Contract No. 250505

inCASA

Integrated Network for Completely Assisted Senior citizen's Autonomy

Factsheets and Presentation

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inCASA

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- inCASA Objectives

- Project Focus

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- Implementation Strategy

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- inCASA Partnership

COMPETITIVENESS AND INNOVATION FRAMEWORK PROGRAMME
Theme identifier: **IP-ICT-PSP.2009.1.3**
Theme: **ICT for ageing well / independent living**

Project type: **CIP-Pilot actions – Type B**
Project acronym: **inCASA**
Project full title: **"Integrated Network for Completely Assisted Senior citizen's Autonomy"**
Grant agreement no: 250505
Start date: **1st April 2010**
End date: **30th June 2012 (30 months)**
Total costs: **Euro 4.280.002,00**
Requested EU contribution: **Euro 2.140.000,00**

Keywords: **Elderly people assisted autonomy; Elderly people habits profiling; Social and Health care Network; Integrated Innovative ICT Architecture**

Current Scenario

➢ The number of elderly people across Europe, from now to year 2030, will unbelievably rise, and they are growing more healthy generation-by-generation;

➢ Elderly people in good health conditions live longer, but there are a few factors that could radically impact on elderly person's quality of life and reducing his life expectation:

  ➢ psycho-emotional instability, related to the patient mental condition;
  ➢ the loneliness, related to the user environmental conditions and social life;
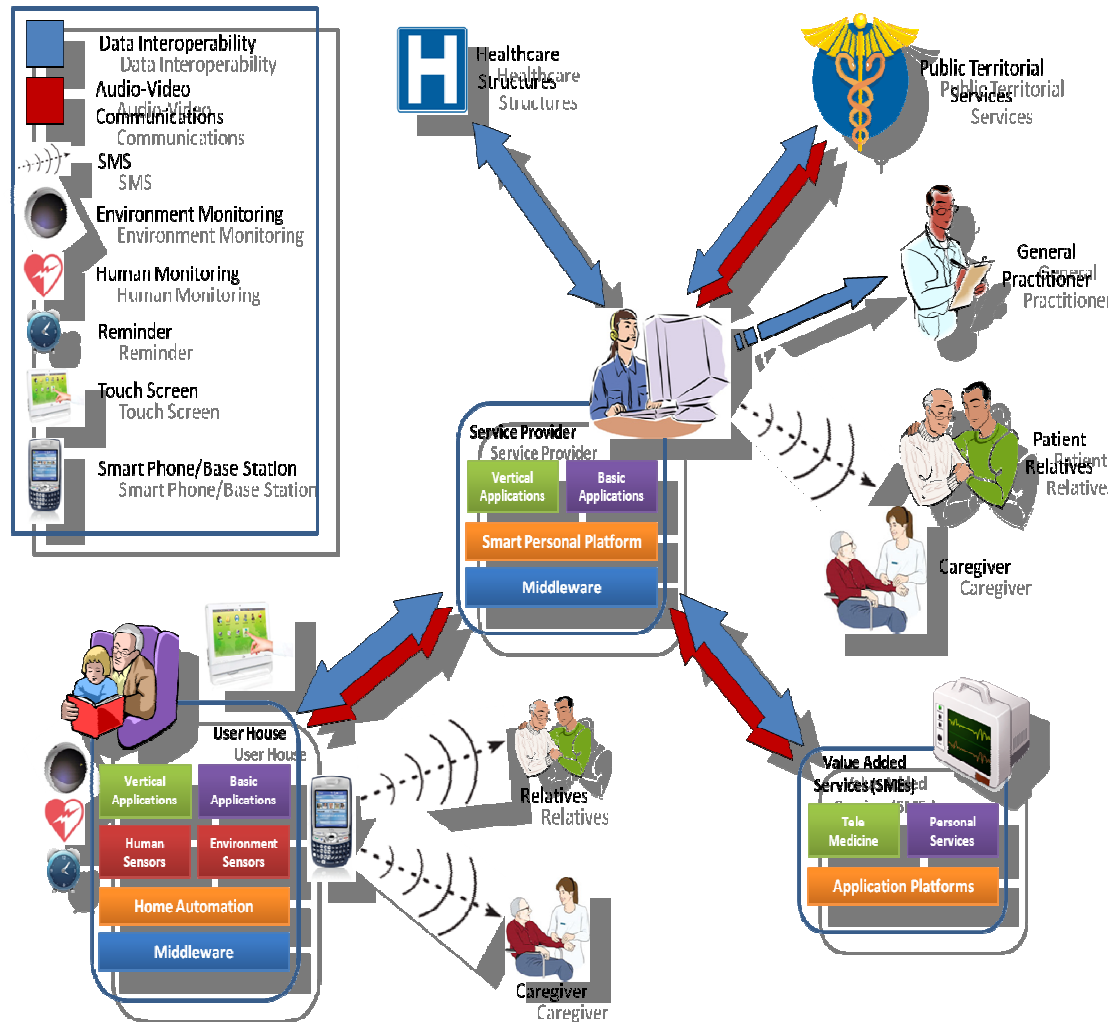 ➢ illness, the patient health status.

