



KEY FACTS

Acronym: IMOCO4.E

Full name: Intelligent Motion Control under Industry4.E

Coordinating institution: Sioux Technologies B.V.

Project coordinator: Arend-Jan Beltman

GA No.: 101007311 - H2020-ECSEL-2020-2-RIA

Start date: 1st September 2021

Duration: 36 months

Consortium: 46 Partners from 13 countries

This issue provides a grasp of the main project developments during December 2021 – March 2022. It also provides facts on the results achieved, as well as links to the latest dissemination activities.

Over the past 3 months, the consortium continued developing the IMOCO4.E concept and methodologies, with extremely promising results. In this regard, the project has succeeded at a large extent both from technical and non-technical perspectives. We are proud to announce that the IMOCO4.E partners performed a great success mainly towards requirement definition during the 1ST Semester and presented in the 6M Consortium meeting that was held online.

IMOCO4.E Highlights

WHAT HAS BEEN DONE?

After the Kick-off organised in September of 2021, the activities in WP2 commenced. Within Task (T) 2.1. several European and Industry roadmaps have been taken as a source of information (ECS SRA 2022, ManuFuture Vision 2030, EFFRA, IMS 2020, ACSL, Artemis) related to smart industry and Industry4.0. Within T2.2, the state of the art was initially collected with the help of a survey, in the framework of which small sub-teams were defined around building blocks (BBs) were requested to contribute the SoTA and to identify trends, shortcomings, and desired progress beyond the state of the art. Within T2.3 the architectural views from the pilot, use case and demonstrator owners have been collected and will be used to shape the IMOCO4.E overall framework (connections, interactions, communications between IMOCO4.E layers and building blocks).

WP2

ToC

Project Highlights: **P1**

What has been done: **P2**

Dissemination &

Communication: **P2**

Meetings, Publications &

Deliverables: **P3**



WP3 started on M4 (Dec 2021) of the project. The kick-off meeting was organized on November 22nd and since then, most of the effort was dedicated to T3.1 that will define the perception and instrumentation layer requirements and specifications, based on specific needs in the mechatronics and robotics industry. Currently, T3.1 is aligning with WP2 to have a consistent terminology and coding scheme for requirements gathering. T3.1 also contributed to defining the initial requirements gathering survey. WP4 started in M4 (Dec 2021), focused on the requirement definition activities (T4.1),

WP3

WP4

technical tasks have started in M5 and M6. The work done in WP4 has been focused in arranging periodic WP and Task level meetings to guarantee a proper control of the activities, as well as updating and completing the technical developments to be done by each participant in each of the technical tasks. In the same way, WP4 partners and specially BB owners, have actively contributed to overall IMOC04.E requirement definition, as requested from WP2. T4.2-T4.5 partners have outlined their contributions to these Tasks

and T4.2 leader has performed brief research on EU grants addressing topics in the field of XIL and Digital Twins. Initial meetings to outline the connection between the different Tasks and the Demonstrations/Pilots and User cases have been held. WP5 started on M4 (Dec 2021) of the project. Since the beginning of M4, regular monthly telcos were organized by the WP5 leader. Most of the partners in this WP are in parallel working on deliverables in WP2. Investigation of the requirements and specifications for digital twins, data secured management and storage, condition monitoring predictive maintenance and automatic commissioning and virtual reality of motion control systems and industrial platforms has been started. Tasks T5.2 to T5.7 will all start in M7 where this process will be intensified.

WP5

Dissemination & Communication

IMOC04.E values the importance of networking, exchanging ideas and knowledge with other similar EU projects. The consortium has managed to generate discussions with H2020 TIBCO, METIS and MADEin4 aiming at the co-organization of special sessions as well as boosting joint dissemination activities.

Liaison activities are in progress

During the reference period, the partners have intensively disseminated the project results by spreading knowledge and creating good networking opportunities with industrial and scientific peers. The IMOC04.E partners have focused to widen up the network of scientific experts of the project and transferred valuable scientific results by participating in multiple online conferences and workshops. Visibility of the project and transferability of the project outcomes has been promoted through the generation of promotional material and by regular dissemination to the public through social media channels.

Special Podcast Sessions

Coming Soon!!

Although the outreach activities continue with weekly posts on social media platforms (LinkedIn and Twitter), the IMOC04.E team plans to increase knowledge and visibility of the project by raising awareness of the benefits of the IMOC04.E platform on specific use cases and demonstrators via special podcast sessions!

Only one general meeting has been held since the Kick-off the project. In this 1st 6Month Consortium online meeting that was held on 2-4 of March 2022, partners reviewed and discussed the project status, the performed work and examined the crucial action points to be executed for the next six months. Consortium will prepare the 2nd Consortium meeting, which will be held on 20-22 of September 2022.

