



# The role of telcos and whitegoods manufacturers

18th November 2010 – ICT4SH

José Manuel Marcos



ict for  
sustainable  
homes

- Introduction
  - Energy-aware white goods in BeyWatch
  - Who is Fagor?
  - Some facts about white goods and energy consumption
- What kind of solution are we looking for?
- Where to improve on energy aware solutions via ICT?
  - Networked white goods
  - RF solution: Zigbee
  - Benefits from an Agent based solution
- Conclusions

# Introduction

Energy-aware white goods in BeyWatch



- 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



18th November 2010 – ICT4SH

José Manuel Marcos

3



ict for sustainable homes



## ■ Who is Fagor?

- Part of Mondragon Co-operative Group
- The fifth european household appliances group

**FAGOR** 

 edesa

 *aspes*

*Brandt*

De Dietrich 

**THOMSON**

*Mastercook*

*Sauter*

**OCEAN**

**VEDETTE** 

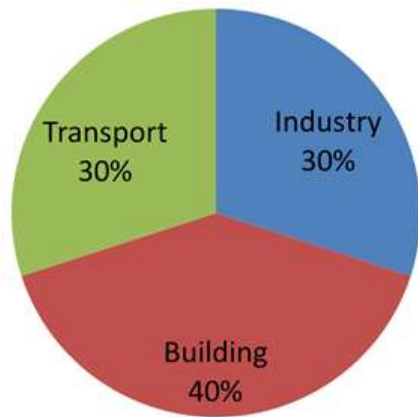
- 50% of company's investment goes into research, development and innovation

# Introduction

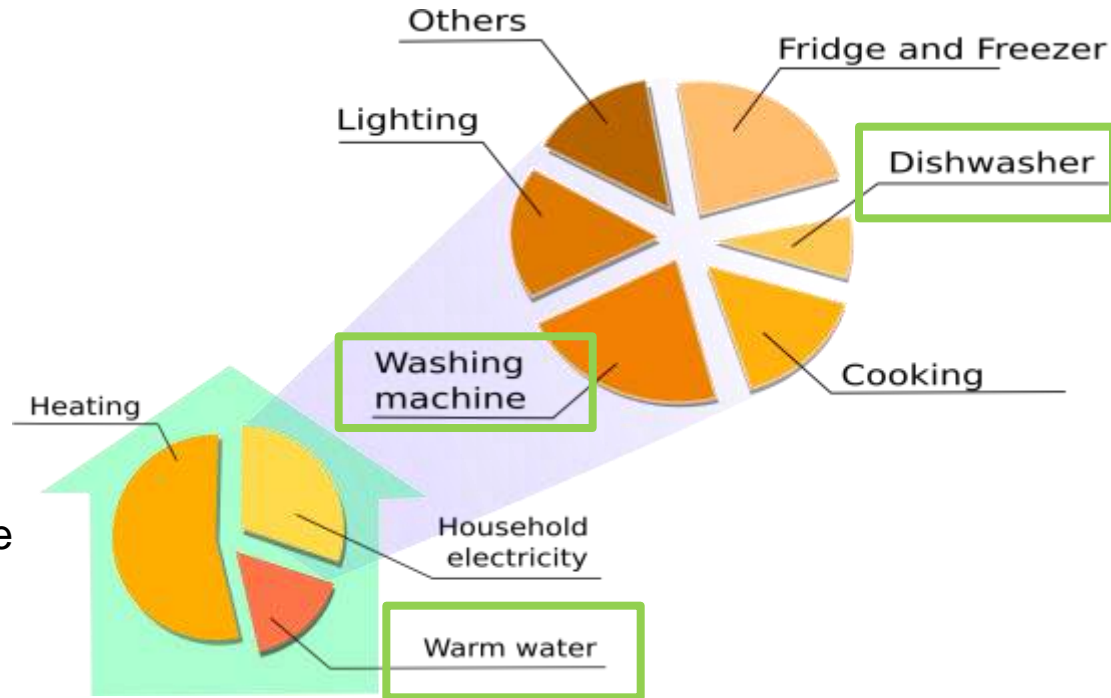
Some facts about white goods and energy consumption



## ■ General considerations



Energy consumption in Europe



Distribution of the energy consumption in a regular house



# What kind of solution are we looking for?



## ■ Trend towards *smart appliances*

- Almost any kind of appliance, including the regular ones (not necessarily high-end appliances), can improve its efficiency and its contribution to global efficiency via connectivity. More parameters of the washing process can be monitored and remotely controlled.
- Main objective: to profit from new services and new control capabilities being developed now and in the future without changing the appliance, using technology that can be adapted to any present and future communication network (Digital Home).



