



INTELLIGENT, FLEXIBLE AND SAFE ROBOT FOR THE MANUFACTURING OF METAL AND COMPOSITE PARTS

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Disseminating COROMA

“Great activity of dissemination of the COROMA project to different industrial sectors in the last quarter”



In the last months COROMA partners have also been disseminating the project to different audiences in several events and conferences. In this way researchers, engineers, students and robot enthusiasts from all over the world, among other publics, have been listening the speakers learning

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about the innovations and technologies offered by current Robotics.

February was full of events. On February 7, in the VVV18 International Winter School of Humanoid Robot Programming in Italy, Rich Walker gave the students an overview of the state-of-the-art on the broad field of robotics and taught them the required, practical, skills that allow them to program robots taking advantage of available tools and libraries for perception, control and machine learning.



cyber security and safety, of the increasing use of robots and AI, and also the promise of greater productivity and skills.



The Industry 4.0 summit took place in two different times, both in Manchester. In the first one, from February 28 to March 1, where several Government and industry leaders gave keynotes addressing the implementation of robotics applications, personalised supply chains and technology-driven. The implementation of Industry 4.0 projects were also shown, and the summit closed with a wide ranging debate on the broader impact of Industry 4.0 on manufacturing and the wider economy. In the second summit, on May 30, the aim was to engage university engineers in robotics. Radhika Gudipati took on this opportunity to talk about COROMA and other projects.

He, along with Penny Scully, also took part in the 2nd IEE UK & Ireland RAS Conference in London on February 22. There, they tried to improve the communication of its members and other researchers, young students and industrial professionals who were interested in different activities of RAS, mainly in research, but also in development and education, knowledge sharing, latest research achievements and technologies, exploring the future trends of RAS, and promoting collaboration and knowledge transformation.

From April 18 to 20, in the third edition of the Global Robot Expo, which is the international exhibition on robotics, related technologies and innovation, the last advancements in Industry 4.0 were presented

Also in London, on February 27, an event took place about artificial intelligence and robotics and its innovation, funding and policy priorities. Interesting topics were discussed, such as where the AI and robotics technologies have been set to make greatest impact in terms of revenue generation, cost saving and efficiency and service provision, and where it has been done in the most successful way. In addition, they have been talking about concerns of the implications for employment,



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Service Robotics, Artificial Intelligence, Smart Technologies, Drones & Aerospace, Educational Technologies, Healthcare Technologies and 3D Printing. There were conferences, demos and technical talks in three conference stages, with top international speakers from all over the world.

Next event in Hannover, from April 23 to 27, offered the possibility of discovering what is behind the latest global industry trends in forums, podium discussions, presentations and conventions. The best speakers shared their experiences and delivered invaluable insights.

Again in London, on May 14, in the UK Research & Innovation (UKRI) Launch Event, the seven research councils, Innovate UK, and Research England that combine the UKRI, were launched. There, Shadow Robot spoke with several senior UK people about what they are doing in Europe, particularly COROMA. An exclusive group of 400-500 guests, that included Government Ministers and chairs from each research council gathered to hear the short speeches, outlining the ambition for the UK to become the most innovative country in the world.

About the events in June, the first one took place in Bilbao, Spain, in the 30th edition of the International Machine Tool Fair. During 5 days, IK4-IDEKO participated in this biennial fair with a 140m2 stand where the latest developments in advanced manufacturing technologies were showcased. Developments concerning robotics and process automation included significant advances in new systems that simplify how robot machining

tasks are controlled, as well as impressive new developments in the world of collaborative robots. In this context COROMA project was explained to the visitors.

In Rotherham witnessed the RAIN hub Industry Engagement Event on June 5. RAIN is funded by EPSRC and brings together eight teams of robotic and nuclear engineering experts from different Universities and RACE (Robotics and Remote Applications in Challenging Environments). The RAIN initiative has been created to address key industry issues by developing the advanced robotics and artificial intelligence that will be essential for future nuclear operations. Their adoption will have the potential to completely transform the nuclear industry globally.

The last event until now, has been the UK Research & Innovation (UKRI) People Festival, which took place in Swindon on June 7. There were talks about various IUK and EU projects, including COROMA, with key people from UKRI (IUK + 8 Research Councils).



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INTERVIEW TO PARTNERS:

Gorka Herranz, from Soraluce, talks about the communication between robots and third party applications

Why did Soraluce decide to be part of the consortium of the COROMA project?

Soraluce (SOR) designs, manufactures and install turning, boring and milling machines all over the world in different industrial sectors. Our aim is to provide solutions to our customer from an individual machine until a complete manufacturing line. And we are using the robots more and more for additional operations.

