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ETUCE Contribution on the EU 'AI in Science Strategy'

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The following contribution represents the view of the European Trade Union Committee for Education (ETUCE) which represents 123 Education Trade Unions and 11 million teachers in 51 countries of Europe. ETUCE is a Social Partner in education at the EU level and a European Trade Union Federation within ETUC, the European Trade Union Confederation. ETUCE is also the European Region of Education International, the global federation of education trade unions. This contribution has been developed based on the view of members represented in the ETUCE Higher Education and Research Standing Committee.

Introduction

Artificial Intelligence (AI) is rapidly changing **Higher Education and Research (HER)**, offering new tools which come with both opportunities and challenges to develop knowledge and innovation **ETUCE believes** that it is important to integrate AI in a way that supports the core values of **fundamental science**, **academic freedom**, and **institutional autonomy**, principles that have long been central to research in Europe.

At the heart of **fundamental science** is the pursuit of knowledge, driven by curiosity and a desire to better understand the world, without the pressure of immediate commercial or political agendas. This must remain the case as AI becomes more embedded in research. Fundamental science is essential not only for expanding knowledge but also for solving some of the most urgent challenges facing society, such as climate change, health issues, and technological development. **Academic freedom** is vital to this process, allowing researchers to explore ideas freely, without interference. Without it, there is a risk that AI could be used to push narrow or shortterm objectives, rather than broader scientific progress. Similarly, **institutional autonomy** is key. Higher education and research institutions must have the freedom to set their own research agendas, free from external control. AI should support, not undermine, the independence of these institutions, helping them achieve their research goals more effectively.

The role of **HER** goes beyond academic advancement. It is crucial for **societal progress**, driving economic growth, improving public health, addressing global challenges, and supporting democratic values. ETUCE calls for the use of AI in research to align with these goals, ensuring that knowledge is used for the common good. To support this, it is important to focus on **working conditions**, **incentives**, and **funding** that are crucial to maintaining high standards of research, whether or not AI is used. High-quality research relies on adequate funding, especially for fundamental research, time for reflection, and environments that support excellence. Without these, public trust in scientific knowledge could suffer, which in turn could undermine confidence in evidence-based policies.

In addition, ETUCE underlines that **international collaboration** plays a crucial role in addressing global challenges. AI could help facilitate research partnerships, particularly in fields that have a widereaching societal impact. However, protecting and sharing **high-quality, long-term datasets** is vital to improving our understanding of complex issues. These datasets must be used ethically, ensuring they benefit society while respecting privacy. AI should be employed to strengthen global cooperation and support research into critical topics that matter to everyone.

Finally, the importance of **open science** and **citizen science** cannot be overlooked. Research must be conducted with openness and transparency, ensuring that results are accessible and beneficial to the public.

Only by ensuring these essential principles, we can build trust in science and make sure that the benefits of AI-driven research are shared fairly.

Following a comparative analysis of available EU Commission's documents, i.e., the AI Continent Action Plan, the call for evidence for the AI in Science Strategy, the call for evidence for the Apply AI Strategy, the following areas and actions have been identified as likely to be central in the upcoming AI in Science Strategy.

- **Policies for AI science**

ETUCE highlights that research is, by its nature, a transnational and global activity. Improving coordination at the European level could strengthen collaboration across borders, support knowledge sharing, and ensure more effective use of resources.

However, this coordination must be grounded in a **bottom-up approach**, developed in close partnership with the research community. It is essential that those who work directly in research, the scientists, academics, and research staff, play a central role in shaping how artificial intelligence is used within their disciplines. These professionals have the expertise to determine where and how artificial intelligence tools can meaningfully enhance scientific inquiry and where they may present challenges or risks.

There is also an urgent need to address the **development of competencies** related to the use of artificial intelligence in research. Training in both the effective and ethical use of artificial intelligence should be embedded within doctoral education, postdoctoral development, and ongoing professional learning. In particular, there should be a strong emphasis on **critical thinking skills**, enabling researchers to exercise informed judgement about the reliability, accuracy, and appropriateness of content generated by artificial intelligence systems, especially generative models. This includes ensuring researchers understand the legal, social, and ethical implications of artificial intelligence, and are empowered to shape its role in advancing public knowledge. This is crucial for maintaining scientific

rigour and protecting against the misuse or uncritical adoption of machine-generated outputs. To this aim, it is vital that higher education and research institutions ensure there is **adequate time allocated within researchers' workloads** to engage in this training meaningfully. Professional development must not become an additional burden but a supported and recognised element of academic work.

In particular, regarding the idea of creating a European AI Research Council, ETUCE calls on the European Commission to ensure the involvement of education trade unions in the consultation process of defining its mandate, mission and governance.

- **Funding instrument/investment in science**

ETUCE underlines that such partnerships must be built on **fair, transparent, and equitable terms**. Publicly funded institutions should not be placed in a subordinate position, nor should commercial interests override the public mission of research. **Fair cooperation** must ensure mutual respect, shared responsibility, and the safeguarding of academic freedom and scientific integrity.

Access to high-quality research infrastructure is essential for the effective use of artificial intelligence in science, particularly in relation to data storage, processing power, and digital tools. The **long-term preservation of research data** must be treated as a strategic priority. This requires sustainable public investment and planning to ensure that data remains accessible, secure, and verifiable beyond the lifespan of individual projects or market interests.

We strongly encourage the European Commission to support **national investment in publicly owned and operated research infrastructure**, with a focus on enabling the **sharing and reuse of data** in accordance with the **FAIR principles** for which data should be Findable, Accessible, Interoperable, and Reusable. These principles must serve as a foundation for open and collaborative research across Europe and beyond.

