

H2020, SHOP4CF project: Developing human centered robotic solutions for highly connected factories

Launched in 2020, the Smart Human Oriented Platform for Connected Factories (SHOP4CF) activity is a four year project aiming to develop a platform that finds the right balance between cost-effective automation and repetitive tasks while involving the human workers in areas such as adaptability, creativity and agility where they create the biggest added value. In this project, 20 partner companies and the European Commission are investing €16 million for the developments.

Scope

Europe's factories are getting smarter, optimizing production processes and enabling a more sustainable and competitive industry. As a result, a lot of data is being generated in highly connected factories, by embedded sensors and production equipment. Collecting, analyzing, and using the information gathered from such data is useful in improving processes.

Objectives (Architecture, Components, MarketPlace, Open calls)

The EU-funded SHOP4CF project will develop a platform with an open architecture based on RAMI 4.0 and FIWARE Technologies that can support humans in production activities and provide basic implementation as a free, open-source solution. The development of 30 components adhering to the same architecture within the project will further contribute to the platform's development. These components will be deployed at the sites of the four industrial pilot partners of project.

Additionally, these components will eventually be made available on the Robotics and Automation MarketPlace (RAMP). The marketplace would act as a one-stop-shop for SMEs (developers, system integrators, and end users) to access essential services for digital transformation including business modelling, technical support, access to skills and finance.

The project also allocates some funding to support third parties in support of large-scale piloting and ecosystem building. As such five open calls are foreseen in the duration of the project, three of which are to support pilot establishment, the first of which, starts in February 2021. The remaining two are to support pilot extension. More information about these open calls will be distributed in due time.

TAU will contribute with development of components ranging from robot programming and VR training of collaborative operations, digital twin for planning and control, data collection framework, and adaptive interfaces for visualization and interaction with components. These components will be tested at the pilot sites and integrated in the marketplace.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 873087.



Photo: Jonne Renvall

Consortium Partners

The project is coordinated by the Technische Universitaet Muenchen. In addition, other leading partners include Teknologian Tutkimuskeskus VTT Oy, Fraunhofer Gesellschaft zur Foerderung der Angewandten Forschung E.V. , Teknologisk Institut , Interuniversitair Micro-Electronica Centrum, European Dynamics Luxembourg SA, Fundingbox Research APS, FZI Forschungszentrum Informatik, Institut de Recherche Technologique Jules Verne, Instytut Chemii Bioorganicznej Polskiej Akademii Nauk, Fundacion Tecnalia Research & Innovation, and Internetsia S.L.. These partners are assisted by the Technische Universiteit Eindhoven, Uniwersytet Opolski, Universidad Politecnica de Madrid, and Tampereen Korkeakouluusaatio SR.

Robert Bosch Espana Fabrica Madrid SA, Volkswagen Poznan SP Z O.O., Arcelik A.S., and Siemens Aktiengesellschaft complete the consortium partners as the four industrial partners in the project. The use cases at these pilots define the functional requirements of the architecture.

More info

The SHOP4CF project emerged in response to the European Commission H2020 call on Digital Manufacturing Platforms for Connected Smart Factories under grant agreement 873087. Visit the website of the Smart Human Oriented Platform for Connected Factories (SHOP4CF) project for further information on the project, partners, and funders <https://shop4cf.eu/>.

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