

FOREWORD

We see COTEMACO as a unique opportunity for regional SMEs to explore the opportunities of technologies like collaborative robots. As a system integrator, we recommend these SMEs to first start with basic cobot application. By limiting the risk and the implementation time, the technology can start adding value very fast. As soon as the technology is well accepted, they can add complexity. In a second step, we strive for a more dynamic collaboration between man and machine. Therefore the integration between the cobot and the manufacturing ecosystem is key. Smart sensors can validate the manual actions and digital work instructions will guide the factory worker to the next step. This co-operation between the factory worker and technology will increase the production flexibility and the cost competitiveness of the SME.

Jorg Hendrikx
Vlegel Technology



Putting the employees first

Interview with Dr. Oliver Mueller and Dr. Matthias Hoffman

BEST - The advice center for works councils, staff councils and employee representatives in Saarland



Dr. Oliver Mueller (left) and Dr. Matthias Hoffman (right)

Q: What is your biggest motivation in the COTEMACO project?

OM: The terms digitalization and transformation are omnipresent in today's working world. As a computer scientist, I have an affinity for topics like robotics and artificial intelligence. As a technology consultant of BEST, I can use this knowledge to advise works committees on the socially acceptable introduction of digital technologies, such as a cobot system. COTEMACO offers me the chance of gaining new knowledge, which again can be used to support the committees. In a nutshell: helping people by applying state-of-the-art knowledge in a fascinating thematic area is what motivates me most.

Q: What practices does BEST use to incorporate employees into the decision making of (manufacturing) firms?

OM: BEST advises, educates and informs works committees on the socially acceptable design and introduction of technology. The challenge in COTEMACO is that not each SME has a works committee. Therefore, BEST is taking the employees' perspective and developing a consultation manual, which may help employees' representatives to perceive their rights with regards to codetermination. The BEST manual will be available for all works committees and employees' representatives of participating SMEs, qualification can be done either on-site, in a field lab workshop together with our technical project partner ZeMA, or via webinar.

Q: What are the differences between Germany and other EU countries when it comes to support for employees?

MH: The main difference concerning the support of employees between Germany and other EU countries is that in Germany a specific law exists that regulates codetermination: the "Works Council Constitution Act". That means that each enterprise with at least 5 steady

employees has the right to, and should, set up a works committee (i.e. a representation of employees by law) and this founded committee has certain rights of codetermination. SMEs in other EU countries usually do not have work committees. Therefore the consensus in the COTEMACO consortium is that regulations concerning "decent work by design" in such cases shall at least be agreed on a voluntary basis.

Q: How does this structural difference affect human-technology interaction in Germany compared to other countries?

"BEST is taking the employees' perspective and developing a consultation manual, which may help employees' representatives to perceive their rights with regards to codetermination."

Dr. Oliver Mueller

OM: Assuming, that the underlying technology is the same, there should be no difference regarding the interaction with the technology itself but in the way it is introduced. In Germany, application of technology subject to codetermination must be regulated accordingly, e.g. through company agreements.

In other countries, employees may have different or even no participation rights. Due to these regional differences, the introduction of the technology and how to deal with it must be considered on a case-by-case basis.

Q: Are employees' concerns about cobots stealing their jobs valid?

MH: COTEMACO is about the introduction of collaborative robots. Such collaboration does not work without the human counterpart. Assuming that the introduction fulfils the criteria for decent work, a cobot can be seen as a new digital and intelligent tool that can be used to make the workday easier. COTEMACO aims to increase the competitiveness of SMEs and create new jobs, but it would be naive to only look at the increased numbers of jobs at the end, and answer this question with "no". Of course there is a certain possibility that although there is an increase in jobs at the end, 20 employees may lose their jobs while 30 new (i.e. other) employees get jobs, for example.

Update from the Lead Partner

Ger van den Kerkhof | Flanders Make

the support programme. The project is thus starting to generate its first concrete results, which is very exciting!

Since September we've also had two partner meetings which were held at Food Tech Brainport in Helmond on the 8th and 9th of October 2019 and ZeMA in Saarbrücken on the 23rd and 24th of January. The partner meetings continue to demonstrate that the COTEMACO consortium is a strong alliance of business and technology partners committed to supporting SMEs with their innovations. We are already looking forward to the next meeting in Lincoln on the 29th and 30th of April 2020, where we will film a 360-degree tour of the UK field lab! This will shortly

Since our last newsletter in September 2019 the COTEMACO project has entered a new phase of introducing collaborative robotics and digital technologies to the shop floor of European manufacturing SMEs.

