



# ICT For Sustainable Homes – 2010/11/18

## “User awareness towards sustainable homes”

**Aurélia DELCLOS – OSMOSE**



Project supported by the PACA Region and the FEDER European Operational Program



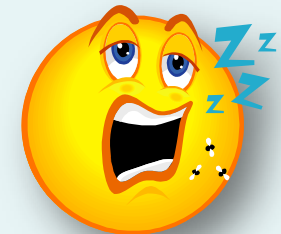
# Residential vs. Offices



*I pay the bill.*



*My company pays the bill ...*



Project supported by the PACA Region and the FEDER European Operational Program

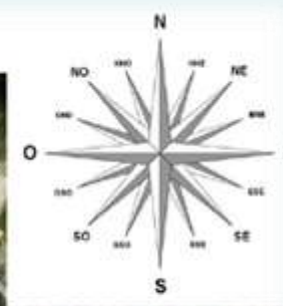
# A challenge ...

- Objectives :
  - Increase eco-behaviors and eco-attitude
  - Improve the use of office equipments
  - Reduce energy consumptions
- A winner :
  - The team used the most efficiency
- A reward
  - for the employees
- Energy savings
  - For the company



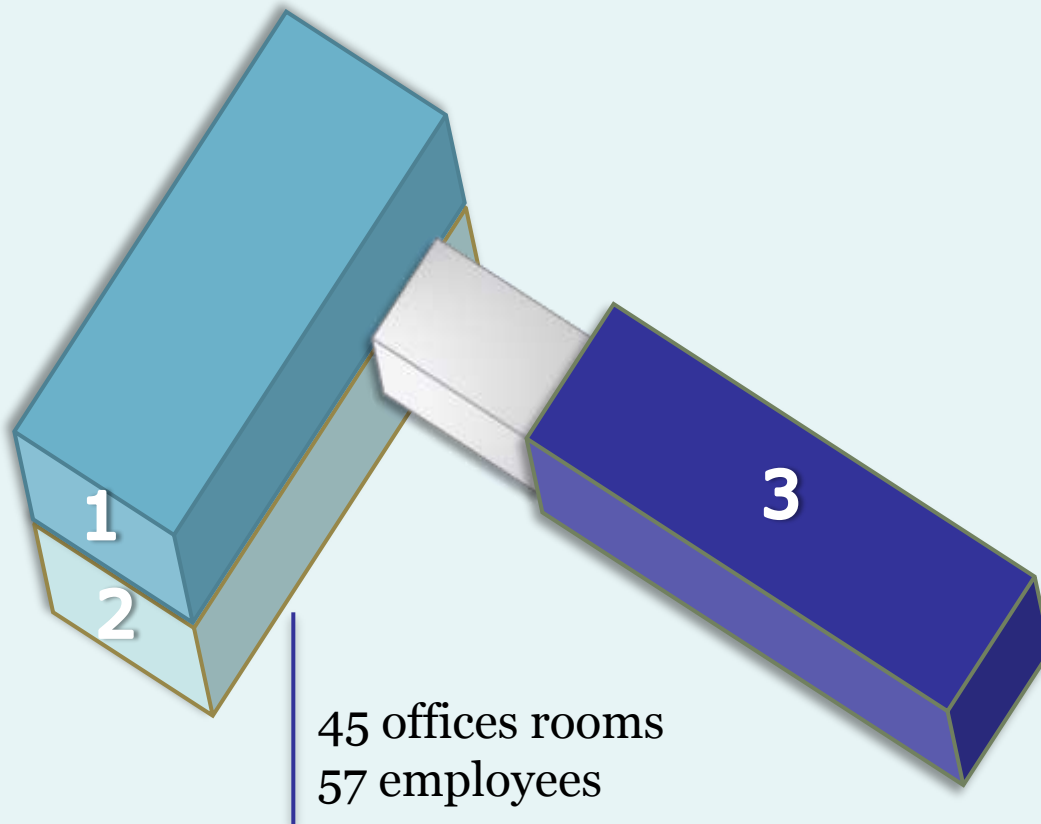
Project supported by the PACA Region and the FEDER European Operational Program

# Place



Project supported by the PACA Region and the FEDER European Operational Program

# 3 Teams



Project supported by the PACA Region and the FEDER European Operational Program

# The rules

- Each team will:
  - Reduce its overall energy consumption
  - Reduce its energy behavior
    - Bonus / Malus system



