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MEETING DOCUMENT

From:	General Secretariat of the Council
To:	Working Party on Telecommunications and Information Society
Subject:	Main takeaways from the debate on AI Factories

Delegations will find in the annex the main takeaways from the debate on AI Factories.

Main takeaways from the debate on AI Factories held at WP Telecom during the Polish Presidency

Introduction

On 14 January 2025, the Polish Presidency organised a debate on the topic of AI Factories in the Working Party on Telecommunications and Information Society (WP Telecom). The debate began with a presentation by the European Commisison on the various aspects of the roll-out of AI Factories (components, strategic approach, HPC infrastructure). It was followed by an exchange of views with the Member States. The primary aim of the debate was to take stock of the current state of play and identify strengths and weaknesses in order to help to move the initiative forward. The Presidency's aim was to enable the Member States to express their views on how to best capitalize on the EU's supercomputing infrastructure in order to turn Europe into an AI Continent – the best place in the world to develop trustworthy and advanced AI.

Key takeaways from the Member States

Several takeaways can be drawn, which provide valuable insights for the European Commission, especially in the context of its work on the planned communication dedicated to AI Factories.

I. What are the key ingredients needed to ensure the success of AI Factories?

Discussion was focused on selected key actions allowing the Member States to share insights which they consider essential for the initiative to succeed.

Most Member States who intervened pointed out three main factors: 1) access to AI-optimised supercomputers; 2) data availability; and 3) talent development.

1) Access to AI-optimised supercomputers

Member States indicated that for the AI Factories to succeed, they must consider the differentiated and specific needs of industry, academia, and public administration. This includes developing solutions that address the differences between traditional HPC research users and companies developing AI. It is important that AI Factories are also accessible to start-ups, SMEs, and larger industry players.

Member States want to ensure open access to AI Factories across the EU. It means access for companies to AI Factories even if they are not located/financed by the Member State where the company is based, in particular if AI Factories are going to be specialised in specific sectors.

That is why harmonised standards and clear access procedures across AI Factories are necessary to build trust, ensure operational consistency and provide support to users with various backgrounds[1]. Also, computing time allocation regime must be easy to understand.

Member States find it essential to take into account the security aspect and ensure safe access through digital identity systems that are robust and interoperable across EU countries. The European Digital Identity Wallet could be an answer, however the very ambitious timeline for rolling out the AI Factories could make this challenging.

2) Data availability

Member States emphasized the necessity to ensure access to data and the ability to transfer and integrate large amounts of data from repositories to AI hardware. This will require not only a strong connectivity backbone but also compliance with the FAIR data principles (findable, accessible, interoperable, reusable), safeguards for sensitive and commercially valuable datasets, as well as solutions to integrate and ensure the quality control of data from various sources.

[1] Here, the existing EuroHPC Competence Centres can serve as a template.

As data repositories are crucial for AI, some Member States mentioned good initiatives which are already on the way, e.g. the European Open Science Cloud and Common European Data Spaces, but it will be necessary to check if the establishment of FAIR data repositories is moving fast enough to be useful for AI Factories, and what can be done to improve data availability.

3) Talent development

It is crucial, according to most Member States, to secure competent support staff in the form of AI specialists in both using and development of AI models, including the competence to integrate AI models with classical simulations/models, as well as data management specialists.

The possible way to attract talent to the EU is through well prepared incentives, including outreach to national diasporas, and through favourable tax and visa policies.

It will be important to identify and hire specialized competent staff for hosting entities, with the knowledge of local needs, as bottom-up steering can increase efficient cooperation.

Other key issues

Other important factors mentioned by the Member States are **access to energy/energy efficiency** and s**ustainability focus** (integration of sustainability with technology by utilising renewable energy for AI infrastructure).

The need for generous investments was also emphasised, both from European and national resources, as well as intense cooperation between business and academia. It is important to focus on user needs and on access to a broad spectrum of competences and capacity, and that is what targeted funding/calls for collaboration between AI factories should ensure.

Regulatory support is equally important to the Member States. It could take the form of regulatory sandboxes and safe harbors to encourage experimentation while managing compliance. Linked to this is a very important call to **mitigate bureaucratic constraints**. Here procedural flexibility of managing authorities with regard to funding processes and workflows was highlighted.

Several Member States raised the issue of **Public-Private Partnerships** and collaboration with established companies to serve as anchor tenants in AI hubs. They indicated that this solution is key to secure long-term funding, real-world use cases, and to drive industry adoption.

Finally, legal clarity is also needed with regard to **state aid**. AI Factories seem to imply a state aid group exemption for SMEs. However, an exemption usually involves a bureaucratic process, which might be different from hosting entity to hosting entity. It therefore needs to be clarified with DG COMP of the European Commission, how to manage state aid rules across the different AI Factories, to ensure that companies are treated equally, irrespective of their geographical origin, that state aid rules are identical across the AI Factories, and that state aid exemptions are handled as smoothly as possible.

II. How do we encourage cooperation across Europe to build on our respective strengths and ensure we have a strong European AI innovation ecosystem around AI Factories? What are the biggest challenges in this regard?

Member States highlighted the collaboration through EuroHPC has already proved fruitful to share/compare various ecosystems. It's important, however, that we foster **cross-border partnerships** between EU countries through shared HPC resources and joint AI development projects. Exploitation of the relevant EU initiatives may also help to expand AI Factories, e.g. European Digital Innovation Hubs, Testing & Experimentation Facilities, European AI on Demand Platform.

Member States and the Commission should facilitate partnerships between AI Factories through joint research projects and data-sharing agreements and high speed interconnection.

