

20 June 2023

## COMMENTS IN RESPONSE TO CALL FOR EVIDENCE ON “AI REGULATION: A PRO-INNOVATION APPROACH”

The Association for Computing Machinery (ACM) is the world’s largest and longest established professional society of individuals involved in all aspects of computing. ACM’s Europe Technology Policy Committee (“Europe TPC”)<sup>1</sup> is charged with and committed to providing objective technical information to policy makers and the general public in the service of sound public policymaking. ACM and Europe TPC are non-profit, non-political, and non-lobbying organisations.

Europe TPC is pleased to submit the following comments in response to the Government of the United Kingdom and Northern Ireland’s open consultation, “AI regulation: a pro-innovation approach – policy proposals.”<sup>2</sup> In this submission, Europe TPC reaffirms and builds upon its September 2022 “Initial Comments”<sup>3</sup> on the White Paper underpinning this inquiry.<sup>4</sup> In this document, general recommendations are again followed by Europe TPC’s responses to select inquiries from the online questionnaire associated with the current consultation.<sup>5</sup>

### GENERAL RECOMMENDATIONS

Europe TPC made the following overarching recommendations in its Initial Comments:

- 1) Environmental risks and impacts should explicitly be considered and addressed;
- 2) AI regulation must be compatible internationally to enable the technological interoperability needed to sustain a thriving global AI ecosystem;
- 3) Critical elements of the proposed cross-sectoral principles should be clearly defined; and
- 4) Development of an AI regulatory framework must remain a highly transparent process.

Europe TPC is gratified that the latter three of these four suggestions were accepted and are reflected in the present White Paper. We wish, however, both to reaffirm our unaddressed proposal that environmental risks must be addressed and to extend that initial recommendation. Specifically, we further urge that the policies and regulations ultimately

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<sup>1</sup> See <https://europe.acm.org/europe-tpc>.

<sup>2</sup> <https://www.gov.uk/government/consultations/ai-regulation-a-pro-innovation-approach-policy-proposals>

<sup>3</sup> <https://www.acm.org/binaries/content/assets/public-policy/europe-tpc-uk-ai-framework-comments.pdf>

<sup>4</sup> See Command Paper: CP 728 (updated 20 July 2022)

[<https://www.gov.uk/government/publications/establishing-a-pro-innovation-approach-to-regulating-ai/establishing-a-pro-innovation-approach-to-regulating-ai-policy-statement>]

<sup>5</sup> [https://dcms.eu.qualtrics.com/jfe/form/SV\\_cBDeiMplOHEXtYO](https://dcms.eu.qualtrics.com/jfe/form/SV_cBDeiMplOHEXtYO)

adopted consider not only the carbon footprint of AI systems, but also fully account for their wider environmental impacts including, but not limited to, land degradation caused by mining for materials and water consumed by cooling processes.<sup>6</sup>

Europe TPC also further recommends *de novo* in this proceeding<sup>7</sup> that the next iteration of the White Paper (or proposals next resulting from work to date) also should:

- 5) design nuanced requirements for generative AI technologies per the June 2023 *Principles for the Development, Deployment, and Use of Generative AI Technologies* ("Generative AI Principles"),<sup>8</sup> together with the principles of "legitimacy" and "contestability" as outlined in the October 2022 *Statement on Principles for Responsible Algorithmic Systems*,<sup>9</sup> both jointly produced by ACM's Europe and US Technology Policy Committees;
- 6) align the definition and treatment of "security" in the current White Paper with the UK National Cyber Security Centre's "*Principles for the security of machine learning*."<sup>10</sup>
- 7) adopt the definition of AI put forward by the Organization for Economic Cooperation and Development, as adopted by the European Commission;
- 8) foster the development of the workforce required to support a thriving AI ecosystem by expressly recognizing and promoting informatics education as articulated in the Digital Education Action Plan<sup>11</sup> developed by the EuropeTPC-supported Informatics for All coalition;<sup>12</sup>
- 9) propose relevant policy and regulatory guidelines for open model artifacts, as well as for open source frameworks and data;<sup>13</sup>
- 10) harmonise, to the maximum extent feasible, the UK's risk-based regulatory framework with the European Union's four-level "risk pyramid."<sup>14</sup>

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<sup>6</sup> Recent research highlights that training GPT-3 in a state-of-the-art U.S. data centre could consume up to 700,000 litres of freshwater. <https://arxiv.org/pdf/2304.03271.pdf>

<sup>7</sup> For ease of reference, Europe TPC's new recommendations have been numbered here consecutively with its original four, restated above.

