🥳Celebrate our anniversary - 1 year researching and innovating for smart manufacturing

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CELEBRATE THE
AI-PRISM ANNIVERSARY! 🥳🎊

Dear reader,

The #AIPRISM25 team welcomes you to this newsletter #2 on the special occasion of our anniversary. A year ago, we started the #AIPRISMSmartJourney, a process of learning and developing solutions for smart manufacturing.

As part of this journey, you have access to this compilation of activities, events and articles that we have prepared in the process of AI-powering human-centred robot interactions.
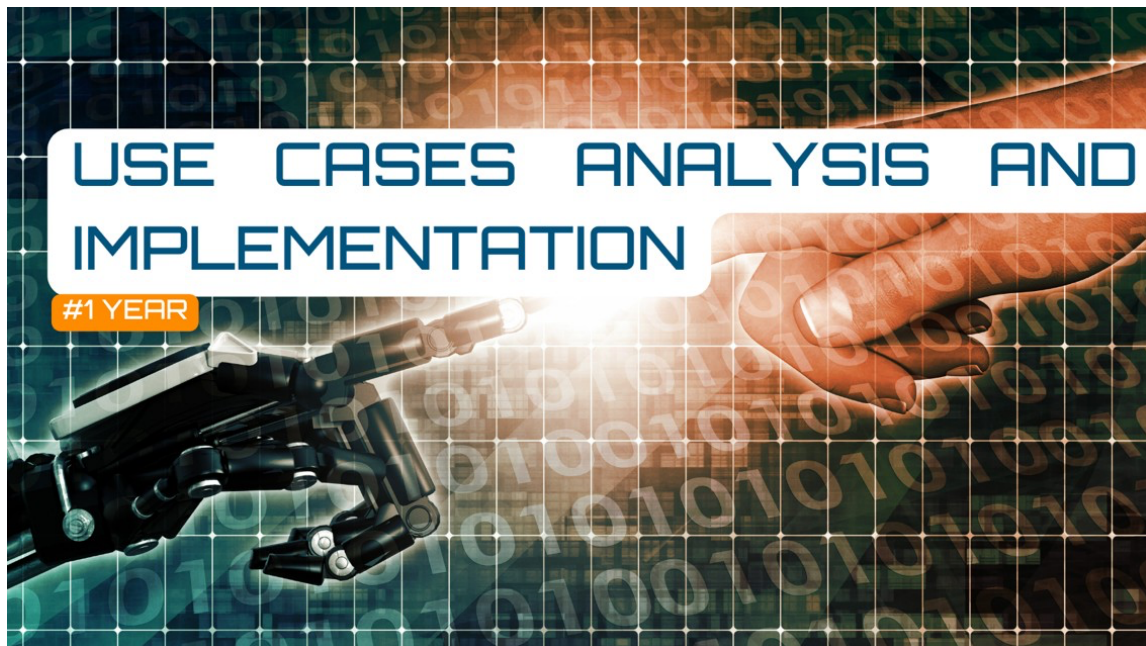
Enjoy your reading!

General Assembly in Spain

In May, the #AIPRISM25 team gathered at Garaia Technological Park in Arrasate, Spain, for a 3-day General Assembly. The meeting was highly productive, with presentations of advancements, collaborative robot examples from host partner Ikerlan and discussions on starting work on the demonstrators.

Find out more

Tech Advancements

From analysing to real use cases

Significant progress in the use cases has been made in this first year. We have concluded the industrial scenarios and requirements which will be used for driving and validating our technical work. We have identified the project vision and provided information on the current technology landscape, worked on a **benchmarking technology landscape**, elaborated on the use cases, KPIs and requirements, **and analysed these requirements**. Now, it is time to demonstrate and validate this work and start integrating and deploying our solutions into real industrial scenarios. In parallel, we will develop training tools and sessions to easily use our solutions and evaluate and monitor their performance with the respective metrics.

Developing human-centred AI-based solutions

AI-PRISM combines human and technical approaches to create an innovative human- robot interaction and collaboration ecosystem. Our team has conducted user requirement analysis and **benchmarking studies** that inform our AI-based solutions. During the second semester, we focused on developing AI-based perception, agent- level reasoning, acting and control, ambient-level reasoning, acting and control, and learning from human demonstration and human-robot interaction. Additionally, we worked on analysing and modelling human-robot collaboration behaviour and creating a collaborative human safety management system. In the coming months, we will share more information about our AI-PRISM human-robot cooperation and continue validating and integrating our innovations.