18th November 2010 – ICT4SH

José Manuel Marcos



6



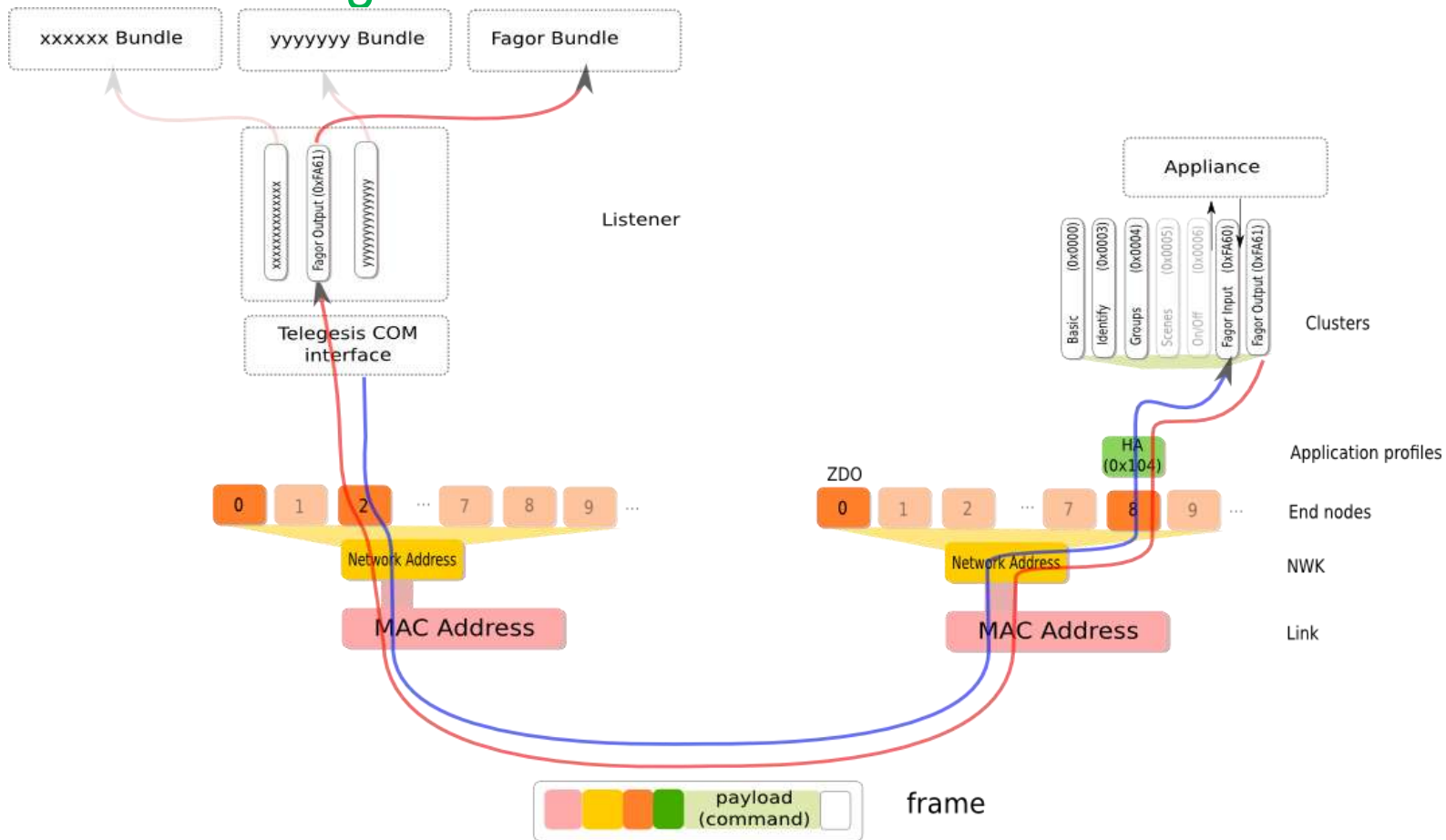
# Where to improve via ICT?

- Networked white goods



# Where to improve via ICT?

## RF solution: Zigbee



## ■ Benefits from an Agent based solution

- Every device in the network is monitored and controlled.
- New devices can be added dynamically.
- Manufacturers bundles in the Agent can be updated.
- The washing appliances can provide information about energy consumption and instantaneous power, so the user can aware about the difference between washing at different moment of the day, with more expensive or cheaper tariffs, ...
- Take benefit from cheaper water heating sources.
  - The washing appliances are fed with pre-heated water.

## ■ Benefits from an Agent based solution

- Avoid consumptions peaks and balance the load.

Interaction with the washing appliances:

- Control of starting/pausing/stopping the device (including delayed start).
- Obtain efficient washing programs:
  - When the user wants to start the washing process, the BeyWatch Agent can select between a group of alternative programs.
  - Alternative programs proposed include the possibility of washing at a lower temperature without losing washing efficiency.
  - Washing appliance can make profit of pre-heating water using renewable energy sources.

## ■ Baywatch's and Fagor's offer for the future

We want to keep delivering solutions adapted to the end user needs in order to:

- Have appliances connected to current and future communication networks via an advanced management system.
- Be aware of energy consumption.
- Give the possibilities to become an active part in the energy-aware system at home (self control and management).
- Promote active and effective control based also in sustainable and renewable energies.



Thank you for your attention

Merci de votre attention

Gracias por su atención

Eskerrik asko zuen arretagatik



18th November 2010 – ICT4SH

José Manuel Marcos

12

