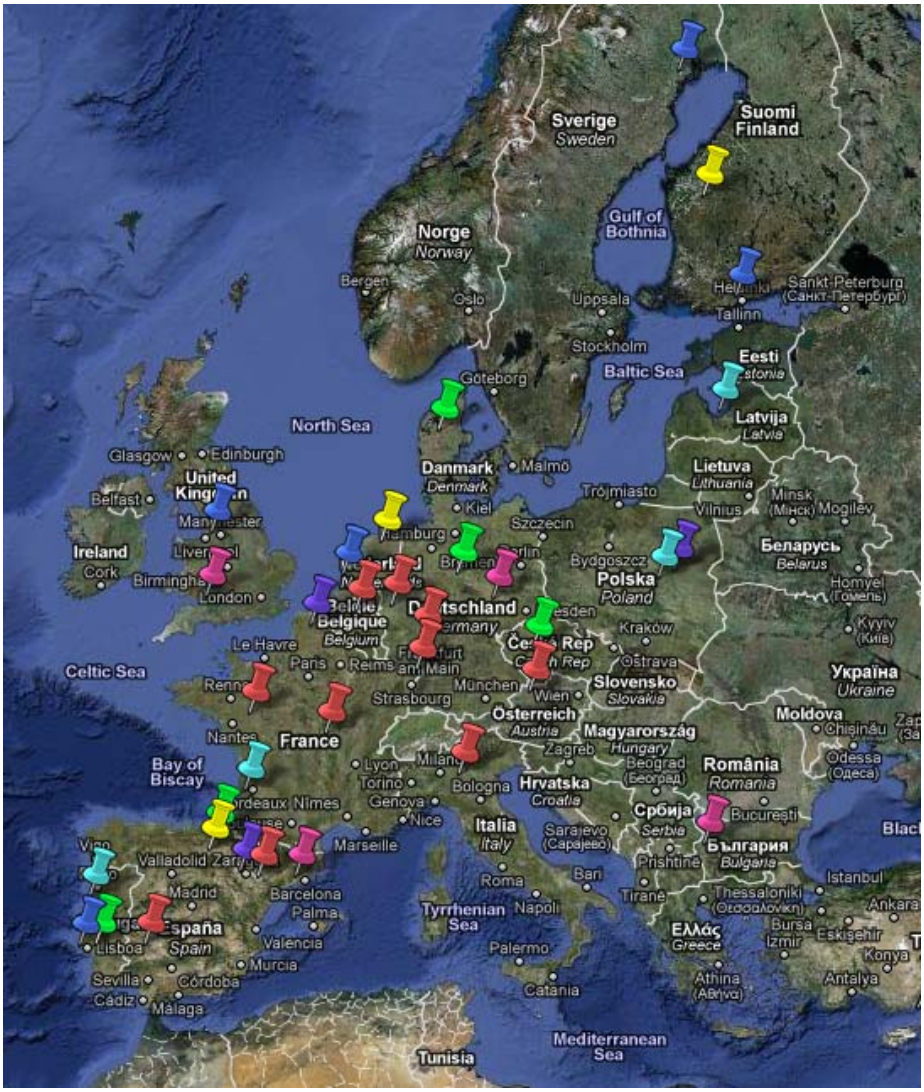
ICT FOR ENERGY EFFICIENCY

On the path towards a sustainable society

CIP ICT-PSP Projects



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> Public Buildings and Street Lights

Best Energy: Built Environment Sustainability and Technology in Energy

Website: **www.bestenergyproject.eu**

HosPilot: Intelligent energy efficiency control in hospitals

Website: **www.hospilot.eu**

LiTES: Led-based intelligent street lighting for energy saving

Website: **www.lites-project.eu**

Save Energy

Website: **www.ict4saveenergy.eu**

Best Energy

Built Environment Sustainability and Technology in Energy

What?

This project aims at implementing and validating several pilot actions in different European public buildings and public spaces, for improving the energy efficiency by the use of market ready ICT solutions, demonstrating also the economic viability of the systems to be installed.

