CONVERGING

Welcome to the 5th issue of the CONVERGING newsletter!

In this issue

We are pleased to announce the publication of the third 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@ **https://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.

CONVERGING PROVIDES NEW TRAINING SERVICES

The **CONVERGING** project is expanding its portfolio with training services covering collaborative robotics, AI perception, digital twins, and more. From **robotized polishing** and **electrical assembly automation** to **extended reality operator training** and **Asset Administration Shell modelling**, these offerings target engineers, technicians, and software developers looking to upskill in Industry 4.0 technologies. All services are application-oriented, blending theory with hands-on experience to boost safety, efficiency, and innovation across sectors.

Some of our highlighted training services include:

High Payload Robots – Hand-Guiding Applications:

Master collaborative robot operation with a focus on ISO/TS15066:2016 safety standards

Electrical Assembly: Challenges & State of the Art:

Explore the latest technologies and automation possibilities for electrical assembly.

Robotized NDT Testing:

Learn to integrate inspection tools with robotics for safer, more precise maintenance.

Basic Principles of Asset Administration Shell (AAS) Modelling:

Discover how to ensure consistent pressure application in high-precision tasks.

Force Control in Cobots:

Gain hands-on experience in building digital twins for interoperability and data exchange.

AI Perception in Robotic Cells:

Harness intelligent detection for safer, more efficient human-robot collaboration.

Whether through **online webinars**, **hybrid sessions**, **or physical demonstrations**, CONVERGING's training programmes bridge the gap between **research innovation and real-world industrial application**—helping stakeholders adopt smarter, safer, and more efficient robotic solutions.

Human-Centered Robotics Meets Simulation Intelligence at Automatica 2025

From 24 to 27 June 2025, the **CONVERGING project** proudly participated in Automatica 2025 in Munich—one of Europe's leading trade fairs for smart automation and robotics. Hosted at **Visual Components' booth**, the project showcased how simulation and digital twin technologies are driving the future of human-robot collaboration in smart manufacturing environments.

Read more

CONVERGING: Discover the Role of Digital Twins in Building Smarter, Connected Manufacturing Systems

In an era where **interoperability, digitalisation, and automation** are becoming essential for manufacturing excellence, the **Asset Administration Shell (AAS)** stands at the forefront of enabling truly connected Industry 4.0 ecosystems.

Read more

Cranfield University Showcases Human-Centric Innovation at International Human Factors Conference

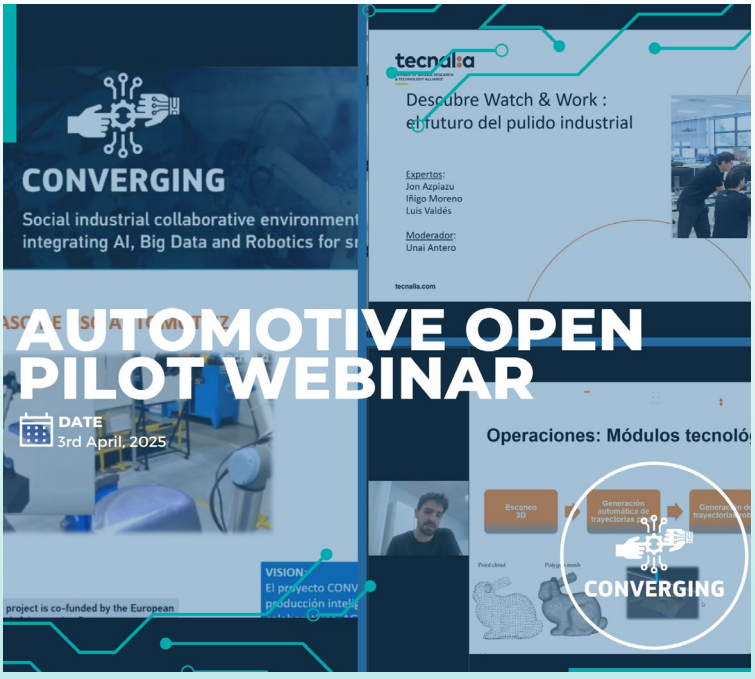
Cranfield University recently showcased its groundbreaking research in human factors at the **International Conference on Applied Human Factors and Ergonomics (AHFE)**, held in July at Université Côte d'Azur in Nice, France.