Proposed solution

➢ inCASA aims at developing a system that will support the aging population and facilitate them to feel well in their own homes. The proposed application will monitor biometric data and track environment parameters of elderly users into their own home.

inCASA objectives

➢ Providing elderly people (and patients with special needs) with means to profile their habits, while they are at home, to monitor their health conditions outside traditional healthcare environments;

➢ Supplying MDs and health professionals with more comprehensive monitoring data for understanding remote user's social/physical conditions and diagnostics;

➢ Enabling continuity of care through a wider interaction between elderly people or patients and caretakers;

➢ Integrating home automation in a system permitting remote control of electronic devices in the immediate surroundings.
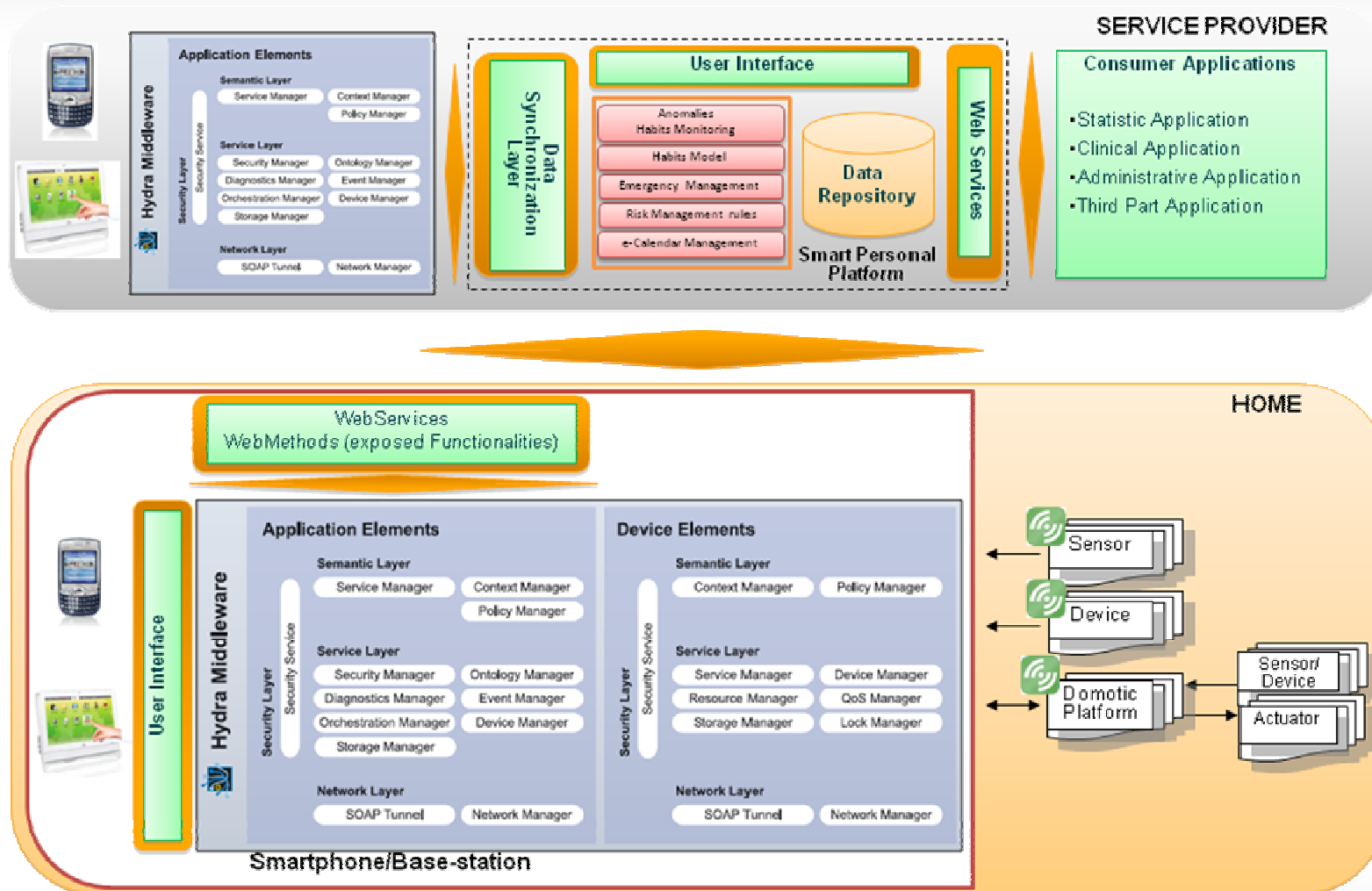
User House:

- Monitoring of user habits to build a personal profile
- Monitoring of user health conditions
- Home automation support to improve quality of life
- Alerts management

Service Provider:

