the best possible energy performance. Lasting for four years (2008-2012), HOMES is supported by OSEO, a French public organization which supports entrepreneurship and innovation. Led by Schneider Electric, the program brings together thirteen industrial partners and researchers. Together, these complementary individuals and organizations in the building management field are devising solutions to:

Optimize the use of energy

Diversify energy sources

Ensure long-term energy performance

Ensure easier implementation of energy management in new and existing commercial and residential buildings in Europe

Program partners: CEA, CIAT, CSTB, Delta Dore, EDF, INPG, Philips Lighting, Radiall, Schneider Electric, Somfy, STMicroelectronics, Wateco, Wieland Electric

Cooperators: FFIE, Manaslu, Electen, Le Confort Electrique, Michel Chiffre Sarl, Perrin Electric, Realiss