

<u>Name</u>	<u>Organisation</u>	<u>Project title</u>	<u>Decision No.</u>	<u>Decision date</u>	<u>Funding period</u>	<u>Funding</u>
Isomursu, Minna	VTT	Value Creation in Smart Living Environment for Senior Citizen	129450	14.11.2008	01.01.2009 - 31.12.2012	180 000

Project description

The ageing population causes challenges for social and health care services especially in developed countries. In Finland, the proportion of persons aged 65+ is estimated to rise from the present 16% to 27% by 2040, which requires more people to take care of senior citizens. But the proportion of working aged population will reduce from the present 66.5% to 57.5%. In a study area in 20 years the numbers of senior citizens with moving or cognitive problems had increased about 4-fold, and those needing help for instance in doing things out of doors, doubled. Technology may provide a shortcut which supports functional ability of the aged population and improves the productivity of social and health care. Smart living environment technology has potential to motivate and support the aged persons in their daily activities and compensate the work of social and health care employees, which may enhance the overall productivity of the sector. Technological components of smart living environments are maturing, but reports on practical experiences and thus wide breakthroughs are still missing. Few projects focus on activities that require instruments (e.g. moving with aid outside the house, grocery shopping, so called Instrumental Activities of Daily Living, IADL), which take place outdoors. The technology should not be a means for control but rather to motivate, activate and empower elderly people to take charge of their IADLs. To meet this goal demands several scientific disciplines. In this multidisciplinary project with living lab approach, smart living environment technology will be developed by taking into account aspects of human-computer interaction, communication, products and services as well as human interaction. The technology's requirements and potential will be studied from technical, medical, societal and architectural points of view. User-centered techniques for generating daily living processes in smart living environments will be studied. Beside technological issues, evaluation of value creation networks from non-financial viewpoint is essential. The project will focus on 1) running errands outside home (e.g. grocery shopping), and 2) increasing safety and trouble avoidance (e.g. bone fracture) through preventive and proactive means, and in a case of fall alarm without delay. These processes will be supported by building blocks from technology and architecture that contribute to 1) ontology based software platform that supports the selected daily living process in a spatial environment, 2) algorithms for safety detecting conditions, 3) technology-supported spatial solutions for compensating the effects of aging on vision and visuoconstructive abilities, and 4) touch-based human-computer interaction. Traditional user interfaces require good eye-sight and hand-eye-coordination skills. The project will produce a prototype of a smart living environment for long-term pilot use and report on experiences and best practices discovered.