Read more

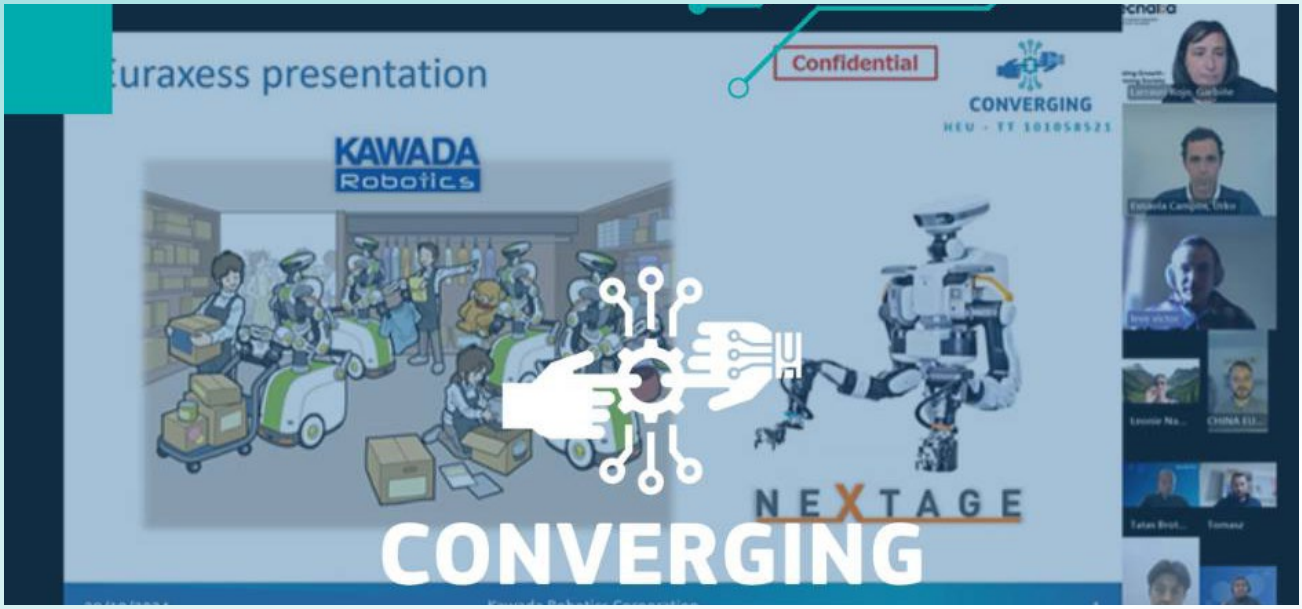
Watch & Work: How Collaborative Robotics and Smart Sensing Are Transforming Industrial Polishing

Polishing industrial parts has traditionally been one of the most challenging tasks on the factory floor—demanding significant manual effort, exposing operators to health risks, and proving notoriously difficult to automate. Parts affected by wear, deformation, or manufacturing variances rarely match their original CAD models, making **standard automation unreliable**.

Read more



CONVERGING Shares Best Practices on Engaging Non-EU Companies in European Projects



To **enhance international collaboration and foster inclusivity in European research and innovation**, the **CONVERGING project** took center stage in a recent **Best Practice Sharing Workshop**, engaging with **EURAXESS members, TECNALIA, and KAWADA**.

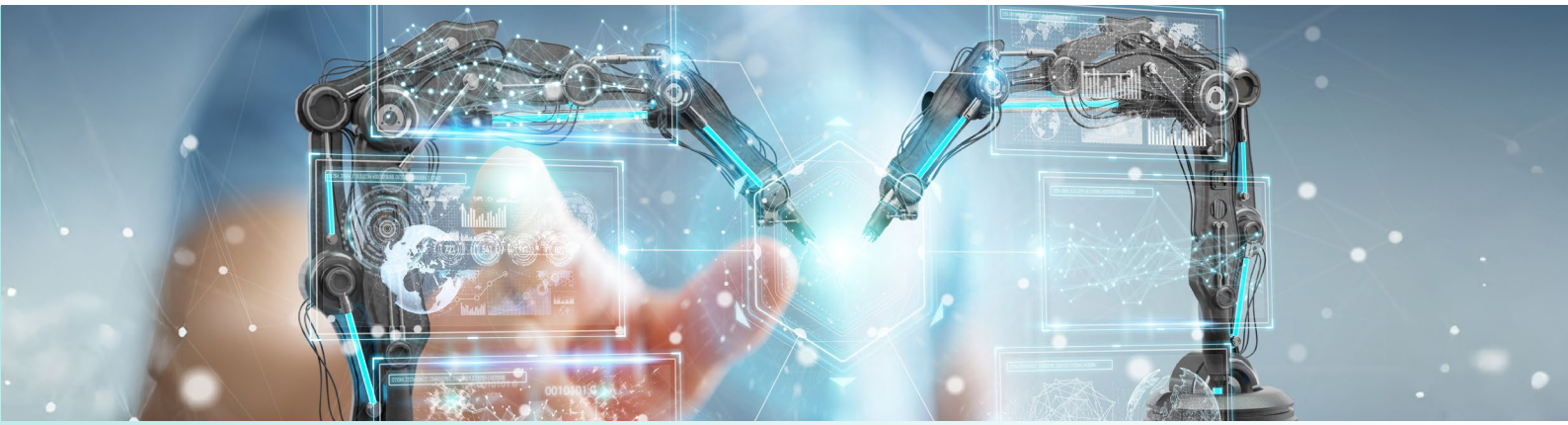
Read more

CONVERGING: 4th GA Meeting in Vigo, Spain

The **4th General Assembly Meeting** of the **CONVERGING project** took place on **January 15-16, 2025**, in **Vigo, Spain**, hosted at the facilities of our partner AIMEN. Bringing together all project partners, this two-day meeting served as a crucial milestone to assess progress, exchange insights, and strategically plan the next steps for the project's continued success.

Read more

A GLIMPSE INTO CONVERGING BLOG POST



Delve into our Blog Post Section, and be informed about the latest news, landscape of HRC in industry, challenges, innovation, and opportunities.

- **Smarter Skies:** The Role of **CONVERGING** in Transforming Aircraft Maintenance for Cargo Fleets
- **Improving Posture in Human-Robot Collaboration:** Enhancing Efficiency and Worker Well-Being
- **User-centred design methods:** Co-creation and human-centric solutions

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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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