Note: The information given in this document is still preliminary until partner contracts and funding allocations are finalised.

Project Information

Project Short Name	DOMEO
Project Full Name	Domestic robot for Elderly Assistance
Project Reference	aal-2008-159
Coordinator	Vincent Dupourque
Organisation	Robosoft
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Background of the Project

Major changes occur in the body as age increases. As such changes may be related with sensorial organs, they also are related with vital organs such as the cardiovascular system, central nervous system and pulmonary system. Musculo-skeletal system diseases increase with age, thus leading to decline in the physical functions of elderly people. While there is no important change in learning and memory with the ageing process, degenerative neurological diseases increase around the age of 75 and cognitive impairment becomes an issue. Chronic diseases disturb the social life of elderly people. Functional disturbance, deficiencies and disability occur as a result of physical and mental illnesses and all of these disturb the Quality of Life (QoL) of the elderly. Many illnesses are not fatal, but can affect the activity and QoL of people over the short and long term. It is thought that QoL in later years may be diminished if illness, chronic conditions, or injuries limit the ability to care for oneself without assistance. Elderly people maintain their independence, and avoid costly caregiving services by, among other things, shopping on their own, cooking their own meals, bathing and dressing themselves, and walking and climbing stairs without assistance. Although there is no universal description of QoL, it is sometimes described as a wellness resulting from a combination of physical, functional, emotional and social factors.

Visions and Objectives of the Project

Our objective in this project is to design and to demonstrate the technical efficiency and the medical relevance of an open integration platform for eldercare robots configuration and deployment in real-world environment and for everyday life requirements. The platform will integrate advanced software and hardware components developed recently by the partners of the proposed project (modular mobile robotic systems, physical interfaces for mobility and rehabilitation, physiological sensors, signal processing libraries dedicated to the creation of interactive interfaces and human physical activities, physiological parameter monitoring, etc ?). These pieces of hardware and software will be exploited for creating several service oriented eldercare robots. This project is particularly innovating by its dimension of clinical evaluation of the technological assistant which will be developed. The evaluation will be made within services specialized in gerontology of two reference hospital complexes in the field of the project. The integration of the techniques of perception for the assistance to the verticalisation, to the walking and for the estimation of the physiological state associated with the management of alarms to insure the safety of the persons and validated by experts in a hospital environment would lead to in a pre-competitive

platform possessing a level of safety being enough for its launch on the market. The DOMEO consortium is particularly well balanced, in the sense that it includes the 3 potential actors: a robot manufacturer, tele-medicine centres acting as «care teams », and SME having the profile of local integrators.

Project Partners and Funding

Full name	Short name	Country Code	Type of Organization	Final granted budget in EUR
Robosoft	Robosoft	FR	SME	516.797
Université Pierre et Marie Curie – Paris 6	UPMC	FR		
Centre Hospitalier Universitaire de Toulouse	CHUT	FR		429.911
Országos Orvosi Rehabilitációs Intézet/National Institute for Medical Rehabilitation	NIMR	HU		316.000
Vienna University of Technology	WUT	AT		148.410
Budapest University of Technology and Economics	BME	HU		94.000
Meditech	Meditech	HU		100.000
Thales Alenia Space	TAS	FR		193.189
Institut des Systémes Intelligents et des Robotiques	ISIR	FR		222.660
			Total	2.020.977