RAMCIP at a glance...

The Project

The Objectives

The Partners

News and Events

Upcoming Events

⚐ **Technical Integration meeting of the RAMCIP Project**, Oct 3-7, 2016 - Lublin, Poland
ACCREA will host the second technical integration meeting of the RAMCIP project, where S/W collaborative integration efforts will be performed by all technical partners.towards preparing the V1 RAMCIP robot for the preliminary tests planned for Oct-Nov 2016

⚐ **8ᵗʰ International Conference on Social Robotics (ICSR2016)**, Nov 1-3 – Kansas City, USA – Workshop: "Using social robots to improve the quality of life in the elderly"
RAMCIP will participate in this year's ICSR conference, through an invited speech for the project, given in this workshop by the RAMCIP coordinator.

⚐ **European Robotics Week 2016**, Nov 24 – 26 – Lublin, Poland
ACCREA and LUM will organize workshops and presentation of the RAMCIP robot open for the public audience so as to popularize robotics in a daily life and as a field of a research.

⚐ **55ᵗʰ IEEE Conference on Decision and Control (CDC 2016)**, Dec 12 – 14 – Las Vegas, USA
RAMCIP will be represented in this year's IEEE CDC conference by TUM, who will present recent results of their R&D efforts.

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HORIZON 2020

ISSUE

03

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The 1ˢᵗ version of the RAMCIP robot is built and gets prepared for preliminary tests

RAMCIP partners ACCREA and SHADOW have developed the first version of the RACMIP robot's H/W components. The RAMCIP robot V1 is currently being prepared for the project's preliminary tests.
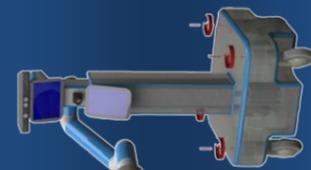
RAMCIP

Robotic Assistant for MCI Patients at home

Supporting elderly people with Mild Cognitive Impairment (MCI) is key to helping them lead independent lives for longer. This is a labour-intensive process. RAMCIP (Robotic Assistant for MCI Patients at home) is a three-year research project funded by the European Commission under the HORIZON2020 programme, which started in January 2015 to tackle this problem.

RAMCIP is going to research and develop a novel robot that can provide proactive and discreet assistance to elderly people with MCI in their own home, to support their independent living and quality of life.

Ageing is typically associated with physical and cognitive decline, which alter the way an older person moves around the house, manipulates objects and senses their home. These issues make it harder for older persons to execute daily home activities on their own; effects that are made worse by MCI and its evolution into dementia. Assistive robots can play a major role in helping older persons to live independently for longer and with a better quality of life.

Nevertheless, major challenges still need to be addressed towards service robots of the future; ones that will be capable of assisting older persons in a wide variety of activities, discreetly and transparently, yet proactively and in tight cooperation with the human, acting at the same time as effective promoters of the patient's mental health, being solutions that will evolve along with the user, thus capable to match her/his needs as they evolve over time.

The RAMCIP vision is of future service robots for assisted living environments that can provide safe, proactive and discreet assistance in significant aspects of the user's daily life, ranging from food preparation, eating and dressing activities, through to managing the home and keeping it secure. At the same time, the robot should help the user maintain a positive outlooks and also to exercise cognitive and physical skills. RAMCIP will work towards future robots which help the users to perform exercise as part of their assistive work, thus embedding exercise in their daily behaviour.

ASSIST IN...			
Food preparation	Eating activities	Dressing activities	Safe, Proactive and Discrete Assistance
Socialization	Lower-body treatment activities	Taking medication	
Managing the home and keeping it safe	Maintaining positive affect	Exercising cognitive and physical skills	

HOW TO ASSIST	High-level cognitive functions		
Home Environment and Human Activity Modelling and Monitoring	Human Robot Communication	Safe Manipulations	
	Multimodal	-Touch screen -Speech -Gestures -AR	Object Grasping/ Manipulation/Handover High object Reaching pHRI
	Adaptive		
	Empathic		

The RAMCIP vision is of future service robots that can assist in significant aspects of the user's daily life. At the same time, the robot should help the user maintain a positive outlooks and also to exercise their cognitive and physical skills.

RAMCIP

RAMCIP Technical Integration Meeting – June 13 - 17, 2016, Thessaloniki, Greece

In July 2016, CERTH-ITI hosted in Thessaloniki the 1st face-to-face technical integration meeting of the RAMCIP project, where all technical partners had the opportunity to intensively work together, to start integrated experiments of their methods on the RAMCIP preliminary platform, as well as on further robotics equipment of CERTH.

During this meeting, preliminary demonstrators for integrated components of the RAMCIP robot were achieved, and the roadmap was set for the project's integration efforts that will allow the V1 of the RAMCIP robot to be ready for the project's preliminary tests, planned to be held during the last months of 2016.

RAMCIP in the Training Event of the ACROSSING project

During the 1st Training Event of the ACROSSING project (14-16/9 in Thessaloniki, Greece), live demonstrations of core technologies of the RAMCIP robot were performed, through the preliminary platform of RAMCIP. Read more...

RAMCIP Project 5th Plenary Meeting in Heraklion, Crete, Greece

The fifth plenary meeting of RAMCIP was held in Heraklion of Crete, Greece, on 7-8 July 2016, hosted at the premises of the Foundation for Research and Technology Hellas (FORTH). Read more...

RAMCIP at CVPR 2016

A paper presenting the novel object recognition method of CERTH has been published in the CVPR 2016 conference:

Doumanoglou, A., Kouskouridas, R., Malassiotis,

CVPR 2016

S. and T.K. Kim, Recovering 6D Object Pose and Predicting Next-Best-View in the Crowd, International Conference on Computer Vision and Pattern Recognition 2016 (CVPR 2016), Las Vegas, USA, June 2016

RAMCIP at the European Control Conference 2016

The Centre for Research and Technology Hellas – Information technologies Institute (CERTH) has participated in the European Control Conference of 2016 which was held in Aalborg, Denmark, on June 29 – July 1 2016.

