Council of the European Union

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NOTE

From:	General Secretariat of the Council
To:	Delegations
Subject:	Draft Council Conclusions on "Towards the EU strategy on AI in science" - Presidency text

Delegations will find attached a Presidency text on the draft Council conclusions “Towards the EU strategy on AI in science” with a view to the Research Working Party meeting on 13 February 2025.

ANNEX

DRAFT COUNCIL CONCLUSIONS

TOWARDS THE EU STRATEGY ON AI IN SCIENCE

THE COUNCIL OF THE EUROPEAN UNION

RECALLING:

– its conclusions of 26 November 2021[1] on the Future Governance of the European Research Area (ERA);

– its conclusions of 2 December 2022[2] on the New European Innovation Agenda;

– its conclusions of 5 November 2024[3] on the European Court of Auditors' Special Report No. 08/2024 entitled 'EU Artificial Intelligence ambition – Stronger governance and increased, more focused investment essential going forward', stressing the need for coordinated efforts, scaled up investments and improved access to digital infrastructure for AI development;

TAKING NOTE OF:

– the Commission's communication on the Coordinated Plan on Artificial Intelligence (AI)[4], providing a framework for aligning Member States' strategies with EU priorities;

– the evidence review report of the Scientific Advice Mechanism to the European Union entitled "Successful and timely uptake of artificial intelligence in science in the EU" published in April 2024.

1. RECOGNISES that rapid development of AI and AI technologies dedicated for science, which have transformed science practice and led to groundbreaking achievements and creative applications in science, with AI being central to the discoveries awarded with recent Nobel Prizes in physics and chemistry.

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1 14308/21.
2 14705/22.
3 14849/24.
4 COM(2021) 205 final.

2. ACKNOWLEDGES the excellence of European research and innovation (R&I) in AI and its critical role in enabling cutting-edge science, addressing global challenges and driving digital transition in Europe.

3. STRESSES the unprecedented potential of responsible and ethical use of AI in science to stimulate groundbreaking knowledge and accelerate innovation deployment, to strengthen R&I performance of the entire Union and boost its capacity to compete globally, thus leading to significant social and economic benefits and improved Member States' ability to grow, innovate, build strategic leadership in high-impact sectors, and tackle challenges of various backgrounds.

4. HIGHLIGHTS a growing number of European researchers and entrepreneurs who are already harnessing AI in their pioneering projects.

5. CONSIDERING that AI systems and models specifically developed and put into service for the sole purpose of scientific research and development as well as research testing and development activity regarding AI systems or models are exempt from the AI Act[5], emphasising the freedom of science and flexibility to enable exploratory and innovative activities.

6. NOTES that the EU currently has no dedicated and systemic policy to facilitate the uptake of AI in science; such a policy could connect and complement existing AI initiatives to boost the uptake of AI in science and provide for new, better targeted policies regarding its application.

7. CALLS therefore on the Commission to work on a European strategy to accelerate responsible uptake of AI in science, in close cooperation with the Member States and based on the best available knowledge.

[5] OJ L, 2024/1689, 12.7.2024.

8. HIGHLIGHTS that this strategy should in particular:

   – enhance coordinated policy developments at the EU and national levels for increased responsible use of AI in science;

   – provide for an efficient way of monitoring the impact of AI on the scientific process;

   – work on upskilling researchers to equally benefit from AI-based solutions to accelerate research productivity in the EU;

   – promote an ethical approach and transparent and responsible use of AI-based systems, solutions and tools applicable in R&I;

   – support open access to reliable data based on FAIR principles (findability, accessibility, interoperability, reusability);

   – enhance interconnectivity between relevant strategic infrastructure and resources.

Coordinated policy and support for AI in science

9. STRESSES the importance of a common European agenda for AI in science, and INVITES the Commission to support the development of an interdisciplinary research community around AI in science, bringing together domain scientists using AI and computer scientists, in line with the Union's strategic interest.

10. NOTES the importance of funding, data, computational power and scientific talent for EU competitiveness in AI and INVITES the Commission to propose innovative ways for supporting access to these resources by scientists.

11. TAKES NOTE of the idea of the creation of the EU AI Research Council, as announced by the President of the Commission, and CALLS on the Commission to consult Member States on the details of this initiative.