The four field labs have been fully tailored to the needs of regional SMEs, featuring integrated robotic technologies that tackle common challenges faced by SMEs within the automotive and food manufacturing industries. The finalisation and launch of the fourth field lab – at the University of Lincoln, UK - marked the beginning of the SME Support programme.

In the second half of 2019 the partners hosted multiple consulting days, field lab events, thematic workshops, technological sessions, bilateral meetings and inspirational sessions in order to attract relevant regional SMEs and engage them in the COTEMACO support programme. This has led to the creation of a dynamic ecosystem where end-user SMEs, integrators and business and technology organisations interact, exchange ideas and set-up collaborative activities. We are proud that, since the official launch of the programme in January, we currently have 6 different SMEs who are either considering participating or are already involved in

after be available on the Robot-Hub website, alongside interactive tours of the other three field labs, so go immerse yourself for a preview of the real-life field lab experience.

The COTEMACO project also demonstrated its technical achievements during the Interreg North-West Europe event "Making an Impact!" in Roubaix, last December, which had a great turnout and led to many new ideas to enhance the support programme for SMEs.

"[Our events have] led to the creation of a dynamic ecosystem where end-user SMEs, integrators and business and technology organisations interact, exchange ideas and set-up collaborative activities."

Ger van den Kerkhof

We look forward to meeting more interested companies and technology providers at our upcoming events and invite you to get in touch to discuss opportunities or answer any questions. See you next time!



For more information, visit robot-hub.org/cotemaco

FIELD LABS: a 360 degree experience

📍 Immerse yourself in a 360 degree tour of our field labs by clicking on the images below



📍 Flanders Make, Belgium

The Flanders Make Make Lab is a mobile research lab that has been filled to the brim with top technology. This fully connected research infrastructure is a living lab in which the Flanders Make team work together with companies to find solutions for their specific technological challenges. The Lab hosts demonstrations of new Industry 4.0 technologies, training sessions with these new technologies for your operators, and feasibility studies.



📍 ZeMA, Germany

The ZeMA fieldlab is one of the largest research areas for human-robot cooperation in Europe. With the founding of ZeMA in 2009, the first areas of the research space were created. It was expanded in 2017 and now covers 2,900 square metres. In addition to human-centred robot cooperation, the Assembly Systems Technology and Plant Design research group studies and develops scientific methods and innovative future technologies in the context of Industry 4.0.



📍 Food Tech Brainport, Netherlands

In Food Tech Brainport's Smart Food Processing Field lab you will find a variety of demonstration systems for use in the food sector. These demonstrators mainly consist of robots, cobots and digital shop floor technologies and serve to inform and inspire food processors that pay a visit. There is also a training room where various presentations are held on topics such as: machine safety for your employees; the use of digital data for Overall Equipment Effectiveness (OEE); and how to collect, analyse and valorise data of your production facility.

Follow [COTEMACO on LinkedIn](#) to find out when the 360 degree tour of the [University of Lincoln's field lab](#) goes live!

MEET THE Partners

Discover the experts driving COTEMACO



Dr. Andrea Paoli

Associate Professor in Food Robotics and Process Automation

National Centre for Food Manufacturing - University of Lincoln

Subject Specialisms: Robotics and Automation; Agr-Food Technology

Bio: I lead robotics and automation research at the National Centre for Food Manufacturing, University of Lincoln. From September 2014 to September 2018, I was Senior Lecturer in Automation and Robotics at the University of Lincoln School of Engineering where I was Programme Leader for the BEng (Hons) Automation Engineering programme and lead instructor for a number of automation, robotics and agri-food technology modules. My research interests focus on the application of robotics and automation to Food Manufacturing. In this framework, I manage and contribute to a broad portfolio of innovation and technology transfer projects aimed at introducing robotics technologies into the agri-food sector following the Industry 4.0 paradigm.



Dr. Oliver Mueller

Bioinformatician and Technology Consultant

Advisory office for socially acceptable technology design (BEST e.V.)

