

## CHALLENGE

European policy aims to drive the global leadership of European industry. Artificial intelligence (AI) plays a central role in this and holds enormous potential. Making the advantages of AI profitably accessible to SMEs is therefore IPMAI's motivation.

## OBJECTIVE

The aim of the project is to develop a tool that significantly simplifies the maintenance of industrial production facilities by utilizing explainable artificial intelligence.

## BENEFITS

Especially for industry in the programme area (mostly SMEs), AI holds enormous potential. Making the advantages of AI profitably accessible to SMEs is therefore IPMAI's motivation. Companies benefit from this project, in which results are reported on an ongoing basis in various formats such as workshops, training sessions and conferences.

## PROJECT CONSORTIUM

For IPMAI, a consortium was put together combining all the necessary competences and technologies. Furthermore, it is ensured that the findings and the AI-related changes in industry and society are disseminated in all regions of the Interreg AT-CZ programme area.

## PROJECT COORDINATION

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## PROJECT DURATION

1/2024 – 12/2026

## ERDF-FUNDING

EUR 1.384.529,-

[www.interreg.at-cz.eu/ipmai](http://www.interreg.at-cz.eu/ipmai)



# IPMAI



Interpretable Prescriptive Maintenance  
using Artificial Intelligence



EUROPÄISCHE UNION

scch {  
software  
competence  
center  
hagenberg  
}



Přirodovědecká  
fakulta  
Faculty  
of Science

Jihočeská univerzita  
v Českých Budějovicích  
University of South Bohemia  
in České Budějovice

intemac



College of  
Polytechnics  
Jihlava



AUSTRIAN CENTER FOR  
DIGITAL PRODUCTION

dataPartner®

Interreg  
Austria – Czechia



Co-funded by the  
European Union

## PROJECT PARTNERS

### SOFTWARE COMPETENCE CENTER HAGENBERG

Software Competence Center Hagenberg (SCCH) is a non-university research center that has been driving excellence in applied research in the fields of data science and software science for over 20 years. This focus enables optimal implementation of projects in the fields of digitalization, Industry 4.0 (the smart factory) and artificial intelligence. SCCH serves as an interface between international research and domestic industry and SCCH researchers conduct world-class research.

[www.scch.at](http://www.scch.at)

### UNIVERSITY OF APPLIED SCIENCES UPPER AUSTRIA

The Heuristic and Evolutionary Algorithms Laboratory (HEAL), founded in 2000, focuses on the development and application of heuristic optimization methods in general and specifically symbolic regression and the generation of white box models that can be used for simulation-based optimization. HEAL researchers work together on developing the open-source optimization environment HeuristicLab that contains many state-of-the-art heuristic solvers as well as implementations of many academic benchmark problems.

[www.heal.heuristiclab.com](http://www.heal.heuristiclab.com)

### AC2T RESEARCH

AC2T Research GmbH is one of the largest private and independent research service provider in tribology in the world. AC2T has been active in application-oriented fundamental research in continuous cooperation with more than 100 national and international company- and scientific partners. AC2T possesses long-standing industry related experience regarding friction optimization, wear minimization and maintenance improvement.

[www.ac2t.at](http://www.ac2t.at)

### UNIVERSITY OF SOUTH BOHEMIA

The University of South Bohemia in České Budějovice (JU) is a university-type public university. It has 8 faculties and is profiled as an educational and research institution with a focus on the natural, humanities and social sciences. 9,000 students study at the university in more than 220 in the fields of bachelor's, master's and doctoral programs. The Faculty of Science provides professional studies focused mainly on the fields of biology, chemistry, informatics and mathematics. The Faculty of Science has more than 1,000 students.

[www.prf.jcu.cz](http://www.prf.jcu.cz)

### COLLEGE OF POLYTECHNICS JIHLAVA

The College of Polytechnics Jihlava, the Department of Technical Studies provides teaching of IT, mechanical engineering and electrical engineering subjects as well as studies in the field of Industry 4.0, automatization and robotics in the study programs Applied Informatics, Applied Engineering and Applied Mechanical Engineering. Within the roles, this organization occupies a key position in the project, where it is responsible for the implementation of simulations for the subsequent numerical models of prediction of the lifetime of gearboxes using artificial intelligence. [www.vspj.cz](http://www.vspj.cz)

### INTEMAC

INTEMAC leads industrial companies to global excellence, strengthens their courage and expands their knowledge to implement new technologies, leading to increased efficiency and competitiveness. INTEMAC boasts a wide range of services, including expert consulting, training and comprehensive R&D services. These activities focus on proof of concepts, experimental development and testing. This is all thanks to the heart of INTEMAC - TESTBED. It is an innovative and open demonstration platform that enables the testing and presentation of advanced manufacturing technologies with a focus on automation and robotics. [www.intemac.cz](http://www.intemac.cz)

### AUSTRIAN CENTER FOR DIGITAL PRODUCTION

The Austrian Center for Digital Production (CDP), established since 2017, operates as a COMET center conducting application-oriented research in the key areas of production technology (discrete production). As a COMET center, CDP is part of the COMET funding program of the FFG (Austrian Research Promotion Agency), enabling it to conduct funded research and development in collaboration with corporate and academic partners. Acting as an interface between fundamental research at universities and implementation in industry, the CDP, along with its experts, primarily serves the DACH region (Germany, Austria, Switzerland). [www.acdp.at](http://www.acdp.at)

### BUSINESS UPPER AUSTRIA

Business Upper Austria is the economic agency in Upper Austria. It focuses on fostering innovation, supporting business development, and promoting internationalization to strengthen the region's economy. The Mechatronics Cluster is a department within Business Upper Austria that specializes in fostering innovation and collaboration within the mechatronics industry in the Upper Austria region. It serves as a platform for companies, research institutions, and other stakeholders to exchange knowledge, develop joint projects, and drive technological advancements in the field of mechatronics: [www.biz-up.at](http://www.biz-up.at)

### DATAPARTNER

The dataPartner company was founded in 1998 and throughout its existence has been engaged in the development and supply of industrial control and information systems for manufacturing companies, development and research workplaces. It offers project and engineering activities, high-quality software and special hardware as final technical solutions within the integration of technological units. The company's scope extends from the implementation of process management, including technical means for managing critical processes, automation of machines and production lines, to the area of information systems. [www.datapartner.cz](http://www.datapartner.cz)