12. ENCOURAGES Member States to align or, where appropriate, create dedicated strategies for AI in science, leveraging synergies with broader AI initiatives both at national and European levels.

13. HIGHLIGHTS the need of better alignment between EU and national AI strategies, including the development of sector-specific roadmaps, mapping and monitoring of upcoming initiatives to avoid duplication and fragmentation.

14. CALLS for improved coordination between AI foundation models developed for science at the Member State level and those initiated by the Commission to maximise impact and avoid duplication.

Upskilling researchers and innovators

15. CALLS on the Commission, Member States, and the European R&I communities at large to support talents for the development of "made in Europe' AI solutions and for increased use of AI in science, and to work on attracting, retaining, and bringing AI research and innovation talent back to Europe.

16. EMPHASISES the need for comprehensive upskilling and reskilling programmes in AI, dedicated to researchers and innovators, in order to broaden researchers' readiness to benefit from AI opportunities, secure their equal and fair access to new knowledge and new technologies, and enable the transition of working methods in R&I that leaves no one behind.

17. ENCOURAGES Member States to support vocational training and lifelong learning initiatives to meet the growing demand for AI expertise.

18. HIGHLIGHTS the need to support open and transparent access to technologies, data infrastructures for all researchers interested in AI use in science, and to address gender inequalities in AI use for scientists. CALLS FOR programmes to support underrepresented groups in STEM and AI research through mentorship and funding opportunities.

Ethical and human-centric approach

19. NOTES that the AI uptake in science carries risks stemming from the tool's technical limitations, intentional or unintentional misuse, data manipulation, reproduction of factual errors, unethical algorithms design, and other issues that might erode the reliability and integrity of research practices.

20. URGES the Commission to provide quality standards for AI in science, monitoring opportunities and risks for AI uptake in R&I, counteract malicious uses and alert on inappropriate practices, in close cooperation with Member States. STRESSES the need to develop and frequently update guidelines, benchmarks and best practice for the use of AI in science to ensure the integrity, reliability, validity and transparency of R&I results. WELCOMES, in this light, the ERA Forum Stakeholders' document: 'Living Guidelines on the Responsible Use of Generative AI in research'.

Open and responsible data to feed AI for science

21. RECOGNISES the importance of high-quality, findable, accessible, interoperable, reusable (FAIR) and responsibly collected data for AI applications in science. STRESSES that the European Data Regulation framework should include targeted actions to make data suitable for AI processing, fostering harmonised data sharing and interoperability.

22. INVITES Member States to contribute actively to existing European Data Spaces, such as the European Open Science Cloud (EOSC), to establish new data spaces where necessary to support AI-driven research.

23. ENCOURAGES the adoption of open science practices in data collection, data sharing, and the use of models and algorithms, to increase the efficiency of AI-powered science.

Fair access to AI solutions and interlinked infrastructure

24. CALLS on the Commission and the Member States for increased efforts to better connect AI-enabling infrastructure and resources across Europe, support equitable access to high performance computing and advanced software for researchers and innovators, and foster collaboration among researchers, startups and scaleups, industry, social organisations and policymakers.

25. RECALLS the importance of developing dedicated AI technologies for application in science. TAKES NOTE of Member States' efforts to enhance computing capacity and INVITES them to strengthen private sector involvement, investment and collaboration to achieve further improvements.

26. STRESSES the need for a more comprehensive Federation of European High-Performance Computers (HPCs), building on existing initiatives such as EuroHPC and AI Factories, to support AI research and innovation. CALLS ON Member States and the Commission to further enhance computational capacity, infrastructure interoperability, and facilitate undisturbed access for researchers and innovators to HPCs and software for advancing research on AI and for its uptake in science, while considering energy consumption needs.

27. NOTES the potential of EU companies, SMEs and startups in supporting researchers to develop, and benefit from trustworthy AI-based technologies for R&I, and CALLS ON the Commission and Member States to stimulate and support work on systems, applications or tools for the targeted use of AI in R&I.

28. CALLS for leveraging public procurement and R&I funding, to foster the adoption of AI technologies in universities, research organisations, technology transfer offices and accelerators, promoting the integration of AI into scientific processes, university spin-offs, innovative startups and scaleups