



MEDIA KIT



Project

Culture-Aware Robots and Environmental Sensor Systems for Elderly Support (CARESSES) is a project designed to create the first elder-care robots able to adapt to the culture of the individuals they assist. CARESSES is an international, multi-disciplinary project financed by the European Commission (2,084,248.75 euros) and the Ministry of Internal Affairs and Communications of Japan (60,000,000 JPY).



Partners

Various academic, industrial and health organizations that specialize in robotics, artificial intelligence, transcultural care, elder care and advanced health solutions assessment have become involved in CARESSES.

University of Genoa, Italy
Robotics, Artificial Intelligence (Knowledge Representation), Bioethics

Örebro University, Sweden
Robotics and Artificial Intelligence (Planning and Reasoning)

Middlesex University, United Kingdom
Transcultural Care

University of Bedfordshire, United Kingdom
Advanced Health Solutions Assessment

Softbank Robotics, France
Human-Robot Interaction and producers of Pepper, the humanoid robot

Advinia Health Care, United Kingdom
Technologically Advanced Care Home Network

Japan Advanced Institute of Science and Technology (JAIST)
Robotics and Home Automation

Nagoya University, Japan
Social Psychology and Human-Robot Interaction

Chubu University, Japan
Robotics, Bioengineering and Mechanics



Key Participants

Antonio Sgorbissa, Professor of Robotics at the University of Genoa (ITA)

CARESSES Joint and EU Coordinator

[PICTURE](#)

Alessandro Saffiotti – Professor of Computer Science at Örebro University (SWE)

Manages artificial intelligence development

[PICTURE](#)

Irena Papadopoulos – Professor of Transcultural Health at the University of Middlesex (UK)

Manages development of transcultural care guidelines

[PICTURE](#)

Chris Papadopoulos – Professor of Public Health at the University of Bedfordshire (UK)

Manages impact assessment of CARESSES robots on the lives of the individuals they assist

[PICTURE](#)

Amit Kumar Pandey – Chief Scientist, SoftBank Robotics Europe (FR)

Manages system interfaces and dissemination of results to the scientific and industrial community

[PICTURE](#)

Sanjeev Kanoria – Founder and Director of Advinia Healthcare (UK)

Manages experimentation protocols and selection of volunteers at the Advinia care homes

[PICTURE](#)

Nak Young Chong – Professor of Computer Science at the Japan Advanced Institute of Science and Technology (JPN)

Japan Coordinator

[PICTURE](#)

Hiroko Kamide – Associate Professor of Human-Robot Interaction at Nagoya University (JPN)

Manages development of transcultural care guidelines in Japan and experiments at the HISUISUI care home

[PICTURE](#)

Jaeryoung Lee – Researcher in Human-Robot Interaction at Chubu University (JPN)

Manages automatic activity recognition through sensors in the environment

[PICTURE](#)



Quotes

“Robots are going to be increasingly important in the elder-care field. As a growing corpus of scientific research shows, taking into account the culture-specific needs and preferences of older people makes the success of the health intervention more likely. That’s one of the main reasons why we launched CARESSES”.

Antonio Sgorbissa, *CARESSES Joint and EU Coordinator*

“Imagine a robot that is sophisticated enough to enact a certain behaviour with one user while refraining from that same behaviour with another, based on what it knows about the users’ individual cultural profiles. That's what we are determined to achieve”.

Alessandro Saffiotti, Professor of Computer Science at Örebro University (SWE)

“To refine the guidelines and adapt them to the interaction between humans and robots we also decided to record videos of encounters between older people in care homes and their caregivers.”

Irena Papadopulos, Professor of Transcultural Health at the University of Middlesex (UK)

“Evaluations of end users’ perceptions will be carried out before and after the tests to gauge the CARESSES robots’ impact.”

Chris Papadopoulos, Principal Lecturer in Public Health at the University of Bedfordshire, UK

“Often interfaces for human-robot interaction come at the end. That’s not the case here as we decided to start developing interfaces from the very beginning of the project without waiting for the delivery of all the different components”.

Amit Kumar Pandey, Chief Scientist, SoftBank Robotics Europe (FR)

“Between the UK and Japan we have access to users from different cultures to test the robots. For the experiments we chose English, Indian, and Japanese participants”.

Sanjeev Kanoria, Surgeon, scientist, economist and founder of Advinia HealthCare, UK



"Research in Japan has a longstanding tradition in the development of assistive robot technologies and smart environments for ambient assisted living: the cooperation between the EU and Japan will pave the way to the standardization of culture-aware assistive technologies."

Nak Young Chong, *CARESSES Japan Coordinator*

"The robots will use their knowledge to distinguish between what is culture-dependent and what is not, to identify potential cultural conflicts and to recognize what might be relevant to the cultural identity of the user."

Hiroko Kamide, Associate Professor of Human-Robot Interaction at Nagoya University (JPN)

"The challenge is to give the robots the tools that might allow them to infer the user's personality traits and reconfigure their behaviour according to the user's cultural identity."

Jaeryoung Lee, Researcher in Human-Robot Interaction at Chubu University (JPN)



Key Steps in the Project

January 2017 - Start of the Project

April 2017 - Definition of the qualities of the cultural groups of participants in the CARESSES experiments.

October 2017 - Establishment of guidelines defining the robots' cultural competence and sensibility, and the kind of interaction they will have with older people and their environment.

December 2017 - Development of a knowledge base that will have information allowing robots to adopt culturally competent behavior with each different group.

February 2018 - Development of an artificial intelligence program that will allow robots to start from the behavior guidelines and make decisions in response to the people and their surroundings.

April 2018 - The motor, sensory and verbal capacities of the robots are outlined and now will adapt to the cultural groups selected.

May 2018 - The robot is tested in the iHouse, a duplex apartment in Japan fully embedded with sensors and actuators for home automation.

October 2018 - Development of an advanced system that allows the robots to recognize the older persons' habits and adapt its knowledge base to their individual preferences. Definition of the CARESSES experimental protocol for the care home volunteers in the UK (Advinia Health Care) and Japan (HISUISUI).

March 2019 - Installation of sensors in the care home allowing the CARESSES robots to interact more competently with the older persons they care for.

April 2019 - Start of experimentation with the care home volunteers.

October 2019 - Performance of data analysis and impact assessment on CARESSES regarding the quality of life of the care home volunteers

February 2020 - End of project