AI-PROFICIENT. Artificial Intelligence for improved PROduction efFICIEncy, quality and maintenance

Consorcio: Universite De Lorraine (Fr); Continental France Snc (Fr); Tekniker (Es); Ineos Services Belgium (Be); Tenforce Bvba (Be); Teknologian Tutkimuskeskus Vtt Oy (Fi); Inos Hellas Protoporiakes Efarmoges Pliroforikis Automatismou Kai Robotikis Anonymi Emporiki Etaireia (El); Ibermatica (Es); Institut Mihajlo Pupin (Rs); Athens Technology Center Anonymi Biomichaniki Emporiki Kai Techniki Etaireia Efarmogon Ypsilis Technologias (El);

Tecnología: Industria & Consumo; Inteligencia Artificial; Digital Trust

Descripción general:

The AI-PROFICIENT project will pave the way for integration of advanced AI technologies to manufacturing domain through an evolution from hierarchical and reactive decision making to self-learning and proactive control strategies. The proposed approach is underpinned by predictive and prescriptive AI analytics at both component and system level, by cross-fertilizing edge and latform AI, while leveraging the human knowledge and feedback for reinforcement learning (human-in-the-loop).

Ibermatica will bring the expertise in integration with ERP/MES systems (such as Olanet 4.0 and RPS), and they will assume the leading role of WP6 which is responsible for project validation. IBE will contribute in the characterization of the pilots, as well as in the technological architecture design that will provide the foundation for the developments to be carried out in the project (WP1). IBE will also work in the detection of anomalies during the production process, automatic modelling of the production process through machine learning and process mining tools, as well as detection of complex and diffuse events that occur in the production process (WP2 and WP3). In addition to this, IBE will work both on the semantic explanation of ML models and on the generation of interaction interfaces through the use of visualization by means of augmented reality, visual analytics and conversational interfaces (WP4). IBE will lead the WP6 work package taking a leading role in the different tasks of this work package, while making available to the rest of the consortium its experience in the deployment of advanced analytical solutions in Industry 4.0 environments (WP6).

Programa: H2020-ICT-2020-1 (957391)

Duración: 36 meses (2020-2023)

Presupuesto global proyecto: 5.467.698,75€

Presupuesto Grupo Ayesa: 453.687,50€

AI-PROFICIENT. Artificial Intelligence for improved PROduction efFICIEncy, quality and maintenance

Consorcio: Universite De Lorraine (Fr); Continental France Snc (Fr); Tekniker (Es); Ineos Services Belgium (Be); Tenforce Bvba (Be); Teknologian Tutkimuskeskus Vtt Oy (Fi); Inos Hellas Protoporiakes Efarmoges Pliroforikis Automatismou Kai Robotikis Anonymi Emporiki Etaireia (El); Ibermatica (Es); Institut Mihajlo Pupin (Rs); Athens Technology Center Anonymi Biomichaniki Emporiki Kai Techniki Etaireia Efarmogon Ypsilis Technologias (El);

Tecnología: Industria & Consumo; Inteligencia Artificial; Digital Trust

Rol de Ayesa:

Ibermática contributes to the analysis and characterization of pilot sites, supporting the definition of requirements, KPIs, and demonstration scenarios, while also addressing human-machine interaction and ethical considerations. A core responsibility of Ibermática is leading the deployment and integration of the IIoT environment, ensuring interoperability between existing systems, sensors, and smart components, and enabling reliable data acquisition and edge AI execution.

In addition, it supports the integration of AI-driven functionalities, including diagnostics, anomaly detection, and predictive maintenance, contributing to system-level monitoring and decision-making. It also participates in the development of user-oriented interfaces and interaction tools to enhance usability and collaboration between operators and AI systems. IBE plays a key role in ensuring data interoperability and integration, contributing to semantic modelling and the connection between digital twins, AI services, and industrial systems. Furthermore, it leads the definition of the validation methodology and the execution of validation activities, assessing the impact of the solution in real industrial settings.

Finally, Ibermática is responsible for defining business models and exploitation strategies, supporting the preparation of the project results for market uptake. Overall, it acts as a key enabler to ensure that the solution is technically robust, user-centered, and ready for industrial adoption.