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## **Interview – May/June 2006**

### ***Claude RICAUD, Scientific and Technical Director of Schneider Electric and HOMES project leader***

#### **What does the Homes project comprise?**

HOMES is a French acronym for “optimized housing and buildings for better control of energy and services”.

The objective of HOMES is to significantly increase energy efficiency in tertiary and residential buildings, whether new or existing, by implementing active energy control and making maximum use of each ‘drop’ of energy. HOMES also promotes solutions enabling different renewable energy sources to be linked to provide building power. Lastly, HOMES defines the means to develop new energy-related services. The project could provide as much as 20% savings in energy consumption. At a time when energy costs are constantly rising and environmental protection requirements are becoming more stringent, energy saving represents both a crucial challenge and a major opportunity.

#### **What do you mean by ‘active energy control’?**

Active control is the possibility of optimizing energy use by means of automated control and monitoring systems.

An example: control enables lighting conditions to be adapted according to several criteria such as whether someone is in the room or not, or to ambient lighting conditions. Active control lets you switch on, off or vary lighting according to your needs.

This not only brings energy savings but also improvement in terms of comfort.

Another example: ventilation. Instead of leaving air vents open all the time (or blocked during extremely cold weather), active control lets you pilot them according to the measured interior air quality and the outside temperatures, thus choosing the optimal moment to ventilate (warmest times in Winter, coolest times in Summer). It even takes account of external pollution levels. The results are significant potential energy savings (heating, air conditioning) and improved comfort, health and safety.

#### **Where is the innovation in HOMES?**

The implementation of active building control systems requires multiple innovations, in

- new technologies (e.g. autonomous energy for sensors)
- a systems approach for the different building functions.

In addition, innovation will be needed in our business models to develop these solutions which are aimed not just at installation contractors, but also need to be accepted across other industry sectors.

HOMES will involve significant technological effort; this is also where the support of the A.I.I. (French agency for industrial innovation) is important.

However, HOMES is not just a technological project; it includes test deployments which will enable the acceptability of these technological advances to be studied (from late 2007 onwards), as well as various sector-related tools for recommending HOMES solutions.

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### **Does HOMES include savings achieved through building improvements?**

HOMES is focusing on electrical and building control systems to implement active control and make energy savings of 20% by: energy use management, load efficiency (e.g. LED lighting), active load control, integration of alternative energy sources (particularly solar energy) and energy efficiency services.

Solutions involving the building structure (materials, insulation, double glazing, etc.) are outside the scope of HOMES, but the presence of the CSTB (French approval body for the construction sector) will keep the project up to date on progress in the sector in terms of control design (e.g. light wells that bring natural light into building spaces have an impact on lighting control).

### **When does the project start?**

The project has been selected by the A.I.I. Industrial Innovation Agency. The agency must still obtain approval from the European Commission regarding funding for HOMES and other selected projects. This approval should be obtained by October 2006.

### **When will the first products be available?**

At the end of 2007, based on current existing technologies. These products will be active control management units integrating power and control functions.

### **How much will the project cost, and how much is the A.I.I. providing?**

The project will run until 2010 and will represent a total investment of € 88 M. € 39 M will be financed by the A.I.I. in the form of subsidies (€ 25M) and advances repayable if the products developed are commercially successful. Schneider Electric's contribution (including TAC's share) amounts to € 55 M. Additional financing is planned for the non-French partners in the project.

### **What is at stake for Schneider Electric?**

It should be noted that building use represents almost 40% of total energy consumption. Energy performance is therefore of strategic importance for developed economies. In France, a 1% efficiency gain represents savings of over € 100 M, which is a considerable amount.

With the entry into force of environmental standards and more specifically of white certificates, also known as energy saving certificates, the need to control energy consumption is crucial to all building industry players, from the builder to the end-user.

Environmental requirements and increasing energy costs have created a market opportunity, for which Schneider Electric is positioned to offer industry solutions, notably in collaboration with TAC.

The group has developed a strategy based on three fundamental orientations.

Its first aim is to combine complementary products and services to provide the customer with the solution best suited to their needs. It also aims to enhance its offer to avoid future commoditization. Finally, it offers the opportunity to enrich the whole electrical sector, which will certainly increase collaboration.

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In the current economic context, the construction industry electrical systems market is preparing for major changes which offer genuine growth opportunities.  
And, in the end, the reason why the HOMES project exists is to seize these opportunities.

### **Who are your partners in the HOMES project?**

Schneider Electric's partners are:

- CEA (micro-electronics research lab)
- CSTB (French approval body for the construction sector)
- ST MicroElectronics (communication and power components)
- CIAT (air conditioning)
- TAC (energy efficiency and conservation)
- Wieland (connection technology)
- Philips (lighting and electronics)
- EDF (services)
- Watteco (communication components and consumption measurement)
- SOMFY (closures)
- DADIALL (radio communications)
- Delta Dore (building control)
- Polyspace (software tools)
- INPG (polytechnic institute of Grenoble, through the IDEA laboratory, run jointly by EDF and Schneider Electric)

### **Who from Schneider Electric will be participating in the project?**

The project is led by the Scientific And Technical Department of P&T, with teams from DST, PPC, and C&M (innovation platforms in particular). TAC is also a partner in the project.

### **What is the link with the Minalogic joint project?**

Minalogic projects were approved in April 2006. Among them, the SmartElectricity project is partly included in the HOMES and the portion concerned will therefore be financed by the AII.