

Case Study S3C

Energy@home

S3C related keywords:

- Real time feedback
- End users active participation
- Smart appliances

“Technology can help end-users to make a more efficient use of their electric appliances”



Project Summary

The Energy@home Italian trial involved a group of 50 household end-users (15 of whom have a PV power plant) and equipped them with five smart plugs, a smart washing machine, and a home gateway. This allowed them to have a real time feedback and other statistics on their consumption and production via a web application.

The goals of the project were to validate the proposed architecture and test its capability to actively control domestic appliances in response to a time of use tariff. Another objective was to understand end-users' feelings towards such smart system architecture and assess their active participation.

What sets this project apart from other Smart Grid projects?

The Energy@home trial was implemented thanks to the collaborations of three main partners (a telecommunication company, a white goods manufacturer and a DSO). Such companies often have radically different motivations and point of views, but the way they were able to work with one another and share their experiences represents an added value, which distinguishes the project from many other similar pilots. A multi-competencies approach is, in fact, one of the keys to success in the future smart grids. This trial is one of the outcomes of a much wider collaboration framework named Energy@home Association, which involves 19 partners from different industries including chipset manufacturers, 3 different white goods manufacturers and also SMEs and a Research Institute.

The other strength of the Energy@home project lies in the feasibility of the implemented system. Indeed, it can be easily integrated with end-users' daily routines without effort, because it can work with devices which the end-users own already. The simplicity of the equipment is another key to reach a more and more active involvement of the end-users in the smart grids.

What happened?

People involved in the project showed a positive response to the implemented system in the initial period, which led to the decrease in their consumption with respect to the previous one. Their active participation (measured via the access rate to the web application) started to decline after some months. Thus, in order to keep their level of involvement as high as possible, a push-based mechanism where a monthly newsletter was sent via e-mail to the end users: this e-mail addressed different types of anonymous comparisons between end-

users, such as comparison in the stand-by consumption, in the level of usage of the refrigerator, the washing machine, etc..

These newsletters were very appreciated by end-users who started to ask questions about the system and to ask for suggestions about improving their consumptions. Energy@home measured a relevant decrease in end-users' consumptions, proving that comparison among end-users has the effect of improving their behaviour. A forum was also introduced that allowed the participants to interact and exchange information with one another. This stimulated their active involvement and facilitated the rise of common initiatives addressing energy issues, which have the potential to go beyond the activities carried out in the project.

Further information / Contact

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References:

Energy@home Homepage: www.energy-home.it

Pictures

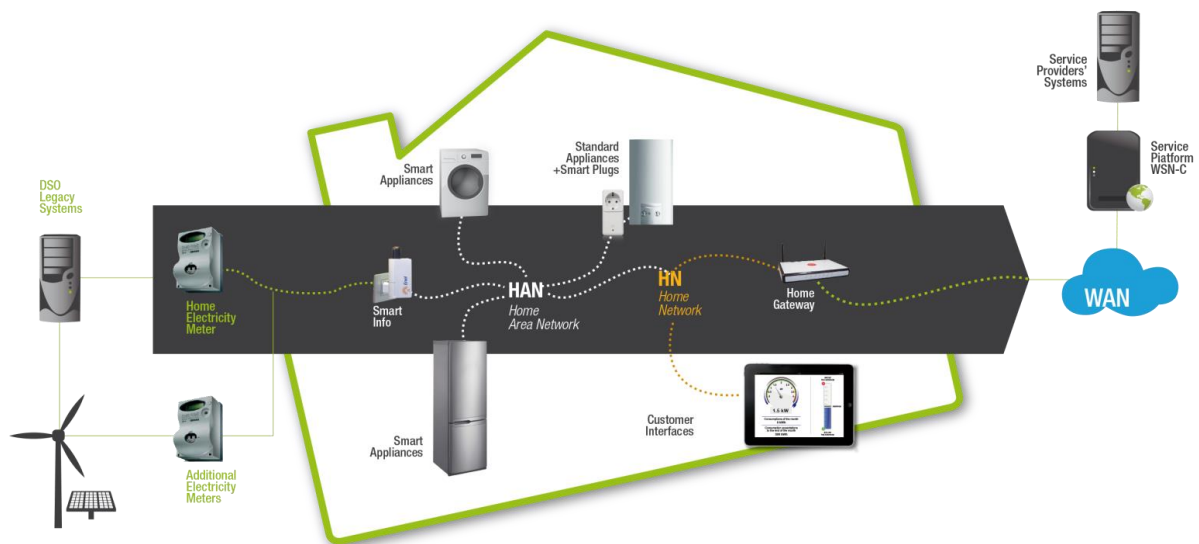


Figure 1 - Energy@home Architecture

Founding Members:



Ordinary Members:



Aggregate Members:



Figure 2 - Members of the Energy@home Association



Figure 3 - Enel SmartInfo Device