



Research and Innovation for **Active & Assisted Living**

Public-Private Partnership for Research, Development
and Validation of Innovative Technologies and Services for

Active & Assisted Living



investiamo nel vostro futuro

INNOVAAL, in its District vision, is a private-public partnership that includes a relevant number of companies and 5 public research institutions, funded by MIUR within the call "PON Research and Competitiveness 2007-13. Notice 713/Ric. Asse I - Support to structural changes. Operative aim: networks for the reinforcement of the scientific-technological potential of the Convergence Regions, with particular reference to the creation of new Districts and/or Aggregations" (Title III).

One of the most important aspects of our society, directly related to the quality life and social welfare, concerns the demographic change and the ageing population. At the same time, the traditional Welfare model has been showing structural weaknesses for several years which drag it towards an issue of difficult solution for the economic, functional and management aspects of the whole system.

A new social
innovation
process
A new Welfare
model
with new actors

Furthermore, the extraordinary increase of the elderly population, along with the impressive growth in the life expectancy in the recent decades and the social welfare enhancement, contribute a significant growth of fragile users range and of the request for more customised and higher quality care services.

This scenario can be seen as a huge opportunity for renewal and development of the sector, if effectively handled, activating a process of the social system adaptation to the social and economic change of our society, with great possibilities of growth. The new demographic and social conditions and the **new process of Social Innovation** can promote the presence of a **new Welfare model**, based on more advanced principle of subsidiarity. It will be needed **new actors** (such as Public and Private institutes, Research and Users system) and new roles

of the past.

The constitution in Apulia Region of a Public-Private Partnership in Technologic and advanced Services field for the Active & Assisted Living (AAL) is widely motivated. It is due to the presence of interesting boundary conditions, both for the policies already activated and for the industrial, business and scientific-technical situations present in the territory.

It may be possible to face the technological and social challenges of the sectors in which INNOVAAL works, only by supporting the union of public and private components in a **logical system**, which necessarily includes the users.

AIMS AND STRATEGIES

The aim of INNOVAAL is to support and bring investment to emerging productive sectors related to the problems of the social challenges (change in living conditions, demographic change, progressively ageing population) through the excellence in science and technology. The ongoing and future activities are focused on strategic and well defined purpose, as:

- ▶ the creation of actions to promote the consolidation of political system and the effective and appropriate size of critical masses in order to support, in an integrated manner, the realization of the ambitious goals expected by the European strategies and policies in the coming years ("**Digital Agenda**", "**Smart Specialisation Strategies – S3**" ed **Horizon 2020**);

- ▶ tools and regional resources sharing through the promotion and activation of "**Joint interregional Programs**", according to the model of the **User-driven Open-Innovation**;

- ▶ use of **living labs** as a tool to validate the products and services developed in the projects and in

order to amplify the impact on the Regional and National System;

- ▶ the support to the institutions for the scientific and technological research promotion, and Social Policies that will benefit of INNOVAAL:

1. to support the participation, coordination and the start of projects, and national and international initiatives involving the target sectors,

2. to improve the health and the quality life of the elderlies and the fragile people, allowing them to live an active and independent life,

3. to encourage the competitiveness and business opportunities,

4. to contribute to the identification of the current barriers to the innovation and opportunities in the field of active and healthy ageing,

5. to improve the degree of citizens interaction with the technology (especially for the elderlies and fragile people), through the development of case studies on the impact of design in streamlining tasks;

- ▶ the active promotion of the connection among the plurality of subjects located in the chain of technologies and services for the AAL sector, social innovation and research associated with them. In this way, it could be possible to promote cooperation and interaction to create a new synergy between scientific and cultural skills and productive and business capacities, encouraging the dimensional growth and the internationalization;

- ▶ the promotion of the scientific technological expertise present in the area of Apulia, in order to favour the access of the end-user to the knowledge and products of research;

- ▶ the promotion of the development of technological and social entrepreneurship, encouraging the creation and empowerment of new businesses and spin-offs to high technological and social contents;

- ▶ The promotion of high education for the inclusion of highly qualified human resources in the business-supply chain;

Digital agenda
Smart Specialisation Strategies - S3
Horizon 2020
Interregional Joint Programs
User-driven Open-Innovation
Living Lab

INNOVAAL operates developing its activities in the ICT world (understood in a more innovative and accepted form at international level which includes hardware and software) with well definite technology themes and innovative AAL ser-

vices, treating and developing advanced technologically solutions in operating contexts which consider:

- ▶ **Society (Community)**
- ▶ **Home and domestic environments**
- ▶ **Workplace**

in the following strategic and related policy areas, applications and problems to be treated, deriving from the analysis of the user needs:

