A R I S T O T L E U N I V E R S I T Y O F T H E S S A L O N I K I
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PRESS RELEASE

CoLLaboratE project: A research project on the development of collaboration between humans and robots in production lines

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The Automation & Robotics Lab of the Department of Electrical and Computer Engineering of the Aristotle University of Thessaloniki, Greece, co-ordinates the European project CoLLaboratE (Co-production CeLL performing Human-Robot Collaborative AssEmbly), which aims to develop innovative methods concerning human-robot collaboration in an effective and safe manner.

Robots are extensively used in large industries (e.g. car industries) for the execution of heavy and repetitive tasks in designated spaces which are non-accecible by humans for safety reasons. These robots lack the skills and flexibility required to meet contemporary industrial needs for small production cycles in a satisfactory way. CoLLaboratE aims to revert this situation by combining the abilities of humans with those of robots.

Professor Zoe Doulgeri, Director of the Automation & Robotics Lab and co-ordinator of the project states:
CoLLaboratE is a challenging project that aims to equip robots with new collaboration skills. *This way robots will become valuable human assistants, able to understand humans' intentions, learn from them and work with humans using their abilities of precision and heavy loads manipulation, while leaving the decision-making and movement initiative to humans.*

CoLLaboratE is a 3 year HORIZON 2020 Research & Innovation project funded by the European Commission, which started in October 2018.
The consortium consists of 14 partners from research, industry and services across 10 European countries which include: the Automation & Robotics Lab, Aristotle University of Thessaloniki (Greece), the University of Genova (Italy), the Katholieke Universiteit Leuven (Belgium), the Laboratory for Manufacturing Systems &

Automation, University of Patras (Greece), the Information Technologies Institute (ITI), of the Centre for Research and Technology Hellas (CERTH) (Greece), the Association pour la Recherche et le Developpement des Methodes et Processus Industriels (ARMINES) (France), the Jožef Stefan Institute (Slovenia), the IDIAP Research Institute (Switzerland), and the companies Blue Ocean Robotics (Denmark), Kolektor Orodjarna (Slovenia), FIAT SCPA (Italy), ASTI Mobile Robotics (Spain), Romaero SA (Romania) και Arçelik A.Ş (Turkey).

The project objectives will be implemented and evaluated in 4 use cases related to the industrial project partners in Italy, Slovenia, Turkey and Romania.

More information is available here:
https://collaborate-project.eu/

https://www.linkedin.com/company/collaborate-project-h2020

https://twitter.com/collaborate_eu

The Automation and Robotics Laboratory (ARL) within School of Electrical and Computer Engineering (ECE) of Aristotle University of Thessaloniki (AUTh) has a long standing research record in the areas of robotics and control systems. The lab has expertise in the area of physical human–robot interaction, object grasping and manipulation, redundant and flexible joint manipulators, as well as in the control of robotic systems. In the automatic control field ARL is specializing in the control of complex and uncertain systems with prescribed performance guarantees. ARL is also active in the field of computational intelligence.

The ARL research team has participated in over 20 research projects funded or co-funded by EU and two EU networks of excellence. Members of the team have participated as associates in H2020 projects run by CERTH/ITI. Some of the most recently completed project are PIROS – Physically Interactive Robot Services (ARISTEIA I), and the Horizon 2020 projects RAMCIP – Robotic Assistant for MCI Patients at home and SARAFun – Smart Assembly Robot with Advanced FUNctionalities. In addition, members of the team currently participate as associates in the Horizon 2020 project SMARTsurg – SMart weArable Robotic Teleoperated Surgery – which concerns robotic surgery.

Many members of the research team have been awarded scholarships from the Greek State Scholarships Foundation (IKY) for their research at doctoral and post-doctoral levels.

Communication with the press: Director of the Automation & Robotics Lab Department of Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece, Co-ordinator of the CoLLaboratE project, Professor Zoi Doulgeri, tel. 2310996364, e-mail: info@collaborate-project.eu