- Call Center/Help Desk to manage incoming alerts
- Social and Healthcare service providers coordination

Additional Services:

- Tele medicine (diabetes monitoring)
- Personal Services

inCASA platform will reuse **HYDRA** middleware for connecting medical devices. An agreement with Hydra consortium will be signed up at M12

HYDRA - *Networked Embedded System middleware for Heterogeneous physical devices in a distributed architecture*, a 4 years running EU funded project that develops middleware for Networked Embedded Systems and allows developers to create socio-medical applications utilizing device and sensor networks, details could be found at: http://www.hydramiddleware.eu/news.php

The project aims at developing a system to support the ageing population in order to prolong the time the can live well in their own homes

Pilot sites:

Fundación Hospital de Calahorra (Spain), Konstantopouleio General Hospital of Nea Ionia Agia Olga (Greece), Chorleywood Health Centre (UK), Institut National de la Santé et de la Recherche Medicale (France), Social , ATC - Agenzia Territoriale per la Casa della Provincia di Torino (Italy)

Users:

150-200 users spread on pilot sites - European citizens, over 65 years old, living alone with a sufficient level of autonomy and self-care ability.

Deployment of the InCASA project is divided into two steps:

1. 5-10 users pilot the service in five countries over 2-3 months (model validation and solution fine-tuning)

2. 30-40 users pilot the (tuned) service in each country (from end of step 1 to the project end) in addition to step 1 users.

Elderly people habits are monitored for a while, through very simple "off-shelf" devices and basic Environment Sensors, in order to provide detailed people profile. Other human monitoring devices could increase the quality of profile, on the "clinical" side, giving useful data to Healthcare professional actors.

The following services help to monitor and take care of elderly people:

➢ **Home Sensor Networks** (HSN) and **Personal Health Sensors** (PHS) to help monitor the lifestyles of the elderly and interact when necessary with citizens themselves or with the Service Provider.
➢ **Human Monitoring Sensors** (HMS): portable/wearable human monitoring devices.
➢ **Integration** with territorial social and health care.
➢ **User habit profiling** through motion and contact sensors.
➢ **Smart phone/Base Station** connected to HSN and HMS to collect and send data.
➢ **Automatic emergency calls** through SPP logics.
➢ **Audio/visual interaction** (pre-existing devices/new deployments)
➢ **Smart Personal Platform** (SPP): habits application to elaborate data coming from HSN and PHS + Social and Health care data repository for data analysis and diffusion to a variety of professional users;

■ Flexibility

Presence of a relatively large number of partners spread across Europe, representing different social and organisational European contexts. The context heterogeneity demonstrates the necessary flexibility of the technological solution to meet the related needs.

■ Local Environments relevance

Solutions will be piloted in different service scenarios having different mixes of social and health care networks and local environments. The pilots sites will have different levels of existing experience, but all involve self-sufficient elderly people living in their own homes or in social housing structures.

■ Pilot significance

Presence of 5 pilot sites (Italy, France, Greece, Spain and UK) will work as a test bed for validate inCASA solution. The Pilots will be implemented by bringing together and involving Health Local Agencies, MD, Engineers, Psychologists and all the Care-Givers concerned with providing care to elderly.

All partners (public or private) are involved in a inCASA deployment plan across Europe, inCASA consortium apply the following deployment strategy:

1. Firstly, implementation in the 5 countries pilot hosting;

2. inCASA services will be developed in the project and augmented and expanded by the partners to match local and emerging market needs;

3. Outside deployment:
   ➢ as a service provider: inCASA partners have to ensure by themselves all the aspects related to inCASA deployment as a service for end users such as partnership with institutional, marketing issues, after sale, etc;
   ➢ As a technological provider: inCASA project partners will sell the technology with third parties, which will be in charge of the deployment of the service;
   ➢ Moreover, shift from a Consortium to a Partnership running a start-up is a challenging issue that will be taken by carefully considering IPR, business role of partners and financial capabilities.

➢ Defining requirements and architecture design draft, detailed enough to carry on implementation solution (M5);

➢ Integrating social and healthcare information systems with specific already existing telemedicine models(M10);

➢ Implementing a complete framework for collecting and analyzing data for the decision support, able to generates alerts when necessary (M11);

➢ Pilot indicator evaluation (M12, M18);

➢ Integrating "domotic" devices with specific pre-existing or added vertical applications (M12, M18);

➢ Making available enough pilots trial data to go for pilots evaluation (M29);

➢ Validating new business models and collaborations among social and medical domains in different EU countries, taking into account cultural and organizational national aspects, which support exploitation of inCASA platform.

Considering EU traditional indicators for elderly people, the Key Performance Indicators measured during pilots carrying out will be:

➢ Health and social cover (life expectancy of elderly people);

➢ Support (elderly people and external contacts);

➢ Skill acquisition;

➢ Elderly people's perception of their own image;

➢ Elderly people's satisfaction with regard to services;

➢ Elderly people's satisfaction with regard to their living conditions.

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