CERTH presented the paper: Operational space robot control for motion performance and safe interaction under Unintentional Contacts, authored by Karayiannidis, Y., Droukas, L. and Doulgeri, Z.

RAMCIP at the HCII 2016

The Information Technologies Institute of Centre for Research & Technology Hellas (CERTH/ITI) has participated in the 18th International Conference on Human-Computer Interaction, which was held in Toronto, Canada, publishing the work entitled: Human Aware Robot Navigation in Semantically Annotated Domestic Environments, which was

HCI 2016 INTERNATIONAL

authored by Kostavelis, I., Giakoumis, D., Malassiotis, S. and Tzovaras, D.

RAMCIP at Automatica 2016

AUTOMATICA OPTIMIZE YOUR PRODUCTION

At Automatica, Shadow Robot demoed a system including concepts and functionality developed for RAMCIP. The system was comprised of a Shadow E1 Dexterous Hand, a UR10 arm and an Asus Xtion structured Light 3D camera. An array of objects taken from the YCB object set were

presented on a table in front of the user for detection and recognition. The user could then select an object simply by pointing at it.

This was implemented using the skeleton tracking and action recognition modules developed by CERTH for RAMCIP. The robot would then pick up the object using an appropriate grasp and present it to the user, releasing the object automatically as the user took it. Read more...

RAMCIP at PETRA 2016

CERTH has participated in the 9th ACM International Conference on PErvasive Technologies Related to Assistive Environments

(PETRA 2016), presenting the paper: *A Living Lab Infrastructure for Investigating Activity Monitoring Needs in Service Robot Applications*, authored by Vasileiadis M., Giakoumis D. Votis K. and Tzovaras D.

RAMCIP at ICRA 2016

icra STOCKHOLM 2016 SWEDEN

The Technische Universitaet Muenchen (TUM) and the Centre for Research and Technology Hellas – Information technologies Institute (CERTH) have participated in the IEEE International Conference on Robotics and Automation 2016 which was held in Stockholm, Sweden, on May 16 – 21 2016.

TUM presented the paper: Impedance-based Gaussian Processes for Predicting Human

Behavior during Physical Interaction, authored by Medina, J. R., Endo, S., & Hirche, S.

CERTH presented, in the "Workshop on Exploiting Contact and Dynamics in Manipulation" of ICRA 2016, the work entitled: A constraint-based taxonomy of grasp strategies for grasping flat objects, authored by Sarantopoulos, I. and Doulgeri, Z.

This issue's highlight
Data collection experiments established in the premises of LUM partner (in Lublin, Poland)

During June and July 2016, two data collection experiments were held in the premises of LUM, focusing on activity monitoring and affective analysis of the RAMCIP target end users.

The first experiment was performed in the LUM apartment, which will host the project's preliminary tests and pilot trials. This experiment focused on the monitoring of target end users during the execution of daily activities related to

the RAMCIP target use cases, such as cooking and eating. The purpose of this data collection campaign was to collect RGBD data that will be used for the testing and refinement of the RAMCIP's methods for user activity monitoring.

The second experiment was dedicated to the collection of data that will be used for the testing and refinement of the robot's emotion recognition methods.

RAMCIP in the International Conference on Telecommunications (ICT) 2016

ICT2016 23rd International Conference on Telecommunications

RAMCIP participated in a workshop entitled "Trends and challenges of Cyber Physical Systems: Design, Architectures and Applications" at the ICT conference 2016 which was held in Thessaloniki, Greece. It was a full day workshop with a combination of invited talks and demonstrators from both industry and academia, jointly supported by RADIO, ARGO, and RAMCIP

EU H2020 funded projects.

RAMCIP's participation included a live demonstration of computer vision methods developed by CERTH, operating on the preliminary RAMCIP robot platform, as well as the invited speech: "Service robot applications to support MCI patients at home - the RAMCIP project approach". Read more...

RAMCIP at MMAR 2016

RAMCIP has participated in the 21st International Conference on Methods and Models in Automation and Robotics (MMAR 2016), with the

MMAR 2016

Paper entitled: *ArchGenTool: a System-Independent Collaborative Tool for Robotic Architecture Design*, authored by E. Ruffaldi, I. Kostavelis, D. Giakoumis, and D. Tzovaras.

The V1 RAMCIP robot gets prepared for preliminary tests

The H/W components of the RAMCIP robot V1 have been developed (ACCREA, SHADOW), leading into the integrated RAMCIP robot V1 prototype. S/W integration is currently performed, towards the preliminary tests planned for Oct-Nov 2016

RAMCIP at the X Barcelona-Pittsburgh Conference 2016

For the first time in the Barcelona-Pittsburgh Conference, a workshop on Social Robotics has been held, where the RAMCIP project was presented. Read more...

RAMCIP at the Mediterranean Alzheimer´s Alliance Meeting 2016

RAMCIP was in the Meeting of the Mediterranean Alzheimer´s Alliance, with representatives from 17 countries. Read more...

RAMCIP at AAIC 2016

RAMCIP was presented in the Alzheimer Association Int'l Conference 2016 held in Toronto, Canada on 22-28/7. Read more...

RAMCIP at the EAN Congress

LUM presented RAMCIP in 2nd Congress of the EUROPEAN ACADEMY OF NEUROLOGY in Copenhagen, Denmark, on 28/5.

RAMCIP at RoboCup

RAMCIP took part in an exhibition accompanying the RoboCup2016, held this year in in Leipzig, Germany. Read more...