



(FP7 Coordination action ICT and Aging 01/2008 – 03/2010)

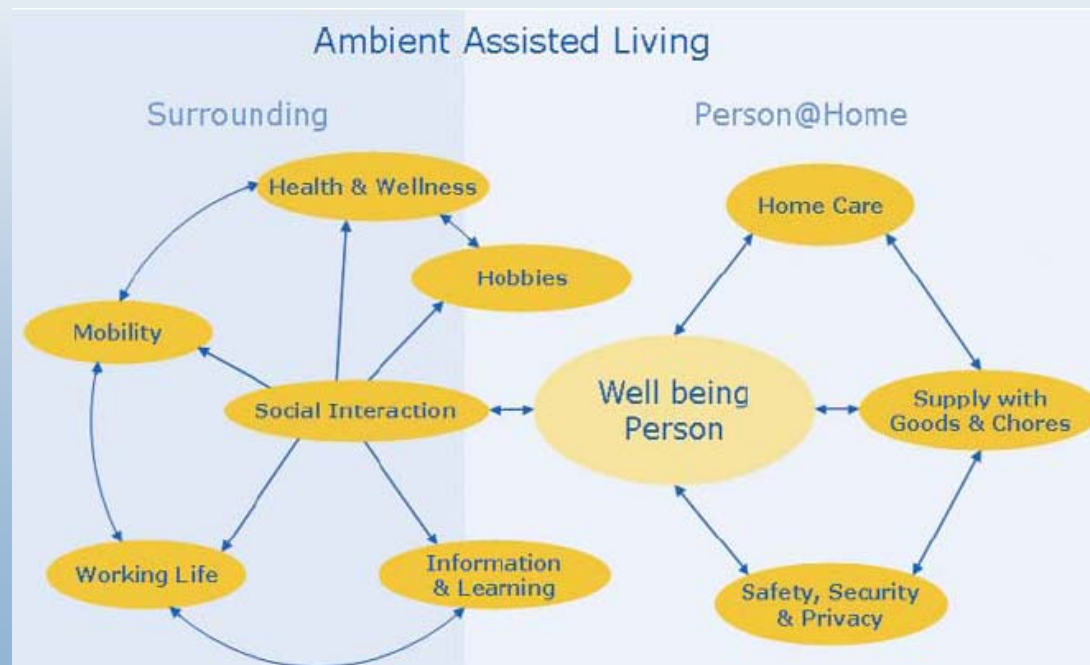
# **ETP 2010 conference : Ageing Well: Turning Challenges into Opportunities**

## **AALiance: roadmap and SRA for AAL**

Ger van den Broek  
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Brussel - Belgium

# Ambient Assisted Living context

- “Ambient Assisted Living” (AAL) denotes concepts, products and services that interlink and improve new technologies and social systems, with the aim of enhancing the quality of life for all people in all stages of their lives.
- AAL could be best translated as “intelligent systems of a **specific assistance** for a better and safer life in the home environment”.





To live independently I need... where electronics helps lots

Telehealth sensors,  
medicine reminders

home

Proactive  
environmental  
sensors

Assistive  
technology

Monitoring of meals,  
dietary help,  
Internet shopping

Electronic carer  
monitoring

with carer

Local media,  
local activities,  
employment/  
occupation

Appropriate  
response team,  
proactive calling

User-friendly  
communications

...co  
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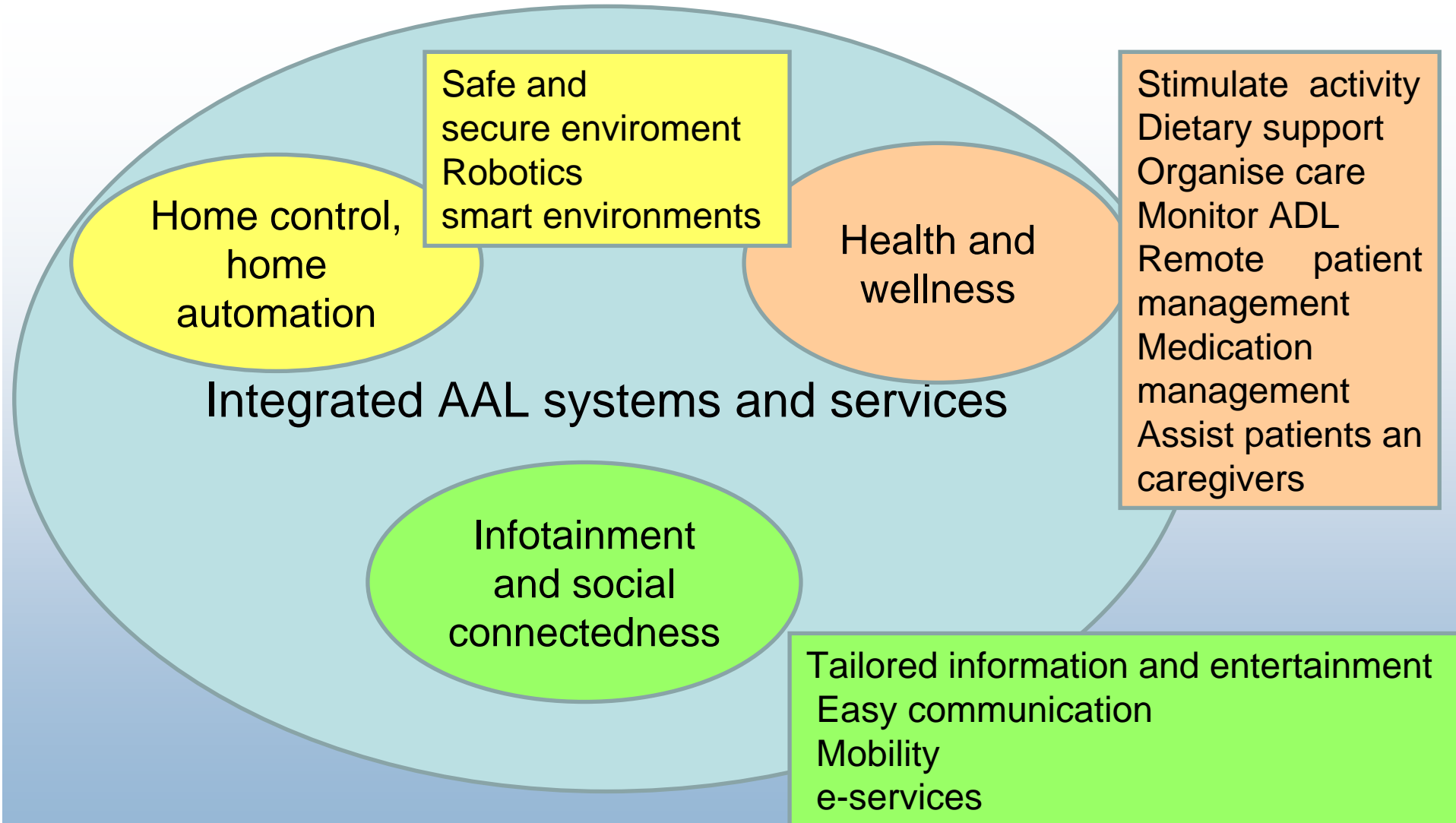