Project supported by the PACA Region and the FEDER European Operational Program

# Bonus or malus ?

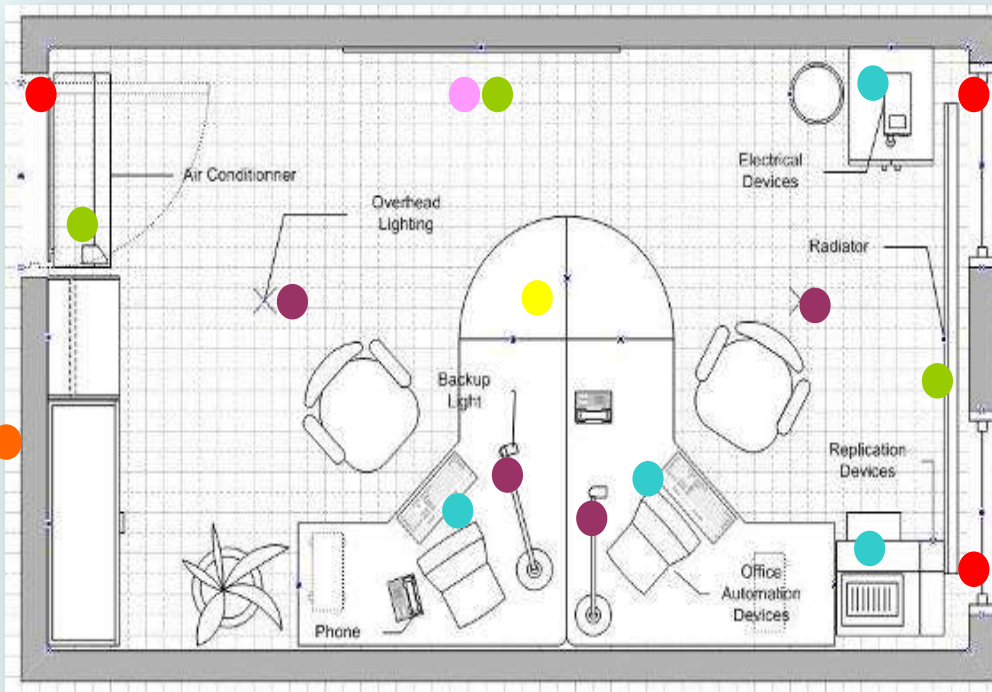


# Bonus or malus ?



# Bonus or malus ?





Sensors	
4 temperature sensors	●
4 light sensors	●
3 contact sensors	●
1 electricity meter	●
2 brightness sensors	●
1 presence sensor	●
4 power-detector plugs	●



Project supported by the PACA Region and the FEDER European Operational Program

# Contact sensor



Sending data on opening and closure.

Project supported by the PACA Region and the FEDER European Operational Program

# Room temperature sensor



Room temperature in Celsius.

Project supported by the PACA Region and the FEDER European Operational Program

# Radiator temperature sensor



Temperature in Celsius every 2 hours if there is no change.

Project supported by the PACA Region and the FEDER European Operational Program

# AC temperature sensor



Temperature in Celsius every 2 hours if there is no change.

Project supported by the PACA Region and the FEDER European Operational Program

# Motion detector



Detecting motion at each workplace.

Project supported by the PACA Region and the FEDER European Operational Program

# External temperature sensor



External temperature in Celsius.

Project supported by the PACA Region and the FEDER European Operational Program

# Plug sensor



Detecting energy consumption at each workplace.

Project supported by the PACA Region and the FEDER European Operational Program

# Illumination sensor



Detector for ambient light and illumination.

Project supported by the PACA Region and the FEDER European Operational Program

# Tywatt sensor



Detecting the energy consumption for AC, illumination and the electrical devices.

Project supported by the PACA Region and the FEDER European Operational Program



Collecting the data from the sensors in each team.

Project supported by the PACA Region and the FEDER European Operational Program

# Installation 1/2



Project supported by the PACA Region and the FEDER European Operational Program



# Installation 2/2



Project supported by the PACA Region and the FEDER European Operational Program

# Web Interface



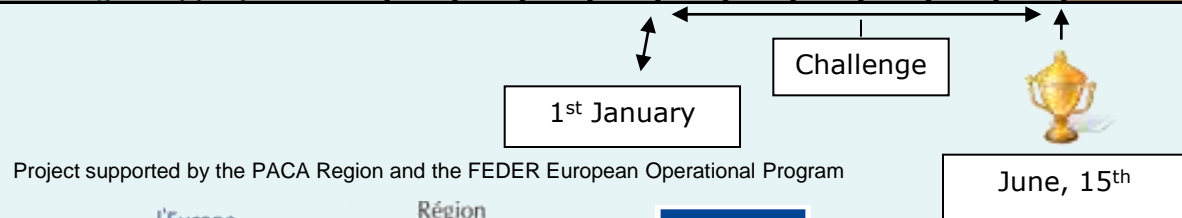
# Reception interface



Project supported by the PACA Region and the FEDER European Operational Program

- 4 phases
  - Data Acquisition (initial state),
  - Interface effect without challenge
    - Are they interested in their energy consumptions without challenge ?
    - What is the impact of the knowledge of their energy consumptions on eco-responsible behavior ?
  - Challenge effect => we will follow the energy consumptions.
  - Ownership : the challenge was stopped and the interface was removed => Is there a return to normal behavior or do we observe learning or an improvement compared to baseline.

Phases	m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12
1. Finalisation prototype et instrumentation												
2. Expérimentation sans challenge - effet interface												
3. Expérimentation avec challenge												
4. Expérimentation sans challenge - appropriation												



# Partners



Project supported by the PACA Region and the FEDER European Operational Program





# Thank you for your attention

## Contacts :

Contact mail : [ecoffices@cstb.fr](mailto:ecoffices@cstb.fr)

OSMOSE : **Aurélia DELCLOS** (coordinator)

Email : [aurelia.delclos@osmose06.com](mailto:aurelia.delclos@osmose06.com)

Project supported by the PACA Region and the FEDER European Operational Program

