The CompanionAble Project

FP7 ICT & Ageing Integrated Programme
Grant Agreement Nr 216487
Project Partners

CompanionAble Project: FP7 Grant Agreement Nr. 216487
Objectives

1. Provide a new AAL solution through the synergetic combination of the strengths of an embodied mobile robotic companion with the advantages of a stationary smart home environment.

2. Semantic – Cooperative integration at sensor level.

3. Semantic-Cooperative integration between the robot and the smart house sensor network environment.

4. Semantic-Cooperative integration of personal therapy management (possibly involving home information spaces such as the home TV screen, healthcare staff, medical professionals, gerontologists).

5. Semantic-Cooperative integration between the home environment (including smart house sensor network plus the robot) and the care system (District nurse/social services/healthcare system) including alerts as required.
6. To create a system for health education for the patient and family, providing self-confidence and improving quality of life.

7. To create a system able to help with improvement of contacts between the person and his/her carers and the wider social setting.

8. To create a system with more efficient homecare monitoring by enhanced communication and coordination with professional helpers.

9. Social inclusion and homecare of persons suffering from chronic cognitive disabilities.

10. To achieve the continuous availability of sense-ful close support and cognitive engagement of the elderly.
Advantages of Smart Home

• Numerous existing installations with a wide spectrum of functionality (incl. video-conferencing).
• High acceptance rates by the residents.
• 24 h reliability.
• Interoperability with domotics systems already successfully tested.

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• Not limited to homes without stairs.
• Allows simultaneous monitoring of all rooms.
• Easy remote access to sensor systems and controllable devices.
• Low maintenance cost.
Advantages of the Mobile Robot Companion

• Real interaction partner – an embodied, anthropomorphic system with natural interface and human-like behaviour.
• Embodiment guarantees visible intimacy and privacy (e.g. by closing the “eyes”).
• Allows a plug-and-play solution (only requires “energy” and internet access).
• Low-cost solution without the need for reconstructing the home environment.
• Allows promising marketing policy: “Rent-a-robot” or “Robots-on-demand” as a personal social assistant.
• Mobility – allows mobile video conference, alarm evaluation, remote control by relatives / social care services.
通过将两个子系统集成，CompanionAble项目提供了一个支持环境，既支持家庭成员，也支持治疗师，帮助他们在日常任务中发挥支持作用。这包括:

- 实现智能的日间管理。
- 内容生成用于认知刺激和训练，并通过多个渠道（静态和移动）进行一致的交付。

CompanionAble项目：FP7资助协议编号216487
• Reminder function for medication taking and analysis of acquired data regarding the health status of the care-recipient.

• Efficient and natural social communication and care networking by means of audio-visual communication with relatives or care-givers.
System Components

Smart Home Environment → Robot Control Environment

Central Server Support
## Integrated Companionable Framework Architecture

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Smart Home Environment

- Static Person Tracking & Service Delivery
- Monitoring and Actuation
- Passive Interaction through interfaces
Robot Control Environment

- Mobile Person Tracking & Monitoring
- Interactive Communication via Videophone
- Training Delivery
- Alarms Verification
Central Server

- Training Management and Support
- Communication Facilitation
- Alarms Actioning
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