CONVERGING

Welcome to the 1st issue of the CONVERGING newsletter!

In this issue

We are pleased to announce the publication of the first issue of the CONVERGING newsletter. If you are interested in industrial collaborative environments integrating AI, Big Data and Robotics with wide applicability in manufacturing environments, you are at the right place!

CONVERGING project by bringing together 16 high-profile partners from several EU and Asian countries aims to develop, deploy, validate, and promote smart and reconfigurable production systems including multiple autonomous agents (collaborative robots, AGVs, humans) that are able to act in diverse production environments.

STAY TUNED

Stay updated on all our latest news, developments, research, and general information regarding the **CONVERGING** project.

Stay tuned: **www.converging-project.eu**

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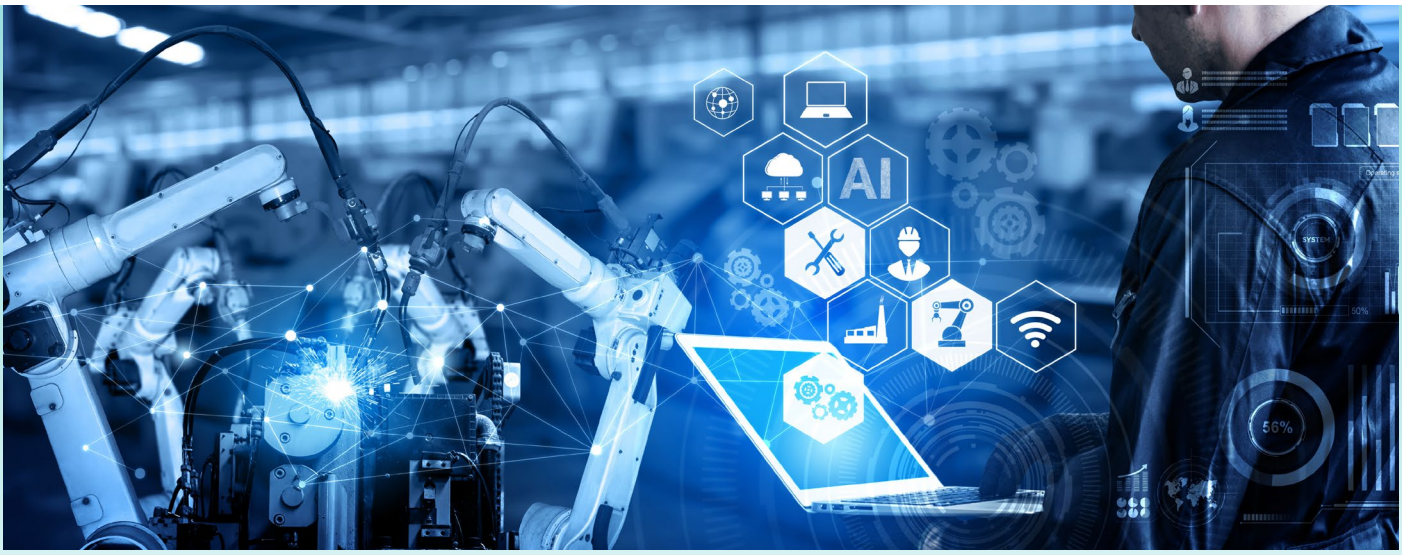
PROJECT OVERVIEW



Global economic crises and the COVID-19 pandemic have dictated manufacturing firms to rethink their production and business models. Production systems need to adopt both human and automated resources that can work together seamlessly. As a response, CONVERGING aims to Develop, deploy, validate and promote smart and reconfigurable production systems including multiple autonomous agents (collaborative robots, AGVs, humans) that are able to act in diverse production environments.

The diversifying factors will be a multi-level AI-based cognition (line, station, resource levels) which will exploit the collective perception (Digital Pipeline) of these resources, allowing them to interact with each other and seamlessly coexist with humans under a “social industrial environment” that ensures trustful, safe and inclusive user experience.

The project proposes the development of systems that can:

1. **Perceive:** The ability to identify and understand processes, resources, and environments and their status through the use of Big Data, Real Time Integration & Communication Architecture, Digital Twins and Human in the Loop techniques.
2. **Reason:** Analyze the production system status and independently form plans using AI, Planning and Reconfiguration Algorithms as well as Resource Autonomy solutions.
3. **Adapt:** Automatically modify hardware and control systems to implement formulated plans using Robotics and Autonomous Systems, Smart Devices and Adaptable Mechatronics.
4. **Collaborate:** Work seamlessly with humans or other resources, creating a social industrial environment which exploits Smart Human Machine Collaboration, User experience assessment and User centric workplace design.
5. **Innovate:** Expand its capabilities and Openness via an Open Pilot Network as well as links to local and international innovation ecosystems.

VISION

The vision of the CONVERGING is relaying in the following objectives targeting four different production domains, each one manifesting a diversified set of requirements.

Objective O1: Implementing a highly reconfigurable production system by deploying collaborative robotics and smart mechatronic devices, relying on multi-level AI to achieve autonomy.