Activating AI-PRISM Alliance of Open Pilot Suite

We have officially started the development of our Alliance of **Open-Access Pilot Suite**, which consists of an end-user simulation platform that allows organisations to remotely access their facilities, equipment, and manipulators established within the alliance. Our partner, Tampere University (TAU), is leading the development of this innovation. We have interviewed them and found more details about the engines that will be developed.

> **Check them out**

Researching and creating knowledge

Learn more

The AI-PRISM team has published a scientific publication **on a new optimisation mechanism to improve the usability of LPWAN networks in dynamic scenarios**. Not only are their findings relevant to the industrial wireless sensor networks and their integrationwithin our human-centred collaborative robotic platform, but they also demonstrated how traffic density increases impact on specific Key Performance Indicators and how to try to guarantee these requirements in a network deployment.

The AI-PRISM team has published a scientific publication **presenting PatchMixer for 3D point cloud processing.** As a result, we found that PatchMixer can better generalise across domains, while also being as effective as state-of-the-art methods in the same domain scenario. These findings are relevant for our Ambient digitalization for Human-Robot Collaboration work on processing AI-based perception modules and Agent Level Reasoning, Acting and Control modules that aim to take the sensor inputs coming from raw and derivative data.

Learn more

Campaigns

In parallel to the technical advancements of the project, we have been active in raising awareness campaigns for topics that are of relevant concern, coinciding with international days and other initiatives.

Our Korean identity

International alliances beyond the EU arekey to tackling global challenges. AI-PRISM has the privilege to count on partners such as the Electronics and Telecommunications Research Institute (ETRI) and A&G Technology Co supporting our use case in the home appliances manufacturing industry.

Learn more

Ethics, why is it soimportant?

UNESCO has created a global standard for developing ethical guidelines for AI called**"Recommendation on the Ethics of Artificial Intelligence."** We advocate for human-centred solutions and high ethical standards in human-robot collaborations. Therefore, we have launched a dedicatedsocial media campaign around the topic.

Show me what experts say

Human-robot interaction, the mysteries ofrobotics, the latest scoop on smart manufacturing and if they are becoming more accessible were on our plate last month with quotes from experts.

SME's month

We are dedicated to supporting SMEs asthey transition into the Digital Age. Our social media campaign SMEs celebrating the international day, addresses their challenges and how we can help them thrive.

Transparency

Transparency is crucial in responsible AI end-user projects such as AI-PRISM and is closely linked to the concept of openness. The campaign was based on **an article in Harvard Business Review** by AI ethics experts Reid Blackman, Ph.D. and Beena Ammanath which explains how transparency in developing AI innovationscan decrease the risk of error and misuse, distribute responsibility, allow for internal and external oversight and express respect for people.

Check them out

Events

DMIS 2023 in Spain

In April, the AI-PRISM team took part in the Digital Manufacturing Industrial Summit in Valencia, Spain. We organised the "Robotics in Manufacturing" workshop andparticipated in the "Manufacturing Reconfiguration and Flexibility" workshop along with other European projects.
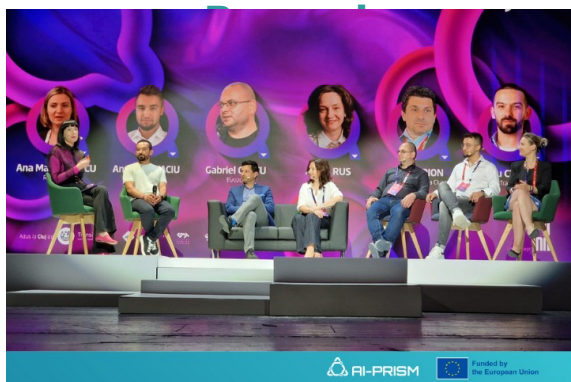
Learn more

IEEE/ CVPR iN Canada

In June, our partner Bruno KesslerFoundation (FBK) attended the Conference on Computer Vision and Pattern Recognition (CVPR). Our researchers were privileged to present the paper **"Novel Class Discovery for 3D Point Cloud Semantic Segmentation"** as a poster.

Learn more

IQ Digital Summit in

In June, our partner Digital Innovation Hub in Transilvania (DIH) held the IQ DIGITAL Summit in Romania. They him to showcase what European Initiatives and projects such as AI-PRISM could bring in form of benefits, opportunities and know-how to the regional industry and society.

Learn more

CK2023 in Canada

In July, Korean Partner Electronics and Telecommunications Research Institute (ETRI) participated in the AI forum of CKC2023 held in Ottawa, Canada and presented the human state assessment technology of the AI-PRISM

Learn more

STAY TUNED TO THE
AI-PRISM SMART JOURNEY🚀

AI-PRISM Horizon Europe

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