How?

The main objective of this project is to improve the energy efficiency in public buildings and street public lighting, by using the ICT-based centralized monitoring and management of the energy consumption and production. The project also aims at providing decision makers with the necessary tools to be able to plan energy saving measures.

Who and where?

The project comprises trial activities that will be implemented at four pilot sites and three replication sites located in five EU Member States. The performance will be tested in the following real-life scenarios:

> the Karmelo Balda-Paco Yoldi Sports Centre in San Sebastian City (Spain) with replications in the National Theatre in Prague (Czech Republic) as well as in other three public buildings in San Sebastian ;

> the University in Braunschweig (Germany) with replication at the Viborg Town Hall (Denmark)

> the Etxarriene residential area lighting in San Sebastian (Spain)

> the municipality lighting in Almada (Portugal)

Why?

The initially project target is to achieve a 12% reduction on the energy consumption of the buildings, and at least a 30% reduction of the energy consumption of the public lighting systems.

AT A GLANCE

Consortium:

- **Czech Republic**: Enesa
- **Denmark**: Viborg Minicipality, Cowi
- **Germany**: University of Saarlandes, Energydesign Braunschweig, University of Technology Braunschweig , Aachen University, Rumpe Information Technologies
- **Spain**: Fomento de San Sebastián, Giroa, Green Power Monitor
- **Portugal**: Almada City Council, Local Energy Management Agency of Almada

Duration:

39 Months from February 2009 until April 2012

Total Cost:

€4.520.000 (EC contribution €2.260.000)

Website:

www.bestenergyproject.eu

Contact:

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HosPilot

Intelligent Energy Efficiency Control in Hospitals

What?

HosPilot will install, tailor and fine-tune an ICT based system that will lead to more efficient energy use without adversely affecting (and even improving on) the comfort of the end-users in hospitals: patients, medical staff and visitors. *HosPilot* will address two main areas: Lighting and HVAC (Heating, Ventilation and Air Conditioning), which account for nearly 80% of all energy use in hospitals.

How?

HosPilot will achieve this by:

• Assessing the hospital's energy-saving potential. The following information will be taken into account:

- Climate (seasons, temperature, wind, etc.)
- Influence of daylight
- Building envelope (construction materials, insulation, etc.)
- Hospital room conditions (occupancy, usage, light, air, humidity, etc.)

• Providing hospitals with an ICT-based scheme to reduce energy consumption. Computer simulations will be used to generate this scheme.

• Implementing the scheme.

•Fine-tuning of the scheme for maximum energy saving through regular monitoring.

Who and where?

Three pilot projects will be executed in hospitals during normal operations: UMCG Hospital, Groningen (NL), San Pedro Hospital, Logrono (ES), EPSHP Hospital, Seinajoki (FI).

Why?

Until recently, the focus of energy reduction has been primarily on schools and offices. Hospitals, however, also use large amounts of energy. Therefore, the project will specifically address the hospital domain.

The *HosPilot* project will support decision makers with an ICT-based service that will drastically reduce the energy consumption of newly built hospitals and in existing ones needing renovation, while increasing well being and comfort.

AT A GLANCE

Consortium:

- **The Netherlands**: Philips Lighting, Universitair Medisch Centrum Groningen
- **Spain**: Philips Iberica., Acciona Infraestructuras, Fundacion Labein, Servicio Riojano de Salud
- **Finland**: VTT - Valtion teknillinen tutkimuskeskus, Granlund, EPSHP – Hospital District of South Osthrobotnia
- **France**: CSTB - Centre Scientifique et Technique du Batiment
- **Monaco**: Eneleo

Duration:

3 years from March 2009 until February 2012

Total Cost:

€4.340.000 (EC contribution €2.170.000)

Website:

http://www.hospilot.eu/

Contact:

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LITES

Led-Based Intelligent Street Lighting for Energy Saving

What?

The main objective of the *LITES* project is to develop and produce a smart, LED-based street-lighting device that is compatible with EU electrical standards, to prove that solid-state lighting using LED technology can drastically reduce energy consumption. The device can be used on secondary streets, commercial access routes, alleyways, pedestrian walks, cycle tracks, university paths and other thoroughfares.

