

CREST Project

Energy wasting is a concern for everyone: The CREST project explores different paths of removing energy wastage through more efficient and sustainable energy usage.

Based on experimentation, the CREST project works by using the "living labs" principle.

New opportunities and solutions will emerge through common users, common professional behaviours and common lifestyles which will cause energy consumption to decrease. This is why the CREST project aims to make everyone in society aware of the opportunities so behaviours can be changed to reduce energy wastage.

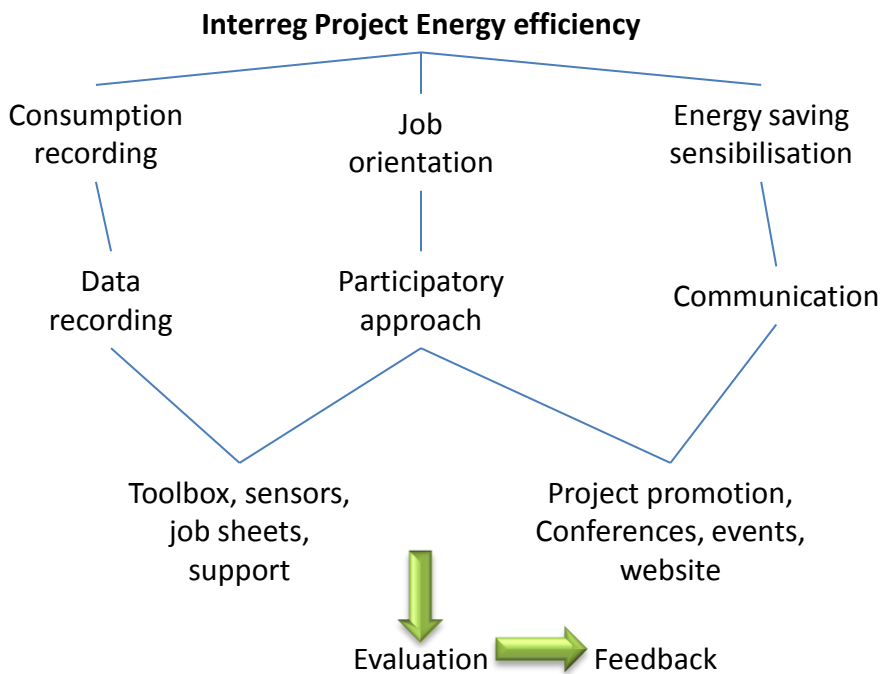
Moreover, the CREST project works on different jobs linked to renewables in order to valorise and increase employment in this field.



Aims

Tools

Production



5 partners in action:

- **Etudes & Chantiers:** This association is involved in insertion, training and volunteering in Brittany and the Pays de la Loire. It uses sites as a tool. Etudes & Chantiers is also a partner of local and international projects concerning eco-building, environment and renewables.

- **The SCIC ENR Pays de Rance** is a cooperative which gathers local professionals for a short wood supply chain. This involves logs, chips and woodland management. The SCIC also helps local authorities with wood heating systems and runs events on renewables and energy efficiency.

Actions:

- **Etudes & Chantiers** offers a training programme on energy consumption to its employees within 3 teams (Rostrenen, Trévarez, le Palacret – Guingamp) in order to develop:

- 1) A better awareness of consumption and lifestyle choices relating to energy.
- 2) Information on jobs linked to renewable energies

This training programme consists of 3 parts: using energy, producing energy and working in the energy sector. This is ran by the Al'Terre Breizh association



- **The SCIC ENR Pays de Rance** relies on 2 major partners for its events:

- 1) The SOCIAL CENTRE of Dinan, where a 'Living Lab' has been created by installing sensors. The centre also runs different events for people using the centre (civil people, social workers, energy actors, local authorities, schools) L'abri-Feuille collects the data and uses them to help users and building managers to reduce their energy consumption.
- 2) The LOCAL MISSION of Dinan which mobilises its youth, its team and its professional network to create durable partnerships to promote jobs linked to renewable energies.



A European experimentation serving local development: the CREST Toolbox.

The tool is to be developed using a participatory and collaborative approach in relation to the needs of the different territories.

For whom?

All the people having a reflection on energy and consumption choices

Which tools?

Un laboratoire vivant et ses déclinaisons :

- Sensors as support: temperature, moisture, lighting, attendance, consumption plugs, opening and closing doors and windows...
- The expertise of a thermal engineer to increase the efficiency of the building usage, retrofitting projects or after site usage, and the care of a new building
- Transferrable events: "The sun in the social centre", "sensors madness", "Understanding and reduce our invoices", "How to use a wattmetre"
- The energy suitcase: devices to record the energy consumption available to anyone in loan.
- Personalised event adapted to the place where they're run, the people involved and support on demand.