IMOCO4.E Publications

The IMOCO4.E project also had an active performance via conference paper publication by presenting the research work carried out in the frame of the project. The list of the presented articles is shown below:



Gaussian Process Position-Dependent Feedforward: With Application to a Wire Bonder, Max van Haren, Maurice Poot, Dragan Kostić, Robin van Es, Jim Portegies and Tom Oomen

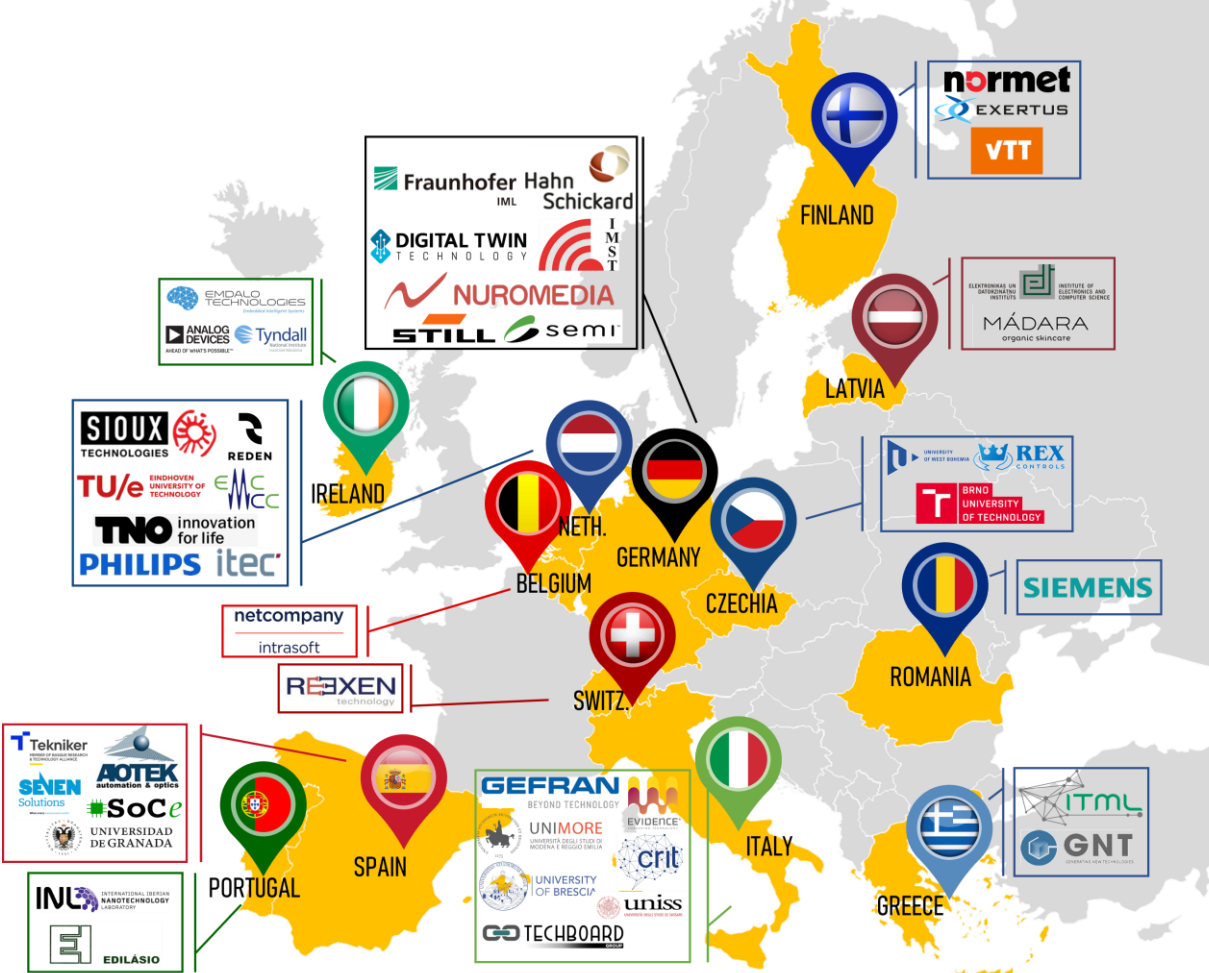


Position-Dependent Snap Feedforward: A Gaussian Process Framework (2022 IEEE American Control Conference) Max van Haren, Maurice Poot, Jim Portegies and Tom Oomen

Submitted Deliverables

- D1.1 Project management and quality assurance plan, including project handbook and IPR
- D1.2 Project portal
- D1.3 Project website functional
- D8.1 Dissemination and exploitation plan
- D2.1 State-of-the-art methods in Digital Twinning for motion-driven high-tech applications

The IMOCO4.E Team



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