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PROJECT PARTNER SEARCH FORM

- I offer my expertise to participate as a Partner in a Horizon Europe Project
- I am planning to coordinate a project and I am looking for Project Partners

TOPICS OF INTEREST

1. TOPIC ID: [HORIZON-CL4-2024-DIGITAL-EMERGING-01-03: Novel paradigms and approaches, towards AI-powered robots– step change in functionality \(AI, data and robotics partnership\) \(RIA\)](#).

2. TOPIC ID: [HORIZON-CL4-2024-DIGITAL-EMERGING-01-04: Industrial leadership in AI, Data and Robotics boosting competitiveness and the green transition \(AI Data and Robotics Partnership\) \(IA\)](#)

Other relevant calls/topics within Horizon Europe in the areas of expertise mentioned below.

PARTNER INFORMATION

We are members of the Department of Production Devices and Systems, Institute of Production Technologies at the Faculty of Materials Science and Technology in Trnava, Slovakia. We have a solid expertise in the different phases and/or parts and technological aspects of any production instance starting with production devices and ending up with whole production plants. We focus on the production instance design, analysis and optimization using several CAD and simulation software and covering the automation, and logistic aspects of it. We have long tradition and vast experiences in specific fields like CAD design, Production Logistics with emphasis on Smart Logistics technologies and Sustainability, Automation, Simulation including Digital Twins and Virtual Commissioning, Augmented and Virtual realities, Production Maintenance, Additive Manufacturing and Scanning Technologies, while we also cover advanced 5-axis machining process, Reverse Engineering, Additive Manufacturing, to just cite a few. We have long-term experience in the use of high-end software widely used by renowned companies and we have modern best-in-class equipment to gain further knowledge and experience in the above-mentioned fields. We also have good experience in the solution of industrial problems and projects in the fields mentioned above. Our team can contribute to the solution of the call or project by actively engaging in the operative and/or managerial tasks within the scope of the above mentioned areas. Our institute has also a strong team of highly skilled doctoral students that represent a considerable force in terms of innovation and motivation to do science and solve practical problems.

Description of the Legal Entity

The Department of Production Devices and Systems of the Institute of Production Technologies at the Faculty of Materials Science and Technology in Trnava (MTF) belongs to the Slovak University of Technology in Bratislava (STU) which is the Legal entity. This is a public university which happens to be the best technical university in Slovakia and has a very good reputation in terms of international cooperation and the solution of national and international research projects with special emphasis on those at the European level. The total number of the European Commission-related projects accounts for more than 92 by second half of 2023 and in 83 of the cases the university has been the leading entity and beneficiary in each of these projects. All the faculties at the university focus on specific branches of technical sciences and it is particularly the Department

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of Production Devices and Systems and the whole the Institute of Production Technologies at MTF STU the ones that most directly cover and reflect the needs of industry in terms of Production and Machining Technologies, Automation, Logistics, Robotics, etc. in the contexts of the fast-paced transition into Industry 4.0 and further.

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| <input checked="" type="checkbox"/> Higher Education | <input type="checkbox"/> Research Institution | <input type="checkbox"/> Public Administration |
| <input type="checkbox"/> Industry /SME | <input type="checkbox"/> NGO | <input type="checkbox"/> Other: Please specify |

Description of the (Research) Team

The research team is to encompass the following persons:

Assoc. Prof. MSc. Eng. Daynier Rolando Delgado Sobrino, PhD.

Born in Camaguey, Cuba. He finished a 5-year Industrial Engineering program in 2006, then he engaged in a 2-year Master program aimed at Logistics which he finishes in 2009. Daynier finishes his PhD. at the Faculty of Materials Science and Technology of the Slovak University of Technology in 2014. In 2021 he becomes an associate professor of this institution. Since 2011 he works at the faculty as a researcher and teacher focusing on the fields of Production Maintenance, Production Logistics, simulation of production devices and systems, Industry 4.0, Virtual Commissioning, Digital Twins, statistical design, and validation of experiments, and on several aspects of Industry and Logistics 4.0. Daynier has more than 90 publications, including monographs, book chapters and utility models. He has worked in several national and international projects, e.g.: the European Commission STAGE project (<https://stagepartners.eu/>), OP Val (<https://www.opvai.sk/zoznam-projektov/>), while he has also solved several problems in Industrial practice related to the automotive sector and has been engaged in the solution of specific industry projects/contracts with Latin-american countries.

Assoc. Prof. Eng. Roman Ružarovský, PhD.

Roman has professional experience in the solving and leading of grant tasks in the fields of design, control, and assembly of automated systems and as well on the creation of their Digital Twin simulations. He also specializes in industrial robotics and has many years of experience in the field of pneumatics, electro-pneumatics, and hydraulic systems in cooperation with companies such as Festo, Volkswagen, etc. Over the last years he has been also engaged in Industry 4.0 solutions and research and he offers courses and seminars for the mentioned companies what loudly speaks for his knowledge and reputation in the areas

Assoc. Prof. Eng. Radovan Holubek, PhD.

The main scientific research activities are focused on the computer-supported design of various CAD models and data and subsequently the creation of various simulations, as well as the possibilities of implementing the Industry 4.0 strategy with regard to industrial robots and the use of virtual and augmented reality in the teaching and research area focused on various characteristics of research projects. Currently, the research area is mainly focused on the use of "intelligent" CAD models displayed using augmented reality (AR) and virtual reality (VR), which is part of the use of the I4.0 industry philosophy.

Assoc. Prof. Eng. Marcel Kuruc, PhD.

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The main professional interests are generally focused on Rotary Ultrasonic Machining; Laser Beam Machining; Computer Aided Design (CAD); Computer Aided Manufacturing (CAM); Reverse engineering; Multi-axis machining; Generative design. His research is focused mainly on machinability of ceramic materials via Rotary ultrasonic machining, as well as Cutting-edge preparation of the cutting tools in terms of the process improvement. He is the author of several professional and scientific articles, as well as a few patents. He is a member of several research teams dealing with scientific projects mostly in the field of the machining, i.e.: APVV, VEGA, KEGA, DiCoMI (<http://www.dicomi.eu/>), STAGE (<https://stagepartners.eu/>), GND (<https://gnd.one/academy/all-modules>).

Eng. Ján Milde, PhD.

The primary research falls into the realm of computer-aided technologies, with specific expertise in areas including Reverse Engineering, additive technologies, 3D scanning, 3D measurement, and 3D modeling. In 2018, he successfully concluded the doctoral studies, culminating in the attainment of a PhD degree in the domain of engineering technology and materials. At present he is also a member of several national and European projects.

Expertise of the Team Leader

Coming from another country, Assoc. Prof. MSc. Eng. Daynier Rolando Delgado Sobrino, PhD. has had the opportunity to not only teach and do research both in Cuba and Slovakia, but to share team membership with people from different schools of thinking and engineering. He has also worked in companies mainly aimed at the realization and implementation of mechanical engineering projects. He has lead research teams in Cuba and completely coordinated and almost completely prepared European projects putting together more than 4 entities. He has led scientific publication teams and periodicals which have provided him with a clear take on the current states of the art and practice. He is also in close contact with many other professionals from diverse countries of EU.

Potential role in the project

Research

Training

Dissemination

Other: scientific coordinator, workpackage leader

Within the team there is already experience as a

Coordinator YES NO

Partner YES NO

Expert Evaluator YES NO

CONTACT DETAILS

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