Jobs related to green economy:

- Job profiles as career orientation support and professional investigation.
- Video interviews of local professionals.
- "Professional profiles" exhibition stands
- An identified professional network to share the knowledge and skills towards a better usage of energy.

These tools are available locally to promote energy efficiency, renewables, eco-construction sector and eco-friendly materials.

Approximately twenty job sheets will be created, each one accompanied by a video interview . This will allow a better understanding of their job and how they participate in saving energy through their knowledge.

For further information:

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Southend on sea Borough Council (SBC):

- The Council: Southend-on-Sea Borough Council is the local authority of Southend-on-Sea in Essex, England. It is a unitary authority, having the powers of a non-metropolitan county and district council combined. It is a member of the East of England Local Government Association. In March 2012, Southend Borough Council was awarded the title of 'Council of the Year 2012' by the Local Government Chronicle.

Actions:

-Living Lab: In close collaboration with CESI Rouen SBC is both implementing an in situ living lab as well as a series of remote living labs based on data collection and analysis. The outputs of the Living Labs are used to inform both behavioural change actions and business investment decisions.

-LESS CO2 Schools: Less CO2 School is a behavioural change and education programme which complements the Living Labs programme to support Living Lab schools in energy reduction actions both through management and classroom engagement. This action is being both developed and delivered in close collaboration with SCIC EnR and Graine d'habitat and is delivered in parallel in both the UK and France.

-LESS CO2 Communities: Less CO2 Communities extends the CREST carbon reduction programme to include community groups and organisations. The programme enables voluntary and community groups to understand the benefits of energy efficiency, sustainability and renewable energy generation. The action is being developed in close collaboration with SCIC EnR.

Biomass local: Biomass is a key technology for renewables and retrofit and this project explores the local biomass supply chain to look at the benefits and constraints of growth in this key technology with the help and the expertise of SCIC EnR.

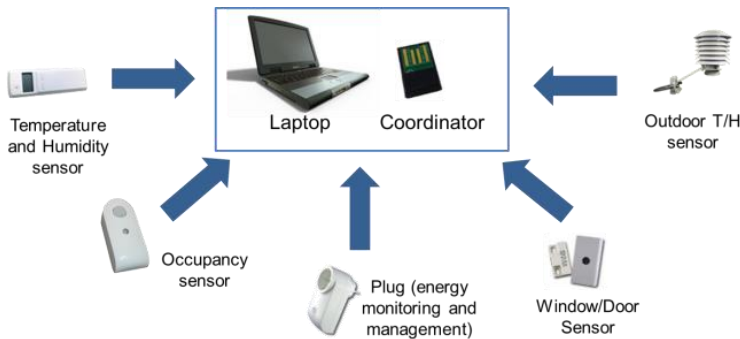


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Living Lab and research activities:

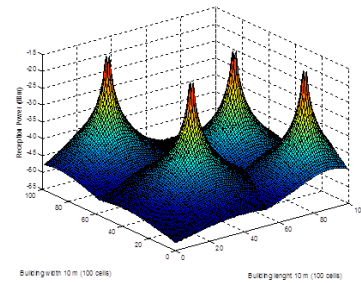
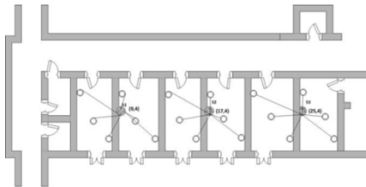
CESI Research : Nowadays CESI is one of the leading French higher education and professional training groups and specializes in training executives, engineers, technicians and experts. It develops its activities within the frame of 5 brands (ei.CESI, exia.CESI, CESI entreprises, CESI alternance, CESI certification) and the department CESI research. Research activities are organized around 3 laboratories: LIEA (Learning Environments laboratory), IRISE (Research institute in Innovation and Business Sciences) and LUSINE (Laboratory of IT and Digital Uses in Enterprises).



The actions:

As part of the development and use of living labs, the works of CESI are:

- The design, development and implementation of software and hardware infrastructure for the living lab and the support of partners in the exploitation and animations definition within this lab. This living lab consists of a wireless sensor network to acquire data on the uses of the building.
- The development of methods and support tools dedicated to the optimization of the development of sensor networks used in the context of an intelligent building decision, while ensuring a reasonable level of reliability. The living lab serves as an illustrative environment and an experimental test bench for the methods and tools developed. This work is conducted as part of a thesis realized in the IRISE and LUSINE laboratories of the CESI Rouen center.
- The exploitation of living lab in the field of ambient intelligence, to design, develop and test new management policies of intelligent lighting based on user behavior.



Optimisation of the sensor network



Living lab – smart lighting

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