Integration
Interoperability
Standard
Save
Energy sustainability
Accessibility

Inclusion	Assistance	Security	Health and wellness
<ul style="list-style-type: none"> ▪ compensation of decreased cognitive abilities and social relationship ▪ stimulation and facility of relation activities, entertainment, education and participation to active life ▪ access facility to services and goods 	<ul style="list-style-type: none"> ▪ user-friendly services access ▪ remote monitoring by relatives, caregivers or social managers ▪ support systems to overcome problems related to lack of memory ▪ design of assistive devices for people with pathology or disability 	<ul style="list-style-type: none"> ▪ indoor security issues related to intrusion, gas leaks detection, start of a fire, fall prevention and detection, access control, house management, etc. ▪ outdoor security issues with monitoring of routes and performed movements 	<ul style="list-style-type: none"> ▪ medical support for remotely monitoring of vital signs (heart status, blood pressure, glucose level in the blood, increase in weight, drugs administering, etc.) ▪ integrated home therapy ▪ management of social-health statistics and vital parameters monitoring of frail subjects
<p>← Key Enabling Technologies for →</p>			
<p>new generation of sensors and microsystems (including device wearable by the person) – devices for fall detection and prevention – new software and hardware architectures – innovative systems for home care management and tele rehabilitation – microsystems for energy generation and feeding of wearable devices – assistive robotic and home automation – innovative technology solutions in Social Housing and in nursing home for elderly – new solutions for patients medical information management and vital signs monitoring – user interface (software and hardware) elderly-friendly, appropriately designed for the user category, etc.</p>			

From technological point of view, topics will be treated according to a common denominator that takes into account objectives of:

- ▶ **integration of functions/ services/tools;**
- ▶ **interoperability;**
- ▶ **standard;**
- ▶ **energy saving and sustainability;**
- ▶ **accessibility;**

considering the transversal concept of **“Sensing, Reasoning,**

Acting, Communicating e Interaction”.

The activities and the processes to be undertaken in the projects will be realized using **“Living Lab”** methodology which, using the features of **“User-Centered Design”**, is aimed at the demonstration and validation of complex solutions in multiple and evolutionary contexts of real life.

With this strategy, INNOVAAL intends to be contextually posi-

tioned on the scientific and cutting edge technology on which Europe and Italy are involved, and intends to contribute for the decrease of **“Time to market”**, i.e. the timing of research results exploitation and technological advantages by socio-economical system Apulian and National.

STARTED PROJECTS AND BEING STARTED PROJECTS

National and Regional Projects		European Projects
<ul style="list-style-type: none"> ▪ SERENA - PON R&C ▪ SmartAge - PON R&C ▪ ACTIVE AGEING @ HOME - National Technological Cluster ▪ BAITAH - PON R&C ▪ ALTRUISM - Call for the promotion of regional partnerships for innovation 	<ul style="list-style-type: none"> ▪ MET-AAL - Call for the promotion of regional partnerships for innovation ▪ INNOVAALab - Living Labs Call, Puglia Region ▪ CARE@HOME - Living Labs Call, Puglia Region 	<ul style="list-style-type: none"> ▪ AFE-INNOVNET - FP7 ▪ ReAAL - FP7 ▪ ENGAGED - FP7 ▪ SWEET mobility - AAL JP ▪ HOPE - AAL JP ▪ HOST - AAL JP

Apulia Region
Italy
Europe

**NETWORKING INITIATIVES
AND META-DISTRICT VISION**

AitAAL
National Technological
Cluster
European
Networking

The participation under the **Ambient Assisted Living Italian Association (AitAAL)** ensures network sharing with other Italian regions and other National and European associations.

INNOVAAL and AitAAL play a key role at National level about to co-ordination actions that led to the formulation of the proposal for National Technological Cluster “Living Environment Technologies”, implementing a **meta-district strategic vision**.

An experience that, beginning from the work previously started for the launch of a National Technological Platform for Quality of Life Technologies and Social Innovation (which allowed to establish the Italian roadmap in AAL sector, reported in “First White Paper – AAL in Italy”), has allowed the reinforcement of interactions between different Italian actors and the exchange of best practices between different regions (especially Lombardy, Tuscany, Marches, Friuli-Venezia Giulia, Autonomous Province of Trento).

Other cooperations with high development potentialities are put beside to this system:

- ▶ the network of Regional Public Laboratories, including in particular the Regional Laboratory for the Realization of Advanced Sensors and Microsystems (SENS&MICRO-LAB);
- ▶ different type of reality district operating in collateral sectors, within Region and National environment.

In the European context, the following network actions are reported, thanks to which INNOVAAL has established partnership and which represent a very effective instrument for relationships and exchanges in the internationalization process to propose initiatives at European level:

- ▶ **Community Of Regions for Assisted Living (CORAL)** within which cooperation actions began in the logic “Research-Driven Clus-

ters” between European Regions: East Sweden (Sweden), Noord Brabant (Netherlands), Baden Wurttemberg (Germany), Basque Country (Spain);

- ▶ **European Networking of Living Lab (ENOLL);**
- ▶ **European Alliance for Innovation (EAI);**
- ▶ **European Institute of Innovation and Technology (EIT)**, through the EIT ICT Lab node.

Some reference initiatives are reported below, aimed at highlighting correlation and integration elements between activities and objectives set by INNOVAAL and the strategic planning in European context in which INNOVAAL is already present:

- ▶ **Joint Programme “Ambient Assisted Living” Art. 185;**
- ▶ **Joint Programme Initiative “More Years, Better Life”;**
- ▶ **Joint Programming Initiative on Neurodegenerative Diseases.**

FOUNDING MEMBERS

Public members

Private members



Consiglio Nazionale
delle Ricerche



Conception
District
Research
Users
Marketing
Business Model