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NOTE

From:	Presidency
To:	Delegations
Subject:	Presidency discussion paper: AI Factories

In view of the Working Party on Telecommunications and Information Society on 14 January 2025, delegations will find in the annex the discussion paper from the Presidency on AI Factories.

Presidency discussion paper: AI Factories

Working Party on Telecommunications and Information Society (WP TELECOM) – 14.01.2025

1. Introduction

As the Draghi report states: *With the world on the cusp of an AI revolution, Europe […] must unlock our innovative potential. This will be key not only to lead in new technologies, but also to integrate AI into our existing industries so that they can stay at the front.* AI – a watershed technology revolutionizing our economies and society is an opportunity for Europe's further economic development and competitiveness. The talent is here, the research is here, but Europe also needs to develop a much stronger AI industrial ecosystem and reduce its dependency on non-EU AI solutions. In this context, the European Commission has put forward an ambitious goal of making Europe an AI Continent.

We need to write a distinctly European story that aligns with our values while fostering real innovation. When investing in AI in Europe, we should accelerate the adoption of AI solutions by Europe's leading industrial sectors such as manufacturing/robotics, pharma, chemicals, agri-food, space and defence, transport, logistics, automotive, to enhance their competitiveness and ensure responsible and sustainable technological transformation in the EU. We should boost new industrial AI uses, improve public services like healthcare, education, transport or environmental protection, and produce world-class AI solutions for science.

Capitalising on the Union's world-leading supercomputing infrastructure, **AI Factories** as one of key initiatives to achieve this goal are intended to foster an innovative European AI ecosystem and to enable European companies, particularly small and medium-sized enterprises (SMEs), to thrive in the rapidly evolving AI landscape. They aim to offer them access to the computing power, data, and talent – all key ingredients to succeed in AI solutions development.

Recognising the strategic importance of this initiative, the European Commission, together with the Member States, has mobilised close to EUR 2 billion under the EuroHPC Joint Undertaking for setting up a number of AI Factories across the Member States. Seven proposals involving 15 Member States were selected following the first submission in November 2024, reflecting a keen interest of the Member States. Another wave of proposals is expected in February 2025. The first AI Factories should become operational in the first half of 2025.

As part of the AI Continent, the AI Factories will be strongly linked to other key initiatives announced by the Commission such as the Apply AI Strategy for boosting new industrial uses of AI in EU's leading industrial sectors, the European Research Council of AI to develop an AI ecosystem in research and science as well as the Cloud and AI Development Act and the Data Union Strategy.

2. AI Factories – Presidency approach

In order to make the roll-out of AI Factories successful, the Presidency would like to highlight the following key actions:

- **Building AI-optimized supercomputers** that are accessible to AI start-ups, SMEs, industry and researchers, serving the wider AI ecosystem.
- **Supporting the development of world-class trustworthy AI solutions** in line with Union rules and values.
- **Promoting AI solutions tailored to different industrial sectors, public authorities and scientific disciplines**. AI Factories should serve as hubs driving advancements in AI applications across various sectors of economy capitalising on European strongholds such as automotive, robotics, manufacturing, life sciences, climate and environment, finance, cybersecurity, space and Earth Observation, energy, agri-tech and agrifood, culture and art, public administration etc. Each AI Factory should focus on key national strategic sectors that it will serve and enhance with its ecosystem.
- **Data availability**. Bolstering AI innovation and development of state-of-the-art AI solutions across various industries and research domains requires access to large data repositories with high-quality curated data for training, fine-tuning and analysis. AI Factories will, therefore, need to guarantee controlled seamless access to EU-wide high quality data pools that are accessible and interoperable – relevant European data facilities, data repositories, the Common European Data Spaces, model hubs, and other data sources relevant to the users of the respective AI Factories.
- **Talent development**. Nurturing and retaining a sufficient pool of skilled professionals is critical to advancing AI Factories. This requires providing training in collaboration with start-ups, educational institutions and research centres, and relevant industrial sectors.
- **Enhancing cooperation between Member States**. AI Factories will be operating across multiple Member States. This approach should foster collaboration and sharing of resources, encouraging partnerships between EU, national and regional stakeholders to streamline resources, foster specialization, and avoid duplication of efforts.

In addition to the above, the Presidency would see the following actions being strongly linked to the AI Factories in the context of Europe becoming the AI Continent.

- **Developing solid and reliable evaluation methods for AI systems** put on the European market. Beyond ensuring product safety and market cohesion, there is a need for robust monitoring of AI's impact on the economy and society to ensure its responsible development.
- **Research and innovation**. The EU has to significantly increase investments in research on advanced multimodal AI.
- **Europe's technological sovereignty**. To enhance Europe's strategic digital autonomy and competitiveness while maintaining market transparency and openness, significant investments are required in energy-efficient hardware and software solutions to build Europe's computing capacity for training, fine-tuning, and large-scale inferencing of AI solutions.

- **Sovereign cloud capacities and interconnected data centers**. These are of particular importance, enabling AI Factories to access comprehensive, competitive end-to-end computing and data storage services. These sovereign cloud solutions will complement supercomputers and address the massive computational demands of AI development, ensuring Europe can provide the necessary infrastructure for advanced AI operations.
- **Access to energy and energy efficiency**. While in some cases AI can decrease overall energy consumption, the most advanced AI models and systems require significant and reliable energy sources. To allow the EU to become a global leader in AI/the AI Continent, it is crucial to ensure access to low-cost energy supply for innovators, improve energy efficiency of digital infrastructure as well as intensify research into more energy-efficient AI algorithms.

3. Discussion questions

To facilitate meaningful engagement in the process of creation of the AI Factories, the Presidency invites Member States to consider the following questions:

1) What are the key ingredients needed to ensure the success of AI Factories?
2) How do we encourage cooperation across Europe to build on our respective strengths and ensure we have a strong European AI innovation ecosystem around the AI Factories? What are the biggest challenges in this regard?
3) How can the AI Factories bridge the innovation and scale-up gap for start-ups, enabling them to grow and be competitive?

4. Contribution to the future work of the Commission

The comprehensive findings and key conclusions from the discussion in the WP Telecom will be consolidated into a Presidency report which will be shared with the Member States and the European Commission. The overall aim of this exercise it to contribute to the ongoing work on the AI Factories initiative by the Commission.