

# Safe & Easy Environment for Alzheimer's disease and related disorders

<https://neurodegenerationresearch.eu/survey/safe-easy-environment-for-alzheimer%20s-disease-and-related-disorders/>

## Principal Investigators

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France

## Title of project or programme

Safe & Easy Environment for Alzheimer's disease and related disorders

## Source of funding information

ANR

## Total sum awarded (Euro)

€ 611,505

## Start date of award

01/12/2013

## Total duration of award in years

3.5

## The project/programme is most relevant to:

Alzheimer's disease & other dementias

## Keywords

### Research Abstract

All over the world the increasing prevalence of chronic disorders and its impact on functional decline is challenging the sustainability of health care systems. Older individuals also frequently experience the reversible "frailty syndrome", which overlaps with chronic diseases, increasing incidence of disability. In the field of Alzheimer's disease (AD) and related disorders, Information and Communication technologies (ICT) already shown to be useful to improve the clinical

assessment. For instance in a previous ANR project (SWEET HOME) Taiwan and French groups have already demonstrated that it is possible to set up in a classical consultation setting a specific room equipped with audio and video sensors in order to assess motor functions and activities of daily living.

At the same time in therapeutic clinicians are now able to propose interventions to delay functional decline and sometimes to decrease the burden of the most disturbing behavioral symptoms.

Building a global system aiming to take in charge all causes leading to loss of autonomy is a rather complicated task involving numerous ICT solutions which are not always easy to use in everyday life. This is most particularly true for elderly subjects who frequently have the psychological feeling to have no expertise mastery or control on ICT devices use.

The SafEE (Safe Easy Environment) project aim is to improve the safety, autonomy and quality of life of older people at risk or suffering from AD and related disorders.

More specifically the SafEE project:

- focuses on specific clinical targets in three domains: behavior, motricity and cognition
- merges assessment and non pharmacological help/interventions
- proposes easy ICT device solutions for the end users

To reach this goal, the SafEE project will develop:

1/ an ICT-based behavior analysis platform able to detect, recognize and assess daytime (such as agitation) and nighttime (such as sleep disturbances) behavioral patterns (BEHAVIOR), walking/balancing capabilities (MOTRICITY), orientation and procedural memory (COGNITION)

2/ Tailored non pharmacological therapeutic responses:

- for sleep and related behavioral disturbances using stimulation aromatherapy automatic fragrance release system tailored to the clinical patterns detected within the assessment phase
- for orientation, procedural memory and feeling of control for ICT devices using a training interface based on Kinect sensor and tactile tablet/Smartphone

3/ pilot studies in order to validate the acceptability, sensitivity and efficacy of the systems

French partners of the projects include clinicians (CHU, CoBTek), basic research engineers (INRIA) and industrials (Aromatherapeutics, SolarGames).

Taiwan partners also include clinicians (TVGH, NCKUH) and basic research engineers (SMILE NCKU).

The innovation of the project lies in a new methodological approach to deal with care of elderly people, through an innovative use of ICT based on (a) the association of assessment and help/intervention method for specific cognitive, behavioral and motor patterns, (b) addressing user needs by associating ICT researchers, clinicians and users from the beginning of the project, (c) proposing the most easy ICT solution for the end users and in the same time (d) providing to the clinician understandable important objective data for the patients' follow-up

## **Lay Summary**

**Further information available at:**

### **Types:**

Investments > €500k

### **Member States:**

France

**Diseases:**

Alzheimer's disease & other dementias

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A