



Research and innovation

Industry 5.0

What this approach is focused on, how it will be achieved and how it is already being implemented.

What is Industry 5.0?

European industry is a key driver in the economic and societal transitions that we are currently undergoing.

In order to remain the engine of prosperity, industry must lead the digital and green transitions.

This approach provides a vision of industry that aims beyond efficiency and productivity as the sole goals, and reinforces the role and the contribution of industry to society.

It places the wellbeing of the worker at the centre of the production process and uses new technologies to provide prosperity beyond jobs and growth while respecting the production limits of the planet.

It complements the existing "Industry 4.0" approach by specifically putting research and innovation at the service of the transition to a **sustainable, human-centric** and **resilient European industry**.

Why Industry 5.0?

Industries can play an active role in providing solutions to challenges for society including the preservation of resources, climate change and social stability.

The Industry of the Future approach brings benefits for industry, for workers and for society.

It empowers workers, as well as addresses the evolving skills and training needs of employees. It increases the competitiveness of industry and helps attract the best talents.

It is good for our planet as it favours circular production models and support technologies that make the use of natural resources more efficient.

Revising existing value chains and energy consumption practices can also make industries more resilient against external shocks, such as Covid-19 crisis.

How to make it happen?

This approach to industry contributes to 3 of the [Commission's priorities](#): "An economy that works for people", "European Green Deal" and "Europe fit for the digital age".

Elements related to the future of industry are already part of major Commission policy initiatives

- adopting a human-centric approach for digital technologies including artificial intelligence ([Proposal for AI regulation](#))
- up-skilling and re-skilling European workers, particularly digital skills ([Skills Agenda](#) and [Digital Education Action plan](#))
- modern, resource-efficient and sustainable industries and transition to a circular economy ([Green Deal](#))
- a globally competitive and world-leading industry, speeding up investment in research and innovation ([Industrial Strategy](#))

These are just some examples that demonstrate the strong links between the industrial transition and other societal developments.

Experts from research and technology organisations as well as funding agencies discussed the Industry 5.0 concept during 2 virtual workshops on 2 and 9 July 2020.

[ESIR](#) a high-level expert group advising the Commission on how to develop a forward-looking and transformative research and innovation policy, are currently developing a new policy brief on industry. It will provide concrete policy recommendations and actions for attaining Industry of the Future goals and will provide an important basis for advancing European and national-level policy initiatives and making sure the development is in line with the Commission's political priorities.

Industry 5.0 Award

The Industry 5.0 Award provides a vision of the future of European industry, which aims to achieve societal goals beyond jobs and growth. Industry would become a resilient provider of prosperity, by making production more sustainable and placing the wellbeing of the worker at the centre of the production process.

The concept of the award is prepared in collaboration with European Factories of the Future Research Association ([EFFRA](#) [↗](#)), industrial platform [MANUFUTURE](#) [↗](#), [European Innovation Council](#) and SMEs Executive Agency ([EISMEA](#)) and [EIT Manufacturing](#) [↗](#).

Projects competing for the Award should present inspiring and applicable solutions, addressing the 3 main pillars of Industry 5.0: sustainability, human-centricity and resilience.

[More information](#)

Industry 5.0 Community of Practice (CoP 5.0)

Official launch of the Industry 5.0 Community of Practice

The CoP 5.0 was officially launched on 16 November 2023, followed by the first joint session of CoP 5.0 working groups. The initial phase of CoP 5.0 is scheduled to take place from November 2023 to May 2024. During this period, the community will be divided into two working groups, focusing on:

1. conducting thematic analysis with an emphasis on the learning ecosystem approach, and
2. developing a prototype for the Industry 5.0 learning and assessment tool

Simultaneously, CoP 5.0 will be compiling an inventory of Industry 5.0 pilot projects and initiatives, contributing to the comprehensive mapping of the Industry 5.0 landscape in Europe.

A pilot [scoping study](#) was conducted to explore indicators of industrial research, innovation, and technologies in Industry 5.0. This initial effort aimed to capture available data on the inputs, behaviours, and outcomes of EU firms and industries across the three Industry 5.0 pillars. However, gaps remain – we need more research to better measure Industry 5.0 dimensions, particularly where publicly available data is scarce. This study serves as a starting point for further development, in collaboration with the Industry 5.0 Community of Practice.