Another reason to decide to be part of Coroma consortium is to have the chance to improve our machines and make them visible and connectable with other systems, make them more flexible and improve the connectivity to build high valuable solutions.

This is important to have high-skilled and valuable partners to innovate and have the chance to develop this system

What is the work carried out by SORALUCE in the project?

Soraluce inside Coroma project is developing the CORO-COOP module. This module mainly will allow communicate robots, third party applications and our CNC machines in synchronous and asynchronous mode. One of the features is to make an exchangeable data set between robots and CNC based machines and the other feature is the capacity to provide information stored in the CNC and robots to any another PC or controlled.



Which results do you expect from the COROMA project?

We expect from COROMA is to get the ability to **improve** and give more **flexibility** to the machines. Machines working together with robots can **improve the productivity** of our machines in a manufacturing line, and we could provide a high technology solution to our customers.

Benefits and advantages of the implementation of COROMA project.

CORO-COOP manages the information between CNC and automation controllers and third party applications. This is helpful to provide information between different devices and make them “speak” to improve their functionality. In COROMA project this is shown as a real advantage having two independent systems like a machine and a Robot and making them work together, having each one their own tasks.

COROMA's engagement



18 MONTHS



6.358 WEBSITE VISITS



181 FOLLOWERS

Meetings

COROMA WP leaders met again at the University of Nantes, at the midpoint of the project. This time, the goals of the meeting were to present to the review team the progress of the work accomplished so far, to show a practical demo at the workshop, to give a clear idea of the exploitation potential and plans foreseen for next transference to industry, and a glimpse on the scientific production of the project.

One morning was enough to present in a condensed but visual way the state of the work, with most of the technical work devoted to the development of the COROMA modules over. The presentations

of the different work-packages made use of videos to demonstrate in an applied way different functionalities that otherwise couldn't be shown in situ: CORO-SENSE and the recognition of the scene, CORO-SAFE and the reaction to the proximity of an operator, CORO-COOP and the synchronisation between robot and machine-tool, CORO-MOB and the ability to navigate the workshop in a safe and effectively, etc.

Different demos were planned in an interactive way: the review team even had the opportunity to select and launch sanding operations on a boat mould, carried out by the robot on an AGV as an



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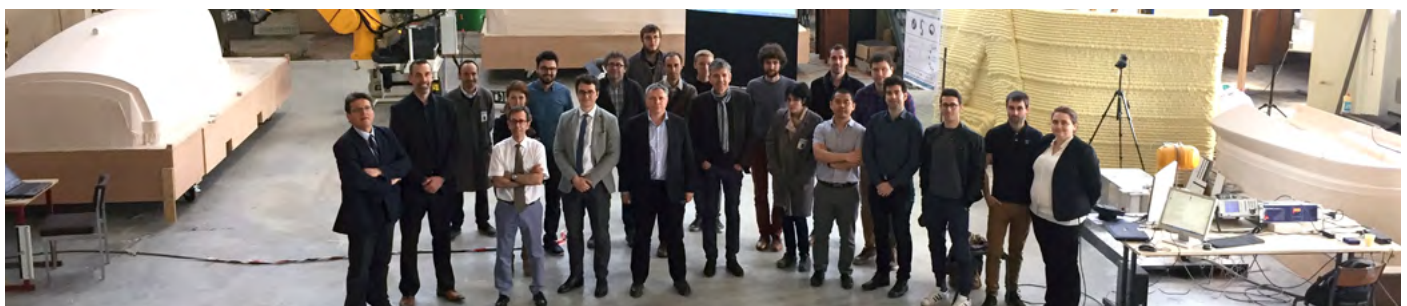
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autonomous system. The final user Beneteau was present at the meeting and could give the perspective of the industry on the developments of the project and its positive impact on the European industry and jobs.

The meeting allowed the reviewers to clarify technical questions, and the consortium to prove the alignment of COROMA with the strategy of the European Commission, and to show their confidence in the good results of COROMA, boosting the use of cognitive and collaborative robots in the European manufacturing industry.

The integration phase has just started, so... next months will see direct progress towards end-use cases.



Upcoming events



- August 24th-27th, IEEEISR 2018, Shenyang, China
- August 26th-29th, BIOROB 2018, Enschede, Netherlands
- August 27th-30th, MMAR 2018 Miedzyzdroje, Poland
- October 9th AI Conference, London, UK
- October 1st-5th IROS 2018 Madrid, Spain
- November 6th-9th Humanoids 2018, Beijing, China

Project consortium



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