Common technical standards and interoperability were mentioned as significant enablers. Member States see the need for common standards for AI factories and for AI computing resources, data and

models to make it easy to work across EU countries. Strengthening, deepening and highlighting harmonised European standards will also drive trust.

Another aspect of standardisation was brought up by some Member States, namely **standardised and public APIs and services**. This means uniform standards and APIs needed across all AI factories. Such uniform standards and APIs should be found with the greatest possible consensus among the Member States and their companies/research institutions.

Focused vertical integration and concentration on specific industries was pointed several times by the Member States. This is linked with the idea to develop partially specialised AI factories for individual industries or areas. As several AI factories are needed in different MS, knowledge about the thematic focus of other AI Factories is necessary to help users find the best suited AI Factory.

Specialisation in thematic areas, e.g. healthcare, mobility, energy, should in turn ensure complementarity and help avoid duplication. A lack of coordination between AI Factories can lead to duplication of efforts and investment and competition rather than collaboration.

Challenges

In order to ensure a smooth roll-out of AI Factories and their uptake, it is crucial with to exchange knowledge on barriers, and to remove those barriers to the extent possible. The challenges will likely be multiple:

- policy fragmentation, limited funding;
- regulatory differences: different regulatory frameworks across European countries can create barriers to cooperation;
- data privacy and security: ensuring data privacy and security while sharing data across borders is a significant challenge;
- ethical and social concerns related to AI, including the lack of trust in the technology;
- resource imbalance: uneven distribution of HPC facilities and funding across EU Member States;
- competition vs. cooperation: balancing national interests with EU-wide collaboration efforts.

III. How can the AI Factories bridge the innovation and scale-up gap for start-ups, enabling them to grow and be competitive?

Member States agree that AI Factories should be in a position to provide support services to start-ups. It will be crucial because we expect to have more and more start-ups that develop products/services that will need AI Factories, e.g. if they are spin-offs from universities (that have already HPC at the R&I stage) or developed by new graduates that will be trained for HPC and AI use.

The need to have an explicit connection with end users was highlighted, especially with companies that want to train AI systems. If these companies are not sufficiently informed about the initiative and its possibilities, there is a risk that AI Factories will miss their mark. Instead of a technology-push approach, we need to ensure AI solutions are developed in collaboration with market actors.

According to Member States, access to supercomputing capacities for start-ups:

- should be based either on an **open access regime**, based on the quality of their proposal or **on the affordability criterion** (subsidising computing resources and offering centrally managed cloud credits reduce operational costs). **If services cannot be provided for free**, at least the initial counselling should be available free of charge to clarify needs;
- should be reserved (some fraction of computing power exclusively for them), which can also be supported via mentoring, testing, education and training.

Bridging the innovation and scale-up gap for start-ups could also be done by:

- predictable, simple and rapid access conditions to compute time, data, and AI expertise, with clear, streamlined procedures;
- providing local support to users at start-ups and SMEs;
- identifying and connecting (by AI Factories) with potential users in companies,
- AI Factories having support function for all sectors and aiming to share their strong AI- and domain specific competence with society (this can strengthen excellent science);
- ensuring that the use of the services of AI factories by start-ups is as simple and barrier-free as possible (this includes easy communication to assist start-ups with identifying the most appropriate AI Factory for their specific needs);
- if possible, providing AI models on an open source basis in order to achieve the greatest possible impact across the board;
- ensuring clear communication about access for start-ups to ensure entry barriers are low and possibilities understood;
- creating a supportive ecosystem, including mentorship, funding, and industry connections, which could be key to helping start-ups test, develop, and scale AI applications;
- providing tools, expertise, and networks (networking events and knowledge-sharing platforms) to connect start-ups, researchers, policymakers and investors across the EU to transition from early innovation to market-ready solutions;
- removing administrative burdens, allowing start-ups to focus on innovation;
- providing legal, regulatory, and ethical guidance that will help start-ups navigate EU compliance requirements effectively;
- classifying AI-related expenses as R&D costs to provide financial relief.

Recommendations

To sum up, based on the above input from the Member States, the following recommendations should be considered by the Commission for the Communication on AI Factories:

- **Ensuring open access to AI factories across the EU**. This requires harmonised standards and clear access procedures, especially if AI Factories are to be specialised in specific sectors.
- **Facilitating access to data, creating dedicated data spaces**. It is vital to enable a seamless transfer and integration of large datasets from repositories to AI hardware in line with FAIR (Findable, Accessible, Interoperable, Reusable) principles.
- **Attracting AI talent**. As no infrastructure will be effectively adopted without skilled staff, the EU and Member States should introduce incentives such as favourable tax and visa policies to attract top AI specialists.
- **Ensuring sufficient investments in AI Factories**. A balanced mix of European and national funding should be allocated through targeted programs and calls. Adequate investment levels will be crucial to implementing the above recommendations effectively.
- **Strengthening cooperation and cross-border partnerships between AI Factories**. Given the industry-specific specializations of AI Factories, collaboration will be a key success factor. This could be achieved through joint research projects, data sharing agreements, high-speed interconnections, and common technical standards to ensure interoperability.
- **Enhancing cooperation and constant dialogue with industry representatives.** AI solutions should be developed in collaboration with market actors.
- **Creating a start-up friendly AI Factories ecosystem**. Start-ups should have open and affordable access to supercomputing resources, alongside mentoring, technical and legal support, and networking opportunities. Administrative processes should be simple and

predictable, reducing unnecessary burden to help start-ups bridge the gap between innovation and scaling.

Final remarks

The Polish Presidency hopes that this overview will contribute to the Commission's initiative on AI Factories, to a further strengthening of the collective effort to get AI Factories up and running as soon as possible, and to driving awareness and interest in this initiative.