

Evaluation of a robotic assistant in a real home environment:

RAMCIP pilot trials in Barcelona

Carla Abdelnour, Joan Hernández , Natalia Tantinya, Joan Carles Ribes, Ángela Sanabria, Dimitris Giakoumis, Justyna Gerłowska, Urszula Skrobas, Agnieszka Korchut, Katarzyna Grabowska, Sebastian Szklener, Elvira Martín, Isabel Hernández, Asunción Lafuente, Mar Buendía, Ana Pancho, Maitee Rosende, Ana Mauleón, Liliana Vargas, Domingo Sánchez, Octavio Rodríguez, Montserrat Alegret, Ana Espinosa, Gemma Ortega, Alba Pérez, Pilar Canyabate, Mariola Moreno, Silvia Preckler, Lluís Tárraga, Agustín Ruiz, Dimitrios Tzovaras, Mercé Boada, **RAMCIP group**.

Introduction

Robotic Assistant for MCI Patients at home (RAMCIP) is a three years-long research project funded by the Horizon2020 Program, with the aim to develop a service robot that will support MCI and early AD dementia patients in activities of daily living at home.

Eight European partners are collaborating in this project, where the final prototype of the robot will be tested in real home environments in Barcelona.

Materials and methods

During 10 days, several activities of daily living (ADLs) defined for the purpose of this project (Table 1) will be evaluated in the houses of 12 MCI or early AD dementia patients selected at Fundació ACE.

Expected results

Usability, acceptability and societal impact are the main variables evaluated during the human-robot interaction.

Project vision

The RAMCIP project vision is of future service robots that can assist patients with MCI and AD in mild stages, helping them to preserve independent living and quality of life.

Table 1: Use cases evaluated during ACE pilot trials

High Priority UC	Medium Priority UC
------------------	--------------------

<p>Fall detection. Screening for the user's general condition. Gas/smoke detection. Assist in turning off electric appliances. Turning on the light. Detection of improperly placed objects. Detection of unknown persons/strangers. Taking medication/food supplements-reminders, bringing and monitoring. Assistance upon detection of abnormalities related to electric appliances during cooking.</p>	<p>Proactive / on demand bringing of food ingredient or an utensil. Assistance (proactive/on demand) for fallen objects. Proactive bringing of a bottle of water. Communication with relatives and friends. Provision of cognitive training programs.</p>
---	---