ARISE

Agile, human-centric & real-time enabled open-source technologies advancing industrial HRI in Europe

OBJECTIVES and AMBITION

ARISE aims to create an all-in-one middleware for AI-powered and human-centric industrial robots which is open-source, real-time enabled, and seamlessly integrates industrial robotics and automation units with shop floor systems (SCADA, DCS, MES) and business systems (ERP, PLM, CRM) alike. Regarding non-technical aspects, ARISE will develop a comprehensive SSH Framework for Industrial Human-Robot Collaboration (HRC), bringing the right innovation tools to self-assess and maximize the human-centricity of technical solutions and approaches. The third and final dimension of ARISE objectives is the development of human-centric AI modules along with the creation of a sustainable ecosystem which ensures the continuity of ARISE beyond the planned project execution timeframe.

The objective is to empower Europe with convenient technical and non-technical means to design, create and maintain cost-effective deployments where humans and robots maximize their synergies. To reach that goal, an ambitious roadmap will deliver a first major release of ARISE outcomes along with 4 active TEFs on industrial HRC by month 12. During the second year, at least 10 innovation projects will leverage the first release and contribute to grow and stabilize project outcomes in a second major release. The third year of the project shall gather a critical mass of early adopters by adding 10+ innovation projects to the previous ones. By the end of the project, ARISE aims to become the reference European business ecosystem for open innovation in industrial HRC.

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ARISE - advancing industrial HRl

PARTNERS

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EXPECTED IMPACT

IMPACT 1: 20-25 FSTP-funded projects contribute to implementing ADR solutions to strengthen the innovation ecosystem stakeholders. Business support for FSTP applicants will pave the way for new business opportunities and job growth. Training materials will address upskilling needs for adopting ADR solutions. ARISE will prioritize strategic collaborations with the extensive ROS 2 and FIWARE ecosystems, along with referencing European innovation actions such as the European networks of DIH focused on AI, data and Robotics.

IMPACT 2: ARISE's innovative middleware for integrating human-robot interaction has the potential for long-term impact in various European industry sectors such as healthcare, manufacturing, and services, as well as across the robotic applications supply chain.

By improving the capabilities and efficiency of human-robot interaction, this middleware can enhance productivity and reduce operational costs for these sectors. As a result, it will strengthen the competitiveness of European industries in the global market, particularly in the field of robotics and automation, while enhancing the capabilities and safety of robots, in healthcare and service sectors.

IMPACT 3: ARISE offers an open-source solution to develop agile human-robot interaction, it will drive industry innovation and standardization. It further promotes the adoption of HRI technologies facilitating the creation of data-driven applications, interoperability, productivity, reduced costs, and improved worker safety.