“Who can deliver a system that integrates the following functions?”

- A fall detection system detects that a person has fallen down
- Vital signs like blood pressure, heart rate and blood oxygen saturation (SpO2) are measured
- The medication intake from the last day is reported
- A service centre is contacted and tries to communicate with the person and calls an ambulance
- Hazardous devices like a cooker are turned off
- The door is opened when the ambulance arrives
- A designated person gets phone call (In Case of Emergency service) about the event and is informed about the hospital where the patient will be taken to

# ICT-enabled assisted living

At home and outdoor



Sensing

Intelligent  
communicating  
sensors  
New sensors

Reasoning

Aggregation  
and  
processing of  
sensor data

Acting

Control  
actuators

Communication

Sensor and actuator  
networks  
Service networks

Interaction

Multi modal  
Adoptive

## Sensing

### Power issues

Low power, power scavenging, no battery replacement

Unobtrusive sensors, bio sensors

Localization

## Reasoning

Models, Situations, Behaviour

Ontologies, vocabularies, coding systems

Reasoning algorithms

## Acting

### Power issues

Low power, power scavenging, no battery replacement

Situation awareness, navigation

## Interaction

## Communication

### Power issues

Low power, power scavenging, no battery replacement

Communicating robots

Fitting the abilities of users

Responsive objects (RFID)

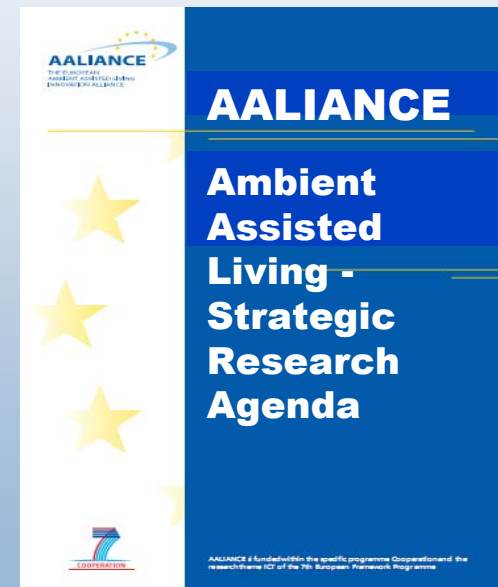
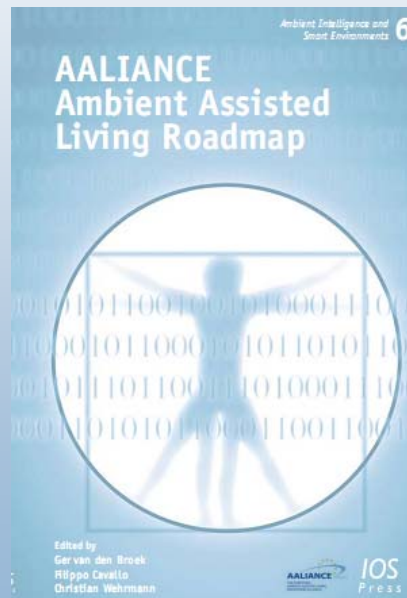
Single interface for users

- System integration
- Extendable solutions, growing with the needs of the user
  - Easy installation, configuration and management
  - Dynamic (re-)configuration of systems and services
- Trust, robustness, security and privacy (AAA)
- Integration across the different application domains
  - Standards
  - Semantic interoperability
- Use of nano- and bio-technology



- **Improved Quality of life, autonomy, participation in social life, skills and the employability of older people.**
- **Reduction of welfare costs (e.g. nursing home costs three times as costly as the domiciliary one).**

- AALIANCE
  - AAL Roadmap (published by IOS Press, March 2010)
  - AAL Strategic Research Agenda
  - Both documents are available at the AALIANCE website:  
<http://www.aaliance.eu/public/documents>





**Thank you for your attention**