Subject Specialisms: Co-determination in the operational use of information technology (IT) and the digitalisation of the working world, data protection and data privacy

Bio: Since October 2019, I have been working as a technology consultant at BEST e.V., which is a subsidiary of the local Chamber of Labour (Arbeitskammer des Saarlandes). I advise, qualify and inform works councils, staff councils and employee representatives with regard to their right of co-determination. Here I concentrate on the IT area. For example, the aim of our seminars is to provide the participants with the right tools which enable them to design the implementation of new digital technology in their company/department in the sense of "decent work". As I accompany the process of digitalisation/transformation, my main focus is on artificial intelligence (AI), deep learning algorithms and robotic tools. Hereby, the areas of data protection and data privacy also play an important role. In addition to holding seminars, my tasks include writing expert opinions and drafting company agreements based on current legislation.



Dr.-Ing. Matthias Vette-Steinkamp

Associate Professor for Robotics and Human-Technology Interaction

University of Applied Sciences Trier, Environmental Campus Birkenfeld

Subject Specialisms: Robotics for manufacturing, assembly and disassembly automation

Bio: I am currently setting up a working group for disassembly system technologies at Trier University of Applied Sciences. From March 2012 to February 2020, I was department head at ZeMA - Center for Mechatronics and Automation Technology in Saarbrücken. At the same time, I am a lecturer for industrial robotics and human-technology interaction and head of the international Robotix Academy. My research focuses on the automotive and aerospace industry as well as agile production. My research interests focus on the application of robotics and automation in industrial production. In this context, I lead and contribute to a broad portfolio of innovation and technology transfer projects aiming at the introduction of robotics technologies in the production sector according to the Industry 4.0.

Want to get in touch with one of our partners? [Contact us](#)

SECTOR News

How are robotics meeting today's packaging challenges?

Source: Packaging Europe

Cobots will have an important role to play when it comes to simplifying processes. "Unlike their industrial cousins, cobots are designed with seamless integration in mind," says Mark Gray, UK sales manager at Universal Robots.

"Engineered as an out-of-the-box solution, an untrained operator can unpack, mount and program a cobot in less than an hour. From a business view, this means that companies

can maximize their throughput, accelerate their time-to-market and, crucially, achieve ROI in no time at all."

Many companies in the field of robotics - Cama and Omron being just two examples - are also pushing towards greater use of vision-driven robots in production lines. Industrial robots use machine vision algorithms to locate and arrange parts and verify operations.

"We are particularly enthusiastic about this for the food sector where you need the pick and place capabilities to cope with thousands of products a minute - some of which are quite delicate - so it's always challenging and this is where vision systems can really make a difference," says Mr Rocca.

[Read more](#)

DID YOU KNOW?

How to Improve Worker Safety Around Robotics

Source: RoboticsTomorrow

Industrial robots offer increasingly compelling opportunities to help companies get more done and promote consistency in the workplace. Robot safety is another area of concern, especially since robots can reduce some of the risks that cause accidents.

However, merely investing in a high-tech machine is not enough to enhance safety. Managers must also take purposeful steps to meet that goal. Here are six ways they can do that.

1. Design the Work Area for Robots

Some company leaders decide they're ready to purchase robots but don't think far enough ahead when it comes to designing the factory floor to accommodate robots and keep workers safe. Planning the proper design before bringing a new robot onsite should help increase success.

For example, considering the setup for a workspace with robots means choosing the right kind of robot cell and where to locate it.

[Read more](#)

Cambrian intelligence making cobots easier to use

Source: The Robot Report

To accomplish the lofty goal of enabling smart manufacturing through today's installed base of cobots, Cambrian Intelligence is infusing off-the-shelf sensors with its full-stack platform.

"Our AI, which is a giant neural network, receives input from the cameras and outputs the part locations, orientations and how they should be grasped with the current gripper type. Our software then guides the robot to do the picking," Pera described. He stressed the camera module is "just two off-the-shelf industrial RGB cameras in a stereo configuration."

