

## 1 Publishable summary

### 1.1 Description

*CAALYX-MV objective is to widely validate an innovative and efficient ICT-based solution focused on improving the elder's quality of life by prolonging the time they can stay safer, autonomous and independently at home, by monitoring and controlling their social and health status and providing them with some tools and services to support their daily home-activities in terms of comfort, security, energy efficiency and communications.*

*The already developed CAALYX-MV solution to be validated is composed of three main subsystems or components:*

- ✓ *The **Home system**, which intends to provide a monitoring system aimed at helping the elder's independently living at home. It comprises the system components available at the patient's home: the Home Gateway (HG), the Set-top box (STB), and the health sensors. The Home Gateway, a conventional wireless broadband router, acts as the middle point of the Home System, interfacing the health sensors with the Caretaker Server and the Auto-Configuration server (ACS). The Set-top box acts as the main user interface of the Home System. It works as a renderer, connected to the TV, where the user has the opportunity to follow his health condition, manage the health agenda (consultations, medication, etc.), and providing input to the system through questionnaires prepared by the doctors.*
- ✓ *The **Roaming system**, intends to monitor unobtrusively the older person when carrying out his/her daily activities in an independent way, both in his home and outdoors. It comprises the Wearable Body Sensor (WBS), a smart textile shirt that avoids the use of cable wiring and the mobile phone – which should include GPS functionalities. The already developed WBS is able to measure specific vital signs of the elder – which depends on the possible illness they can suffer-, to detect falls and to communicate autonomously in real time with his/her caregiver in case of an emergency, wherever they are.*
- ✓ ***Care Services** will allow the monitoring of individuals by the family, a caretaker and health services. Depending on the actors, one or other information will be delivered. It consists also on PCs, and additionally a camera if they want to be seen by the elderly through videoconferencing. The caretaker will receive alerts and evaluate whether they must be promoted to the emergency service (112).*

### MARKET VALIDATION

*The system will be tested and validated under real usability conditions arranged through 3 pilots in different EU countries (Spain, Italy and the Netherlands), and will obtain reliable assessment by gathering real end user's feedback. The aim of the pilots is double:*

- ✓ *To assess the usability and acceptability of the CAALYX-MV system by a selected target population, operating under real live conditions (the target population is composed by several actors: elderly and/or ill persons over 65 years old, their family, the teleassistance operator, and their doctor).*

- ✓ To assess the validity and reliability of the system for detecting health problems in the monitored person, avoiding false alarms and decreasing the number of admissions in the hospital, or visits to clinicians, etc.

The pilots will be implemented during two separated periods of 6 months. Improvements and enhancements will be performed between pilots taking into account user’s feedback. The final solution will be validated in a last three-month evaluation.

