

BeyWatch: Building Energy WATCHer

“ICT for a global sustainable future” Conference



Project Overview: Objectives & Innovation

Alberto Muñoz Gallego

TELEFÓNICA I+D

Brussels: 23rd January 2009





Project Summary & Objectives

- What is BeyWatch?
- Innovation areas & partners
- Main Project Goals



Relevant Innovation Activities

- Hierarchical Agent/Supervisor distribution
- BeyWatch Home/Neighbour Architecture



BeyWatch: Building Energy WATCHer

Project Summary & Objectives



BeyWatch is a FP7-ICT-2007 project which covers ICT for *environmental management and energy efficiency*. It proposes an energy-aware and user-centric solution, able to provide intelligent energy monitoring/control and power demand balancing at home/building & neighbor level.

- The system will:
 - A) **Interconnect** legacy professional/ consumer electronic devices with a new generation of energy-aware white-goods, where multilevel **hierarchic metering, control, and scheduling** will be applied (based on power demand, network conditions and personal preferences).
 - B) Via an **innovative hybrid photovoltaic/solar system**, it will be able to produce hot water and energy, which will be used at home or at peak hours fed to the electricity network.
- The proposed system will function in a two layers hierarchy:
 - **Micro-management plane:** interactive monitor/control of all the devices in the home, and RES power generation in order to achieve amortization of loads and peak suppression of small-scale power consumption.
 - **Medium-management plane:** medium-level control and coordination of the energy resources at larger geographical regions.

BeyWatch: Building Energy WATCHer

Project Summary & Objectives



■ Six Innovation areas:

- 1 Intelligent energy-aware white goods
- 2 Ultra low-cost in-home communications
- 3 Devices' monitoring & personalized control
- 4 Hybrid Photovoltaic/solar home system
- 5 Modelling & control of power distribution in local areas
- 6 Business Support Systems and new business models



- Reduced energy Consumption
- Power demand balancing
- Mutual beneficial contracts
- Contribution to standards
- Contribution to Energy & environmental Sustainability EU vision
- Reduced pollution & CO2 emission





BeyWatch: Building Energy WATCHer

Project Summary & Objectives



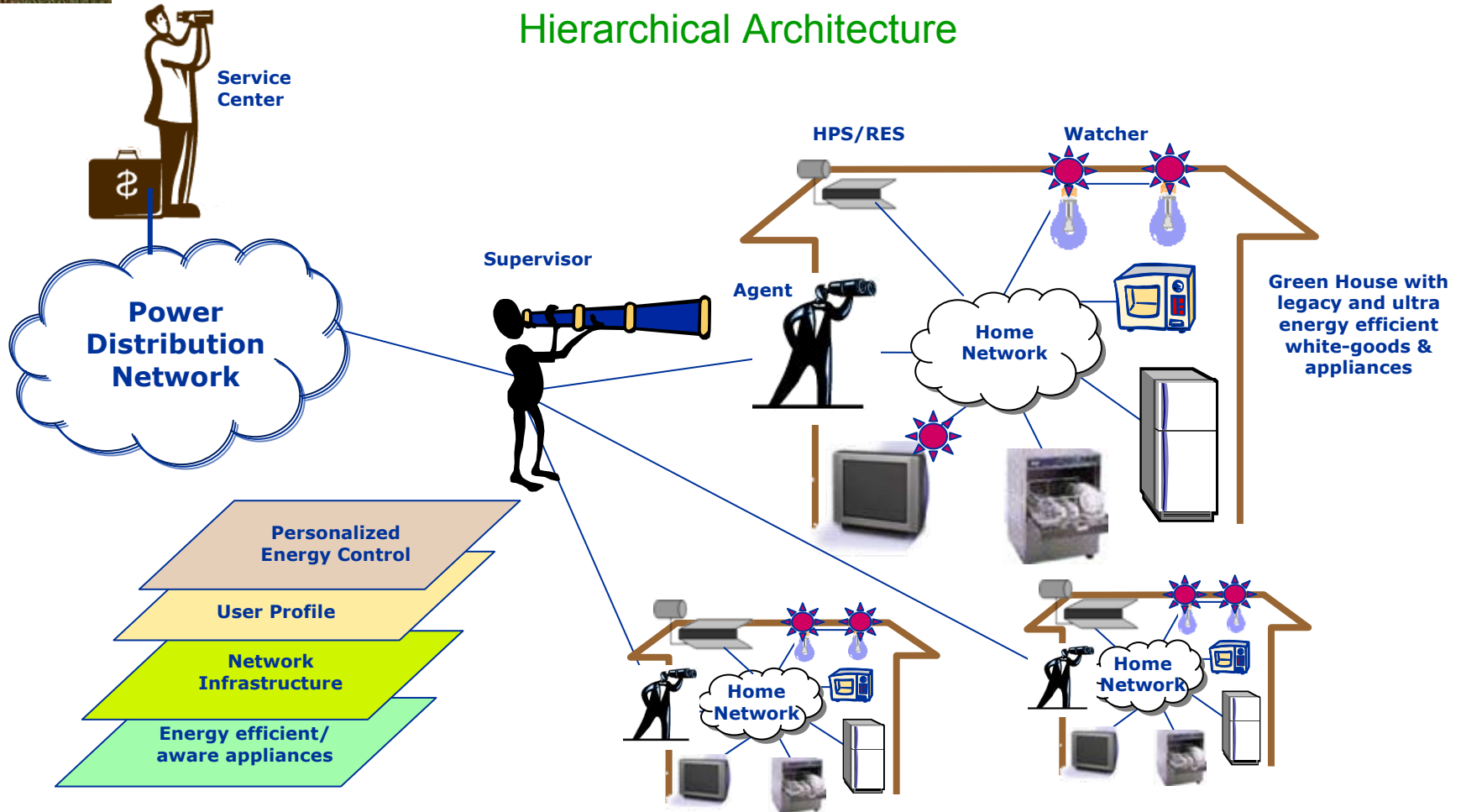
- Design **ultra-low energy-consumption white-goods**
- Implement methods, techniques and services to reduce the power consumption in smart/green homes/blocks/neighbours **by intelligent control of electrical devices**
- Generate **hot water and electricity from RES** at building level, leading to further power savings and energy consumption/production optimisation services
- Elaborate **business plans and BSS applications** that will help the users and the providers to reach beneficiary contracts
- **Motivate user's awareness, towards less CO2 emissions** on the whole energy value chain (production, transportation, distribution, supply) and cleaner environment.

BeyWatch: Building Engergy WATCHer

Relevant Innovation Activities



Hierarchical Architecture



Telefonica
