

€10 Million invested in the ARISE project to develop Industry 5.0 for Agile Human-Robot Interaction Applications

- ARISE will develop an all-in-one open source based middleware for agile, human-centric HRI.
- HRI stands for human-robot interaction which stands for going beyond mere coexistence and cooperation and rather aiming towards collaboration within a shared workspace, ensuring an ethical and SSH (Social, Sciences and Humanities) friendly framework.
- Deployment and maintenance of best-in-class industrial HRI use cases in four Testing and Experimentation Facilities (TEFs).
- The project is set up as a co-creative and community based development process offering European SME and startups up to 200.000 euros of funding, as well as mentoring and the infrastructure to work on their own use cases.

Valladolid, Spain, 28 September, 2024 - A consortium of ten leading European organisations in technologies and science launched the ARISE project. It is funded with around €10 million by the Horizon Europe programme of the European Union, to facilitate the industrial landscape towards Industry 5.0, promoting resilient, sustainable, and human-centric work environments. The project aims to address major challenges faced by today's industries by developing an all-in-one software middleware as a base for innovative, human-centric solutions, tools and software modules that advance existing industrial HRI technologies.

Recognizing the strategic value of industrial human-robot interaction (HRI), ARISE aims to transform HRI from a perceived cost to a crucial asset that enhances both short- and long-term organisational goals. Over the next three and a half years, ARISE will deploy these advanced HRI systems at scale in four state-of-the-art testing and experimentation facilities and more than 20 workplaces across Europe. Thus, it will enable seamless collaboration between humans and robots on complex tasks, fostering more efficient and effective industrial operations.

Mireya de Diego, MSc Automation Engineer in European R&D Projects and ARISE coordinator, stated: *"In ARISE we want to develop a new open software middleware that helps European companies to generate robotic applications in an agile and robust way respecting ethical and security standards to contribute to competitiveness of European companies, making human-robot interaction a cornerstone of industrial innovation. By investing in and advancing HRI technologies, we are not only addressing current industrial challenges but also setting the stage for a more collaborative and productive future"*.

In a bid to accelerate the interest of collaboration among businesses and technologies on the market, ARISE is launching the first open call for pilots scheduled to open in **October 2024**. Through a **Financial Support for Third Parties (FSTP)** scheme the project will offer funding to European small and medium sized companies (SMEs) aiming to advance human robot interaction technologies as developers or end-users. Participating companies will not only receive financial support of up to €200.000, they will also gain access to infrastructure, expert mentoring and best practices in robotics for manufacturing, healthcare and intra-logistics services.



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Joined forces of technological leaders

Ten partners from five European countries bring together a diverse group of industry leaders, academic institutions, and research organisations from technical and social sciences such as CARTIF (project coordinator), FIWARE Foundation (technical coordinator) are joined by Erosima, Fundinbox, Pal Robotics, Intellimech, Politecnico de Milano, Engineering, Demos Helsinki and Algebraic AI. The collaboration merges a wealth of knowledge and expertise to drive the development and deployment of cutting-edge HRI technologies. Their collaborative effort not only focuses on the technical execution but also places significant emphasis on the ethical implications and human-centric aspects, ensuring a comprehensive and responsible approach to innovation.

Objectives for the upcoming three and a half years

- Empower the European industry, particularly the AI, data, and robotics ecosystem, with a robust, real-time enabled open-source middleware for industrial robotic applications, leveraging standards such as **FIWARE**, **Vulcanexus** and **ROS4HRI**.
- Develop a **human-centric framework** and methodology for the design, development and assessment of trustworthy industrial HRI.
- Create, deploy, and maintain best-in-class industrial HRI use cases in **four testing and experimentation facilities**.
- Scale industrial HRI deployment through flagship **FSTP projects**, engaging HRI suppliers (startups and SMEs) and end-user companies across Europe.
- Establish an open library of reliable open-source HRI modules and technology enablers.
- Showcase illustrative **HRI use cases** and reference implementations in dedicated testing and experimental facilities.

About ARISE

ARISE is a project dedicated to transforming the industrial landscape through innovative human-robot interaction solutions. By fostering collaboration between humans and robots, ARISE aims to create more resilient, sustainable, and human-centric work environments in line with Industry 5.0 principles.

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Picture (FIWARE press office): Consortium Team



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