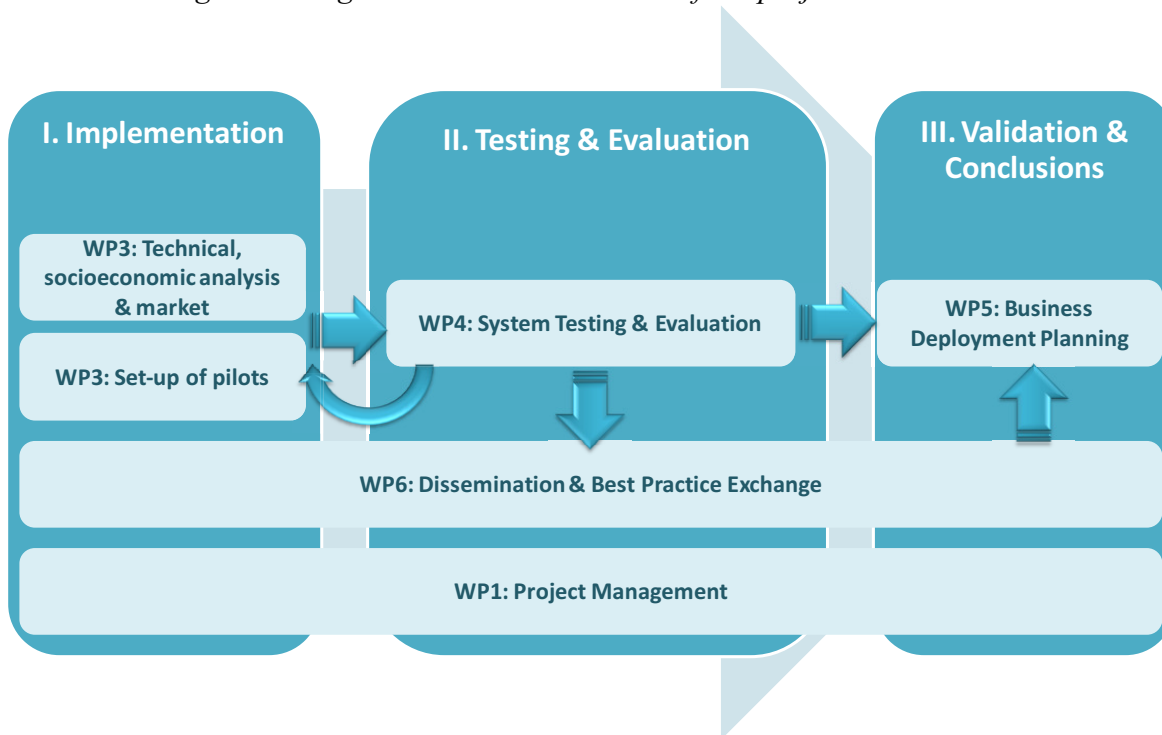
**CASE STUDY / PRACTICAL EXAMPLE**

Peter is 65, lives alone, in a sheltered accommodation managed by social services. He values his independence but suffers from memory loss and uses a system of notes and reminders to keep track of his activities. His son lives nearby and visits him occasionally. His friend Barry lives next door and takes the responsibility for looking after him. After getting ready for the day at 7:30, Peter fits his well-being sensors and mobile phone when getting dressed. At 8:00, his TV automatically reminds him to take his medication. At 10:00, He goes for a walk.

If his well-being sensors detected unusual conditions, a message is sent to the caretaker site. The caretaker opens a voice channel to get more information to help and support Peter. If the problem arises at home, a similar alert procedure is adopted. Falls are registered by the system and a weekly log is sent to Peter’s General Practitioner who monitors his progress and evaluates his medication.

**WORK PLAN**

An integrated methodology taking care of this approach has been developed, thus CAALYX-MV is organised in three stages (I – III) - each covering one or more work packages - and horizontal activities concerning the management and dissemination of the project.



## 1.2 Main results achieved during M1 to M12

The focus during the first semester has been on the start of the project and during the second semester has been recovery the delay of the first Semester. The main achievements include:

- Creation of the Project Handbook, Quality and Risk Management Plan and Consortium Agreement.
- Creation of environment for the project as the sharepoint site of the project (<https://colabora.tid.es/caalyx-mv>), mailing list, creation of the LOGO and web page of CAALX-MV project (<http://www.caalyx-mv.eu>, buying the domain
- Technical works in WP2, WP3 and WP5 has been started. This first technical task done consists in defining and describing in a fully functional way the e-health and social services to be validated in the pilots. CAALYX-MV solution has not been yet validated in the European market thus re-engineering of services process is needed. In this task also the interrelationships among the CAALYX-MV users' (doctors, elders, caretakers, familiars, etc) will be described.
- Creation of the Dissemination Plan
- All technical works in WP2 have been finished, and all deliverables has been sent to Commission
- Almost scheduled deliverables in WP3 have been finished in the semester and will be send to Commission soon
- Technical works in WP4 has been started.
- Some dissemination activities have been done.

## 1.3 Next Steps

The future work will be focused on the launch of the pilots, and also on finished the next deliverables:

The future work will be focused on finished the next deliverables:

- ✓ **WP3 (Set-up of CAALYX-MV Pilot Trials).** The deliverables will be the following:
  - ✓ Deployment of the pilots (D3.6)
- ✓ **WP4 (System Testing and Field Trial Evaluation).** The deliverables will be the following:
  - ✓ Development of the Common Validation Plan (D4.1)
  - ✓ Individual Pilot Trial Validation & User Acceptance - Group 1 (D4.2)
  - ✓ Overall Validation and Recommendations (D4.3)
- ✓ **WP6 (Dissemination & Best Practise Exchange).** The deliverables will be the following:
  - ✓ Web-site launch & update-rising – M24 (D6.3)
  - ✓ Organization of workshops and participation to conferences – M24 (D6.5)

## 1.4 Expected Impact

*The impact on society will revolve around the following issues:*

- ✓ **Individualization.** *Today traditionally denser and firm social networks like family and friends have become scarcer. Single households are becoming a mainstream way of living in urban centers. Older people living alone who are unable to leave their homes and care for themselves after having accidents or rapidly deteriorating health conditions can go unnoticed for long times.*
- ✓ **Population migration.** *By alleviating the need for the older person to relocate (e.g., to live in an elder care institution or with family members at another location), the current elder living environment is not depleted of its people. This is especially important in rural areas with a preponderance of older persons, whose desertification (of people) has a clear ecological impact.*
- ✓ **Manpower.** *The current demographic trend makes it difficult to foresee how Europe will find enough people to take care of its older population, without a major change in traditional elderly care methods. Elder care will compete with other economic activities for resources.*
- ✓ **Europe wide impact.** *The migration of north European retirees to areas with a milder weather is a well-known fact. The care network will be distance independent, with several entities collaborating in care delivery.*

## 1.5 Contact details

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