eCAALYX Enhanced Complete Ambient Assisted Living Experiment

eCAALYX partners:

University of Plymouth

Telefonica

NUI Galway
OÉ Gaillimh

TeleMedic Systems

Ollscoil Luimnigh
University of Limerick

Fraunhofer

Diakonie Ruhr

cor science
cardiovascular innovations

Fundació Hospital Comarcal Sant Antoni Abat

INESCPORTO
Laboratório Associado

CETEMMSA
Technological Centre

AAL
Ambient Assisted Living

eCAALYX is founder by the European commission and the Ambient Assisted Living Joint Programme.

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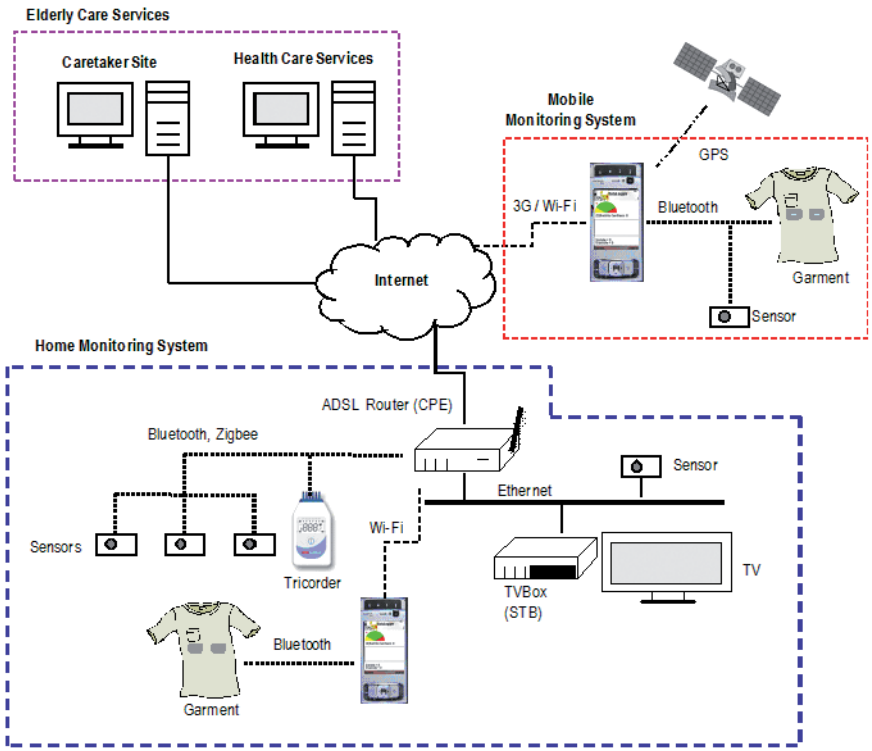
Europe faces a social change: the share of elderly people to the entire population is consistently growing, while the share of the youngest, especially the working population is decreasing. Besides, ageing combined with an increasing burden of chronic, concurrent diseases threatens to make current models of healthcare unsustainable.
Ambient Assisted Living (AAL), as a specific user-oriented type of Ambient Intelligence, may greatly help in this situation. AAL aims to **prolong the time people live in a decent more independent way by increasing their autonomy, self-confidence, health and quality of life**, by improved monitoring and care of the elderly with comorbidity.
The main objective of eCAALYX is to develop an **efficient AAL solution for the addressed chronic conditions that can provide reliable long-term and maintenance-free operation in non-technical environments**, thus, ready for real-world deployment.

This solution without adding technical complexity will improve the elder's quality of life by **assessing their health risk, by monitoring and controlling their health status and by teaching them how to manage their chronic conditions so that their independent living at home can be extended**. Additionally, it will allow comprehensive and coordinated global treatment from different doctors of **patients suffering from comorbidity** resulting in a much more efficient treatment.



eCAALYX is composed of three main subsystems:

- **1. the Home system**, which includes Customer Premises Equipment (CPE), Set-top-box (STB), Tricorder and home sensors, all of them located at home;
- **2. the Mobile system**, which includes the garment with all sensors integrated: Wearable Body Sensors (WBS) and the mobile phone,
- **3.** and finally the **Caretaker site**, which includes the caretaker server and the Auto-configuration server.

Improving the quality of life of elderly

The eCAALYX system will **enable elders to manage their chronic condition/comorbidity on their own. They will have to turn less frequently to the doctor for preventive medical checkups** since eCAALYX will facilitate easy monitoring of the prevalent chronic conditions at home and in the surroundings of the elderly. Hence, they will **become more independent**.

Reminders will support the elderly in putting the doctor's prescription into action on a more regular basis and thus the effectiveness of preventive measures such as exercises, medical intake and health monitoring will be improved.

Fall detection and prevention, comfortable health monitoring will be achieved by providing a comfortable garment embedding health, mobility and position sensors linked to a mobile phone.

Mobile health monitoring will decrease the fear of moving freely since the system will **detect and report acute events together with positioning data so that doctors or caretakers can intervene immediately.**

The accessibility and usability of the system will be enhanced by **self-explanatory handling**: all parts of the system will feature intuitive user interfaces specially designed for elders.

Finally, the eCAALYX system will provide users with an **affordable solution to their condition management.** By implementing a remote management infrastructure, entities involved in operating the eCAALYX system will have reduced operating costs, and by relying on common consumer electronics equipment, the cost of the basic system to the end-user will be affordable.

Consortium

The consortium consists of 11 partners from 5 different European countries: Spain, Portugal, Ireland, UK, and Germany.

2 hospitals:
- Fundació Hospital Comarcal Sant Antoni Abat (Spain)
- Ev. Krankenhaus Witten gGmbH (Germany)

1 Technological Centre:
- Fundació Privada Cetemmsa (Spain)

2 Research Institutes:
- Instituto de Engenharia de Sistemas e Computadores do Porto (Portugal)
- Fraunhofer (Portugal)

3 Universities:
- University of Limerick (Ireland)
- National University of Ireland, Galway (Ireland)
- University of Plymouth Enterprise Ltd (UK)

1 Company:
- Telefónica Investigación y Desarrollo (Spain)

2 SMEs:
- Corscience GmbH & Co KG (Germany)
- TeleMedic Systems (UK)

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