



Research and innovation

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Commission receives scientific advice on Artificial Intelligence uptake in research and innovation

Today, the Scientific Advice Mechanism (SAM) released its independent policy recommendations on how to facilitate the uptake of Artificial Intelligence (AI) in research and innovation across the EU. The advice is non-binding but may feed into the overall Commission strategy for AI in research and innovation. It is underpinned by an evidence review report published also today.

The Chair of the Group of Chief Scientific Advisors handed over the opinion to Margrethe Vestager, Executive Vice-President for a Europe Fit for the Digital Age, and Iliana Ivanova, Commissioner for Innovation, Research, Culture, Education and Youth.

Executive Vice-President **Vestager** said:

“There is no better way to boost the uptake of AI in scientific research than asking scientists about what they need the most. Not only are these recommendations concrete. Also they look at multiple aspects which AI and science need to serve us best: significant funding, skills, high quality data, computing power, and of course, guardrails to ensure we keep by the values we believe in.”

Commissioner **Ivanova** said:

“Artificial Intelligence means a revolution in research and innovation and will drive our future competitiveness. We need to ensure its responsible uptake by our researchers and innovators for the benefit of science but also of the economy and society as a whole. The work of the scientific advisors provides us with a wealth of solid evidence and practical advice to inform our future actions.”

The opinion addresses both the opportunities and challenges of using Artificial Intelligence in science. AI has the potential to revolutionise scientific discovery, accelerate research progress, boost innovation and improve researchers’ productivity. It can strengthen the EU’s position in science and ultimately contribute to solving

global societal challenges. On the other hand, it also presents obstacles and risks, for example with obtaining transparent, reproducible results that are essential to robust science in an open society. Furthermore, the efficacy of many existing AI models is regarded as compromised by the quality of data used for their training.

The recommendations of the independent scientific advisors include:

1. Establishment of a European institute for AI in science

To counter the dominance of a limited number of corporations over AI infrastructure and to empower public research across diverse disciplines, the scientists advise the creation of a new institute. This facility would offer extensive computational resources, a sustainable cloud infrastructure and specialised AI trainings for scientists.

2. High quality standards for AI systems (i.e., data, computing, codes)

AI-powered scientific research requires a vast amount of data. That data should be of high quality, responsibly collected and meticulously curated, ensuring fair access for European researchers and innovators.

3. Transparency of public models

The EU should support transparent public AI models helping, among other things, increase the trustworthiness of AI and reinforce the reproducibility of research results.

4. AI tools and technologies specialised for scientific work

To help scientists enhance their overall efficiency, SAM advises the EU to support the development of AI tools and technologies specialised for scientific work (e.g., foundation models for science, scientific large language models, AI research assistants and other ways to use AI technologies).

5. AI-powered research with major benefits for EU citizens




According to the advice, prioritising AI-powered research in areas like personalised healthcare and social cohesion, where data is abundant but difficult to interpret, would maximize benefits for EU citizens.

6. A Human and Community-Centric Approach


The advisors recommend that the EU promotes research into the philosophical, legal, and ethical dimensions of AI in science, ensuring respect of human rights, transparency and accountability. Promoting 'AI literacy' would not only enable everyone to enjoy the benefits of this technology, but also strengthen future European research by nurturing and retaining the best talents.


The SAM opinion was requested by Executive Vice-President Vestager in July 2023. It complements a range of material that the Commission has developed on the use of AI in research and innovation. This includes the living Guidelines on the responsible use of generative AI released on 20 March as well as the policy brief on AI in Science released in December 2023, the foresight survey among ERC grantees that are using AI in their research, released in December 2023, and the portfolio analysis of ERC projects using and developing AI, published in March 2024.

Background

The [Scientific Advice Mechanism](#)  provides independent scientific evidence and policy recommendations to the European institutions by request of the College of Commissioners. It includes the Science Advice for Policy by European Academies ([SAPEA](#) ) consortium, which gathers expertise from more than 100 institutions across Europe, and the Group of Chief Scientific Advisors ([GSCA](#) (/strategy/support-policy-making/scientific-support-eu-policies/group-chief-scientific-advisors_en) ), who provide independent guidance informed by the evidence.

More Information

[Scientific Advice Mechanism, Group of Chief Scientific Advisors, Successful and timely uptake of Artificial Intelligence in science in the EU, Scientific Opinion No. 15](#) 

[Scientific Advice Mechanism, Science Advice for Policy by European Academies, Successful and timely uptake of Artificial Intelligence in science in the EU, Evidence Review Report](#) 

[Living guidelines on the responsible use of generative AI in research](#)

[Successful and timely uptake of artificial intelligence in science in the EU - Publications Office of the EU \(europa.eu\)](#) 

[AI in science – Harnessing the power of AI to accelerate discovery and foster innovation](#) 

Details

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Author

[Directorate-General for Research and Innovation](#)