Community of Practice Plenary Session

The Industry 5.0 Community of Practice (CoP 5.0) Plenary Session, held in Brussels on 16 October, brought together over 100 European innovation ecosystem stakeholders – CoP 5.0 Members - to discuss the significance of the Industry 5.0 framework in the ongoing transformation shift of European industries and SMEs.

The event included a morning high-level panel on Industry 5.0's role in enhancing EU competitiveness and afternoon collaborative workshops. The high-level panel emphasised how Industry 5.0 can contribute to addressing challenges from the green and digital transitions, particularly through its human-centric approach, which can help mitigate the skills gap identified as one of the major issue for EU industries, SMEs, and start-ups.

Massive public and private investments alongside the right enabling conditions are required to enable Industry 5.0 to become a driving force of transformational change, combining capital and prosperity. Industry 5.0's potential to boost regional innovation and development was also highlighted.

The high-level panel was composed of

- Ms Lina Gálvez - Member of the European Parliament
- Mr Jean-Pascal Riss - Vice-President for Sustainability, Industry Relations and Strategic Partnership at Schneider Electric
- Ms Judith Ay - Policy Director at European Round Table for Industry
- Mr Andrea Renda - Research Director at CEPS
- Mr Guido Nelissen - Co-rapporteur for own initiative opinion on Industry 5.0 at the EESC

The afternoon workshops provided a platform for CoP 5.0 Members to collaborate on joint actions and initiatives for 2025, setting the stage for future partnerships. The programme also included the presentation of the recently published ERA Industrial Technologies Roadmap on Human-Centric Research and Innovation and initial results from testing and validating a Prototype Industry 5.0 Learning and Assessment Tool.

- [CoP 5.0 Summary Report](#)

The final report of the CoP 5.0 pilot, covering two deliverables co-developed by CoP 5.0 Members between November 2023 and September 2024, is [available to download](#).

For any inquiries or further information, please feel free to [reach out to us](#).

[List of Industry 5.0 Community of Practice members](#)

How to join Industry 5.0 Community of Practice

Industry 5.0 Community of Practice (CoP 5.0) brings together a broad range of European innovation ecosystem stakeholders to share good practices, co-create actions to implement Industry 5.0 and provide a platform for

members to network and establish new collaborations. It helps create a value proposition for stakeholders at the local, regional, national, and European levels to promote and apply Industry 5.0 principles and practices. It facilitates an opportunity for stakeholders to foster synergies and receive support in the ongoing process of green and digital transitions with a focus on human-centricity, sustainability and resilience.

To this end, CoP 5.0 engages all European Innovation Ecosystem stakeholders, including industries, SMEs, start-ups, EU Member States, public and private research organisations, universities, CSOs, social partners, investors, regional and local authorities, umbrella organisations, industrial clusters etc. It is open to all stakeholders who can actively contribute to CoP 5.0 objectives and actions. To become a CoP 5.0 member, interested stakeholders must fill-in and submit the following application.

[Join the Industry 5.0 Community of Practice](#)

Stakeholders with their legal establishment in one of the EU Member States and/or Horizon Europe Member States and Associated Countries can apply to become CoP 5.0 Members.

[Terms of Reference](#)

Publications

Report | 25 July 2024 | Directorate-General for Research and Innovation

Industrial Technologies Roadmap on Human-Centric Research and Innovation for the manufacturing sector

R&I policy recommendations on how to foster human-centric outcomes in technology development and adoption, such as improving workers' safety and wellbeing, upskilling or learning.



Study | 10 January 2022 | Directorate-General for Research and Innovation

Industry 5.0, a transformative vision for Europe

Governing systemic transformations towards a sustainable industry, an ESIR policy brief



- [Industry 5.0 \(Infographic\)](#)
- [Meeting report of Industry 5.0 roundtable](#)

Latest

News article | 16 October 2024

Industry 5.0 Community of Practice discuss future directions to achieve its goals

The Industry 5.0 Community of Practice session today brought together stakeholders to discuss the next steps in building a sustainable, human-centric, and resilient EU industry.

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