Safeguarding research data is also essential to guarantee **quality, validity, and transparency**. Data must be collected, managed, and used in ways that uphold scientific standards and enable public scrutiny. Ensuring the **public accountability of research** strengthens trust in scientific knowledge and helps ensure that the benefits of AI-enabled science are shared broadly.

In addition, **equitable access to infrastructure and funding** is vital. Smaller institutions and those in less advantaged regions must be supported to participate fully in AI-enabled science. Without deliberate measures to ensure fair access, there is a risk that existing inequalities in the research landscape will be further entrenched.

- **Specific AI tools for science**

The development and deployment of specialised AI tools for science, such as scientific foundational models, has the potential to advance knowledge creation and improve research capabilities across disciplines. However, this potential can only be fully realised if these tools are developed and applied within a **robust ethical and legal framework** that upholds the core values of scientific integrity and the public good.

All AI tools used in research must **adhere to the principles of transparency in process and data management** and must guarantee **public accessibility of research data and metadata** wherever appropriate. The scientific community, policymakers, and society at large must have a clear understanding of how these tools operate, what data they use, and how outputs are generated. This is fundamental for ensuring accountability and reproducibility in scientific research.

While ETUCE supports the EU intention to boost the development of European-based AI models and algorithms, the development of AI tools for science must be **fully aligned with existing European legislation**, particularly the **General Data Protection Regulation (GDPR)** and the recently adopted **AI Act**. ETUCE is deeply concerned that the EU Commission' intention of regulatory simplification will actually turn into **deregulation or weakening existing protections** in the name of promoting innovation. We firmly oppose any approach that treats regulation as an obstacle, rather than as a **safeguard for rights, quality, and ethical responsibility**.

Innovation does not require abandoning legal protections. The **regulatory sandboxes** already foreseen in the AI Act provide a legitimate and flexible framework for **responsible experimentation**. These mechanisms should be more widely utilised and properly resourced, rather than bypassed. Before considering any rollbacks or exemptions from current legislation, there must be **clear, evidence-based justification** demonstrating where and how existing rules are creating undue barriers to innovation. Policy responses should then address those specific issues, not dismantle overarching legal safeguards that protect individuals and ensure trustworthy science.

- **AI skills and interdisciplinarity**

Enhance collaboration between AI and domain scientists to build new AI tools and models for science.

To effectively integrate AI into scientific research, ETUCE underlines that it is essential to **enhance collaboration** between **AI experts** and **domain scientists and researchers**. This collaboration will facilitate the development of **new AI tools and models** that are specifically tailored to the needs of various scientific fields, fostering more relevant and impactful research outcomes.

A key principle in this process is the **bottom-up approach**, where the priorities and insights of domain scientists are central to the development of AI tools. The needs of researchers should not be determined by AI experts from the top down. Instead, **domain scientists**, who understand the intricacies of their respective fields, must have a leading role in defining the tools and models that will support their research. This approach ensures that AI technologies are not only relevant but also **practical and useful**, addressing the actual challenges faced in scientific work. Only by focusing on **collaborative partnerships**, we can ensure that AI tools are developed with a clear understanding of the specific requirements of each discipline, rather than imposing generic solutions that may fail to meet the unique needs of different research areas.

- **AI limitations and risks**

As the European Commission seeks to equip scientists with the knowledge to navigate the evolving role of artificial intelligence in research, it is crucial to address the **ethical, privacy, and security risks** associated with AI. Researchers must be fully informed of these challenges and supported in managing them responsibly. One of the key concerns is **intellectual property rights**. The issue of **who owns data**

and **who holds ownership of the texts and other outputs generated by AI tools** must be clearly defined. AI developers must **seek permission for the use of copyright-protected works** before these are integrated into AI systems. Furthermore, **remuneration and attribution** must be provided to creators and rights holders whose work contributes to the development of AI tools. These principles are essential to safeguard researchers' rights as creators while promoting the fair and transparent use of AI in scientific research.

Moreover, it is critical to ensure the **public accessibility of research data** and results. As AI tools become more central to research, there is an increased risk of **marketisation and privatisation** of publicly funded research. **Big-tech companies** must not be allowed to dominate or control access to research output. Strong and effective regulations must be introduced to prevent the monopolisation of research by large corporations and to maintain the openness of scientific knowledge. Mechanisms that hinder access, such as **big publishers and big tech claiming ownership** of research data or results, must be countered.

Another major concern is the potential **misuse of research**, particularly in the form of **"false science"**. The proliferation of **paper mills**, where large volumes of low-quality or fraudulent articles are produced to meet publication quotas, is already a significant issue in the publishing industry. This problem has been exacerbated by business models that reward quantity over quality, and it is further amplified by technological advances, including the use of AI. AI tools, if misused, could contribute to the spread of low-quality, misleading, or even fraudulent research, thereby damaging the credibility of science itself.

In addition, the **"publish or perish" culture** within academia contributes to pressure on institutions and researchers to publish frequently at the expense of research quality. This fosters an environment where **AI tools may be used inappropriately** to gain a competitive advantage, rather than to enhance the rigor of research. This underscores the urgent need for **core public funding** for research, to reduce dependency on the quantity of publications and focus instead on quality, impact, and societal benefit. Alongside this, **responsible research metrics** must be developed to evaluate academic work based on its integrity and contribution to knowledge, rather than the number of papers published.

Finally, **contractual arrangements** and **workload agreements** must be structured to ensure that academic staff are not overburdened and can engage with AI technologies ethically and responsibly. Balancing workload pressures with the need for thoughtful, careful use of AI is essential to prevent the misuse of these tools in the pursuit of career advancement.

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