This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 643892.

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R A DIO

Robots in Assisted Living Environments

Unobtrusive, efficient, reliable and modular solutions for independent ageing

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020

The RADIO action

Societal Challenges

Demographic and epidemiologic transitions have brought a new health care paradigm with the presence of both, growing elderly population and chronic diseases. Life expectancy is increasing as well as the need for long-term care. Institutional care for the aged population faces economical struggles with low staffing ratios and consequent quality problems.

Opportunities

Although the aforementioned implications of ageing impose societal challenges, at the same time technical advancements in ICT, including robotics, bring new opportunities for the ageing population of Europe, the healthcare systems, as well as the European companies providing relevant technology and services at the global scale.

Action Objective

We will develop an ***integrated smart home/assistant robot system***, pursuing ***a novel approach to acceptance and unobtrusiveness***: a system where sensing equipment is not discrete but an ***obvious and accepted part of the user's daily life***. By using the integrated smart home/assistant robot system as the sensing equipment for health monitoring, sensors do not need to be discrete and distant or masked and cumbersome to install. Instead, sensors will be perceived as a natural component of the smart home/assistant robot functionalities.

Action duration

The RADIO action kicks-off in April 2015 and ends in March 2018 (36 months)

Acceptance by user

Unobtrusiveness is achieved by making medical monitoring sensors a natural component of the smart home/assistant robot functionalities.

Paves the way for wider deployment of technology solution in active and healthy ageing.

Heterogeneous networking and architectural solutions in the robotic and the smart home domain can be successfully bridged.

Paves the way for integration of robots and smart home sensors in the Internet of Things

Integrated and power-aware data collection, transmission and processing

User interfaces

Design for usability by elderly, possibly with little prior exposure to relevant technologies.

Paves the way for larger penetration of technology-based solutions.

Design an architecture that scales to a wide area and integrates heterogeneous components.

In an wide-area ecosystem of RADIO deployments, different societal needs and health problems addressed by different configurations of the key enabling technologies.

Architecture