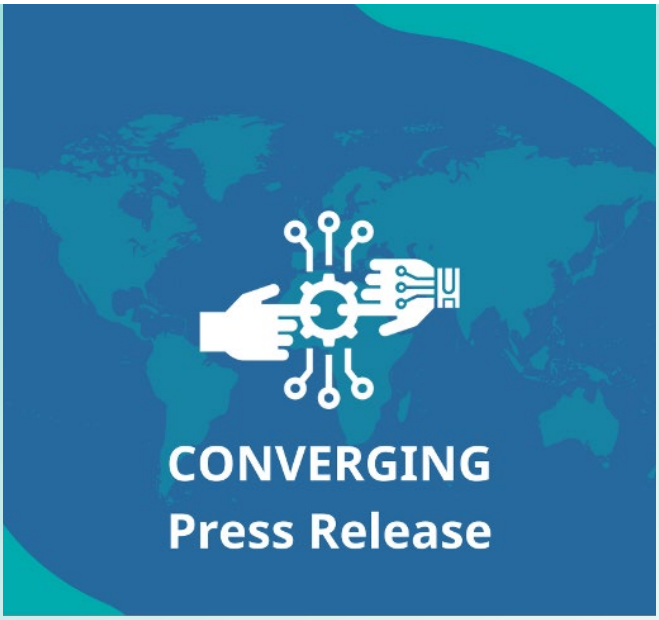
Objective O2: Providing open and standard means to interconnect all production entities (Big Data pipeline) for real time capturing (Digital Twin), storing (Data at Rest) and processing (Data in Motion) to support autonomous and collaborative behavior with minimal user intervention.

Objective O3: Establishing a human centered social-industrial environment where all activities and interactions with humans are dynamically shaped to maximize user experience, trust, skills and safety.

Objective O4: Providing the software and hardware interfaces to ensure safe and seamless interaction with collaborative robotic solutions, minimizing learning curves and setup times.

Objective O5: Create innovation ecosystem through a network of open Pilot Lines-involving robotic application stakeholders, SMEs and RTOs to inspire further development and deployment.

NEWS & EVENTS

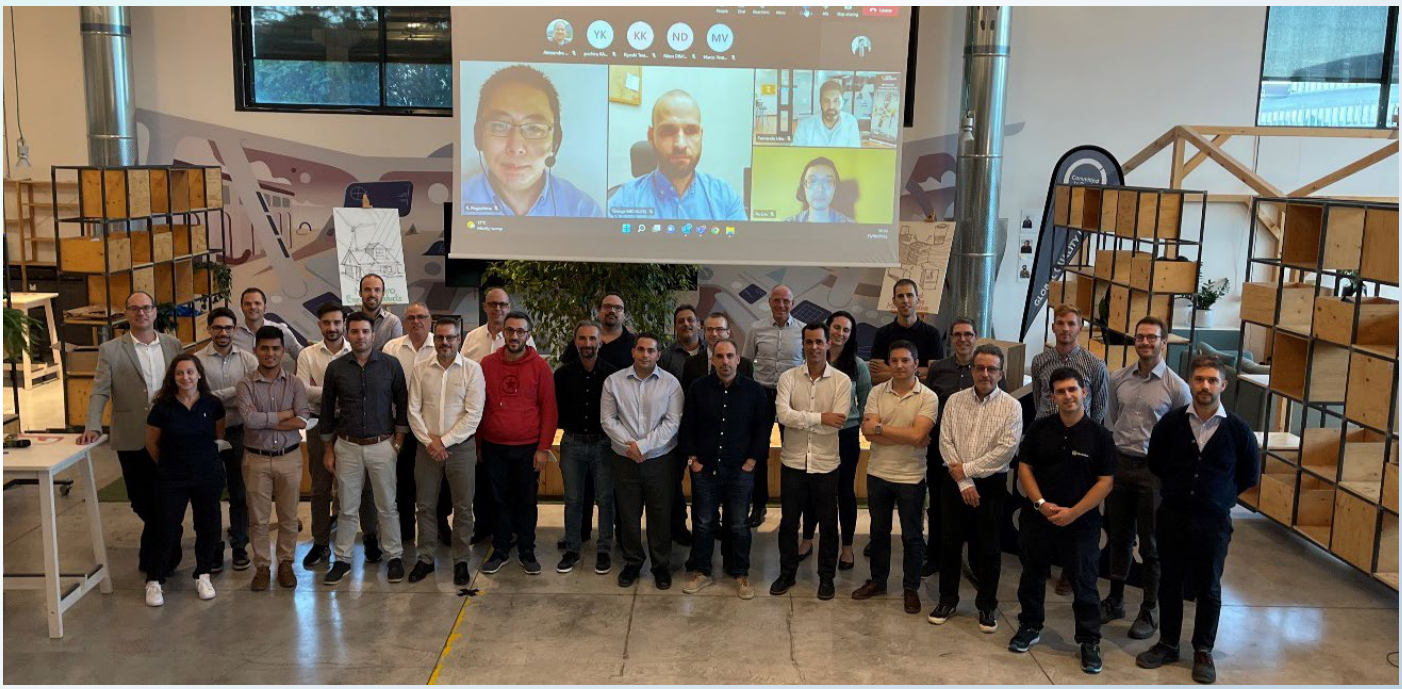


The first press release of the CONVERGING project is out now!

Read more

The CONVERGING Project participated at the "European Manufacturing Conference 2022" which was held in Brussels, Belgium between 27 and 28 September 2022.

Read more



The CONVERGING kick-off meeting was held in a hybrid mode at the premises of ELECTROLUX in Porcia, Italy between 21 – 22 September 2022.

Read more

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The EU-funded **CONVERGING** project brings together 16 high-profile partners from several EU and Asian countries consisting of 5 research organizations and 11 industrial partners.

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