How?

The core of the solution is the dimming of the light intensity in response to changing environmental conditions. A set of embedded sensors measures light, temperature, the intensity of the electrical current and motion detection.
The output data of the sensors is then processed by the embedded software that responds to the requirements of particular conditions. The process allows for the optimal regulation of light delivery.

Who and where?

The project comprises trial activities that will be implemented at four pilot sites located in four EU Member States to test the feasibility and the performance of the proposed solutions in a variety of real-life scenarios.
Trial activities will be carried out in the city of Bordeaux in France, the municipality of Piaseczno in Poland, Riga Technical University in Latvia and the University of Aveiro in Portugal. A total of 200 points of lighting will be installed.

Why?

This technology offers significant energy savings of up to 70 percent and directly results in economic and ecological savings for communities as well as supporting increased traffic safety and public comfort.

AT A GLANCE

Consortium:

- **France**: Veades, Ville de Bordeaux, Université Paul Sabatier Toulouse III, Metercom
- **Italy**: Politecnico di Torino
- **Poland**: Gmina Piaseczno
- **Portugal:** Universidade de Aveiro
- **Latvia:** Rigas Tehniska Universitate
- **Spain:** Fundicio Ductil Benito

Duration:
2.5 years from December 2009 until May 2012

Total Cost:
€2.559.756 (EC contribution €1.279.877)

Website:
www.lites-project.eu (coming soon)

Leaflet:
http://tsc.internet-uni.lv/litesproject/ICT4EE-Lites-Flyer.pdf

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SAVE ENERGY

Five Pilot Projects for Improving Energy Efficiency in Public Buildings

What?

SAVE ENERGY addresses the challenges of energy efficiency in five public buildings in five European cities – Helsinki, Leiden, Lisbon, Luleå and Manchester. *SAVE ENERGY* will use a serious game* providing an engaging virtual environment for users, citizens and policy makers to gain awareness, understanding and experience associated with energy saving attitudes.

How?

Five pilot buildings across Europe will be fitted with sensors, meters and control devices to monitor overall energy use. The real-time data gathered will be centralised and used to generate an action plan for reducing use of energy via the 'serious game' interface. Results are expected to lead to a better informed public, behaviour transformation and ultimately, significant energy savings, as well as new indicators, standards and shared best practices.

Who and where?

The Leiden, Lisbon, Luleå and Manchester pilot projects' key objective is to improve the energy efficiency of administrative buildings owned by the municipality of each city. The key objective of the Helsinki pilot is to improve the energy efficiency at schools with the support of ICT technologies.

Why?

The main objective of the *SAVE ENERGY* project is to make use of ICT to transform the behaviour of users of public buildings regarding energy efficiency through serious games and real time information from sensors and actuators.

*serious game: phrase used to describe a virtual computer game which is used for professional training purposes.

AT A GLANCE

Consortium:

- **Portugal**: Alfamicro, ISA - Intelligent Sensing Anywhere, Lisboa e-nova, SPI – Sociedade Portuguesa de Inovação, RTS – Real Time Solutions
- **UK**: Manchester City Council, University of Salford
- **The Netherlands**: CeTIM Leiden, Leiden Municipality
- **Sweden**: Luleå Technical University, Luleå Municipality
- **Finland**: City of Helsinki, Green Net Finland, Aalto University, Metropolia, Nokia

Duration:
2.5 years starting from March 2009

Total Cost:
€4.460.010 (EC contribution €2.230.000)

Website and blog:
> http://www.ict4saveenergy.eu/
> http://serious-games.community.ict4saveenergy.eu/

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> Social Housing

3e-Houses: Energy Efficient e-Houses

Website: **www.3ehouses.eu**

E3SoHo: ICT services for Energy Efficiency in European Social Housing

Website: **www.e3soho.eu**

eSESH: Saving Energy in Social Housing with ICT

Website: **www.esesh.eu**

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