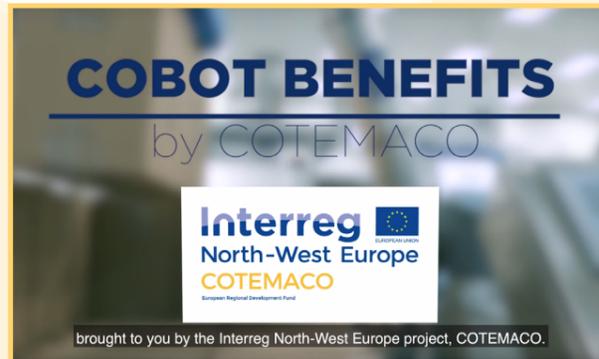
[Read more](#)



MULTIMEDIA (CLICK ON THE IMAGE TO WATCH)

The BENEFITS of Collaborative Robots

They can work 24/7, reduce adverse health effects in employees and perform tasks with an accuracy of 0.1mm. But what are the other benefits of cobots for SMEs? Click on the image to the right to watch our **video collaboration with innovation consultancy Bax & Company.**



Food Tech Brainport TV | COTEMACO

In this episode of Food Tech Brainport TV's series on sustainable and healthy food technology, Dr. Andrea Paoli of University of Lincoln discusses the **disruptive role of collaborative robotics in food manufacturing.** Click on the image to the right to watch the interview.



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Lead partner
ger.vandenkerkhof@flandersmake.be

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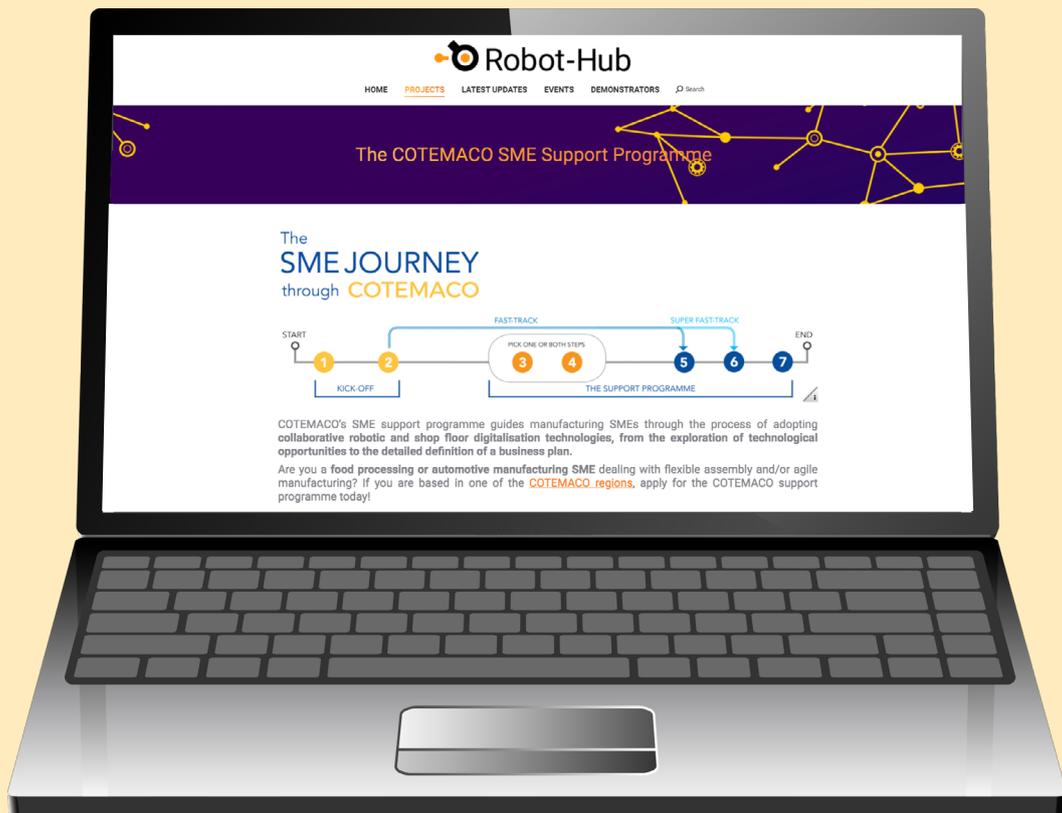
Press and communications
a.mccready@baxcompany.com

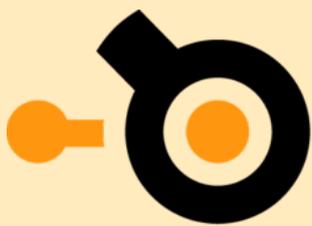
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