



✉ CONTACT

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

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Javier Hernández

INTRODUCTION FROM THE PROJECT COORDINATOR

Javier Hernández

I am Javier Hernández, primary coordinator of COROMA project, and in this and the next CORO-NEWS releases I will invite you to know the 7 modules that will make up our whole COROMA robotic system. They will be responsible for the enhancement, intended in our project, of current industrial robots. They will make possible the **development of a cognitively enhanced robotic system** that can perform multiple manufacturing operations, then leading to a greater **flexibility and competitiveness** of the **European manufacturing industry**.

We will track the progress in the development of our modules, and will present them for you to catch up with the innovations applied to our use cases.

Today, we will start with the increase of mobility that will be covered by three modules: CORO-MOB, CORO-SENSE and CORO-HAND. Specifically CORO-MOB will provide the robotic system with the capacity to move in safely through the workshop, navigating in an autonomous way, provided a semi-structured environment.

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INTERVIEW TO PARTNERS:

Maxime Ezequel, from BA Systèmes, talks about the benefits of the implementation of CORO-MOB module.

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

BA Systèmes (BAS) designs, manufactures, installs and maintains AGV systems for many customers in **various activity sectors**. **AGV solutions** are composed of automated guided vehicles driven by a fleet management system. **The main goal of the company is to introduce a mobile robot solution in the framework of the Factory of the Future (FoF)**. Obviously, such innovative system requires the know-how of various high-skilled partners. Thus, COROMA project was the perfect opportunity to develop such product to answer new needs and industrial uses.

What is CORO-MOB ?

CORO-MOB is the module **bringing mobility to the robotic system** for manufacturing of large metal or composite parts. Basically, CORO-MOB is based on an industrial AGV specifically modified/adapted to answer COROMA use-case. On top of the integration of a 6 axis robotic system, **an autonomous navigation based on a new localization system** will be developed in the COROMA project. The main goal is to make the system as flexible as possible to address several use-cases and to limit the infrastructure constraints. The other modules such as **CORO-SAFE** will be closely linked to the AGV and integrated to provide a full solution.

What is the work carried out of BAS/BENETEAU in the COROMA project?

BAS will design, manufacture and install a tailor-made AGV according to the specifications of BENETEAU. BAS will develop a state-of-the-art navigation tool. **BENETEAU provides extended knowledge of the manufacturing needs and process** constraints as well as representative environment for a demonstration.

In addition, **BAS leads the exploitation workpackage** which tasks deal with innovation marketing and standardization (DIN).



Maxime Ezequel

Benefits and advantages of the implementation of CORO-MOB

CORO-MOB will manage processes dedicated to large parts such as the **sanding of boats' hulls molds**. The AGV will provide a safety set, the energy to the different embedded equipments (adapted to the production constraints) and the lifting function to **guarantee the workspace coverage**.

Which results do you expect from COROMA project?

The expected outcomes of the project for BAS concerns corporate strategy, technologies, business and society.

- Strategy: long-term partnerships with labs, research centers and industrial partners.
- Technologies: increase the knowledge of the company in mechatronics and robot integration.
- Business: pave the way for a new product and approaching potential clients.
- Society: Increase the competitiveness of the European industry and improve the operators' working conditions.



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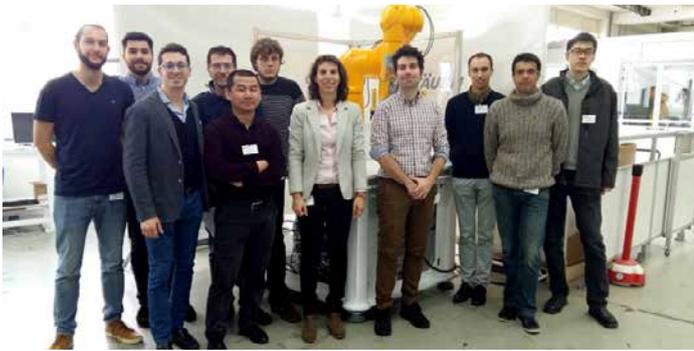


During the last 3 months, COROMA project partners have been involved in several work meetings focused on the definition of the **3 industrial use-cases**, and ensuring that the project developments will be aligned with real requirements from the European manufacturing industry.

The first one was a training session in Stäubli facilities in Faverges, France, with the objective of **sharing knowledge and experiences on robot programming, force control and robotic machining**. The acquired expertise on hardware and software used by Stäubli robots will be applied then in the integration phase of the project, using the developments focused on manufacturing processes.

On April, COROMA consortium met in BA Systèmes for the month 6 meeting. The objective of the meeting was to discuss about the **state of development of the different work-packages**, and the planning of the upcoming tasks. The day before, the sixteen partners celebrated the ESS Exploitation Strategy Seminar where they worked on identifying project exploitable results and designing an exploitation strategy for the different project results.

Last, a workshop to make possible the smooth interaction of the seven CORO-modules as a final integrated system took place at AMRC Knowledge Transfer Centre (University of Sheffield). COROMA project will develop **highly modular robots** that can carry out up to six different tasks.



COROMA's engagement



9 MONTHS



3.061 WEBSITE VISITS



95 FOLLOWERS

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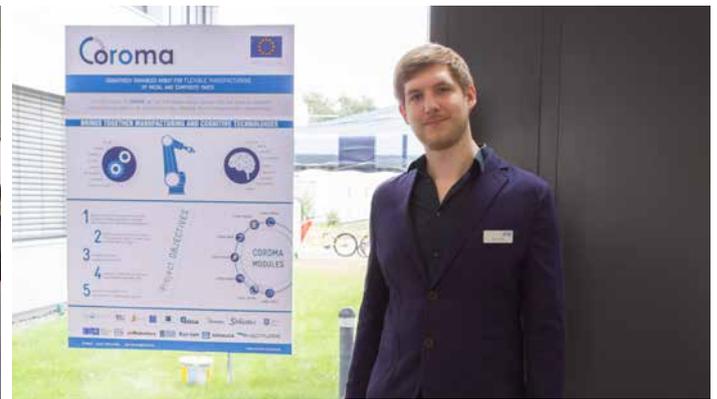
Disseminating COROMA

Different dissemination activities have been carried out during the last trimester. Project main objectives and expected industrial results have been presented to different audiences, in this scenario, the IK4-IDEKO Research Center presented COROMA project to the **Spanish Minister of Energy, Tourism and the Digital Agenda** as an example of a project that will develop three robotic applications geared towards the manufacture of metal and composite material.

On the other hand, Juanan Arrieta, Head of Research Programmes at IK4-IDEKO Research Center, presented the latest developments of COROMA project at **Factories of the Future Community Day, in the Factory Automation session**.

Erdem Ozturk from AMRC of University of Sheffield, participated with Boeing in the **meeting of Scientific Technical Committee of Machines** in the **CIRP Winter Meetings**, organized by the International Academy For Production Engineering (CIRP), and made a technical presentation about **“Increasing Role of Robots in Machining”**.

Finally, Tom Runge took part in an open day at the **Robotics Innovation Center**, the latest outcomes of the project, and he presented the activities that project consortium will carry out within the next months.



Upcoming events



- August 21st-25th, CIRP 2017 General Assembly, in Lugano , Switzerland
- September 24th-28th, IROS 2017, in Vancouver, Canada
- October 9th at IK4-IDEKO`s facilities, in Elgoibar, Spain, 1st Industrial Advisory Board
- October 10th-11th in Bergara, Spain, General Meeting, at Soraluce's facilities
- October 22^{sd}-23rd, Annual Conferencia in Edinburgh Center of Robotics

Project consortium



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