The IMOCO4.E Team

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KEY FACTS

Start: **1st September 2021**
Duration: **36 months**
Coordinator: **Arend-Jan Beltman**
Institution: **SIOUX CCM B.V.**
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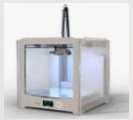
GA No.: **101007311 - H2020-ECSEL-2020**
Consortium: **46 Partners from 13 countries**

iMOCO4.E

Intelligent Motion Control under Industry4.E

The project has received funding from the Electronic Component Systems for European Leadership Joint Undertaking, under Grant Agreement n°101007311

Pilots



Pilot 1: 3D printing
Lead: Sioux, NL

Pilot 2: Semiconductor production
Lead: ITEC B.V., NL

Pilot 3: High speed packaging
Lead: CRIT, IT

Pilot 4: Healthcare robotics
Lead: Philips Medical Systems, NL

Pilot 5: Mining/tunneling robotic boom Manipulator **Lead:** Normet, FI

MISSION

IMOCO4.E mission is to provide distributed edge-to-cloud motion control intelligence for a wide range of Human-in-the-Loop Cyber-Physical Systems involving actively controlled moving elements.

IMOCO4.E will deliver a reference **platform consisting of AI and digital twin toolchains** and a set of mating building blocks for resilient manufacturing applications. The optimal energy efficient performance and easy configurability, traceability and cyber-security are crucial.

The **IMOCO4.E platform's benefits** will be directly verified in applications for **semiconductor, packaging, industrial robotics and healthcare.** While the project will demonstrate the results in other generic "motion-control-centred" domains affecting the entire value chain of the production automation and application markets.

Demonstrators

Demo 1: Shaver blades
Lead: Philips Consumer Lifestyle, NL

Demo 2: Plastic molding
Lead: Edilásio, PT

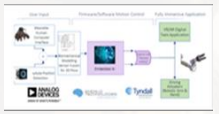
Demo 3: Warehouse logistics
Lead: Still, DE

Demo 4: Cosmetics production
Lead: Madara Cosmetics, LV

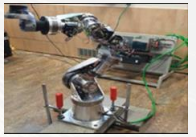
Use Cases

Use case 1: Industrial drive for smart mechatronics applications
Lead: Gefran, IT

Use case 2: CNC for integrated machine tool and robot control **Lead:** Fagor Aotek & Tekniker, ES.



Use case 3: Tactile Robot Teleoperation **Lead:** Tyndall National Institute, IE



Use case 4: Advanced and Intuitive robot control and programming control
Lead: University of West Bohemia, CZ

IMOCO4.E improves Industry 4.0 manufacturing productivity by:

- Combining and exploiting novel sensory information, model-based approaches and Industrial IoT philosophies to make **mechatronic systems smarter, more configurable, more reliable and faster** while simultaneously pushing their performance toward physical limits
- Assessing the demands placed on **future smart manufacturing** in Europe from a mechatronics and service-oriented point of view
- Establishing joint action of Industry 4.E and other relevant **Lighthouse projects** towards the identification and development of best practices and methods enhancing the European R&D ecosystem