<sup>8</sup> <https://www.acm.org/binaries/content/assets/public-policy/ustpc-approved-generative-ai-principles>

<sup>9</sup> <https://www.acm.org/binaries/content/assets/public-policy/final-joint-ai-statement-update.pdf>

<sup>10</sup> <https://www.ncsc.gov.uk/collection/machine-learning>

<sup>11</sup> <https://education.ec.europa.eu/focus-topics/digital-education/action-plan>

<sup>12</sup> <https://www.informaticsforall.org>. See also the coalition's *Informatics Reference Framework for School* (February 2022) [<https://www.informaticsforall.org/wp-content/uploads/2022/03/Informatics-Reference-Framework-for-School-release-February-2022.pdf>]

<sup>13</sup> Open models include publicly available versions of GPT-2 and variations of GPT-3, as well as transformer, language, and other models across various AI modalities (*i.e.*, text, audio, and images). Open source frameworks include PyTorch, Tensorflow, and SKlearn.

<sup>14</sup> <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>; see also IEEE Standard for System and Software Verification and Validation," in *IEEE Std 1012-2012 (Revision of IEEE Std 1012-2004)*, May 2012, doi: 10.1109/IEEESTD.2012.6204026 [<https://ieeexplore.ieee.org/document/8055462>]

***NOTE: The following also has been submitted online.  
It is reproduced here for completeness and ease of review.***

## **SELECT CONSULTATION ONLINE QUESTIONNAIRE RESPONSES**

***1: Do you agree that requiring organisations to make it clear when they are using AI would improve transparency? – STRONGLY AGREE***

***2: Are there other measures we could require of organisations to improve transparency for AI?***

Europe TPC supports the intent to require organisations to make it clear when they are using AI. We also note that many applications of AI are a component of a larger system for the delivery of a service or product and sometimes it may not be as clear how AI is impacting the system as a whole. For example, when users interact directly with an AI powered chatbot, the use of AI is more clear than when a user loads an e-commerce site that interacts with components and features using AI in the background (*e.g.*, for search, recommendations). It can be argued that it is certainly key for organisations to ensure they are clear when they are using AI, but the reasons for this would be primarily to ensure that organisations themselves have a complete awareness of the use-cases within their business where risk needs to be assessed, and to evaluate the “means of transparency” required proportionate to the use-cases themselves. In B2B contexts, the transparency will often be to enterprise customers or to auditors and not only to end users. Europe TPC also recommends mandating, as noted in our May 2023 *Comments to European Commission re Regulated Data Access Under the Digital Services Act*,<sup>15</sup> that technology company data be made broadly available in to maximise the transparency and accountability of complex and large-scale algorithmic decision-making systems.

***3: Do you agree that current routes to contest or get redress for AI-related harms are adequate? – STRONGLY AGREE***

***4: How could current routes to contest or seek redress for AI-related harms be improved, if at all?***

Europe TPC supports the principle that users and organisations be enabled to contest an AI decision or outcome that is harmful, particularly where existing rights have been or can be violated. We also propose that channels for whistleblowing and/or reporting these types of incidents be established in a manner that assures such concerns can be reviewed promptly, thoroughly, and fairly. These channels also must be set up in a way in which the level of overhead is not unreasonable and that is proportionate to the potential risk involved. -For example, a high-risk use-case might merit a formal channel for complaints that are reviewed by a human.

***5: Do you agree that, when implemented effectively, the revised cross-sectoral principles will cover the risks posed by AI technologies? – SOMEWHAT AGREE***

***6: What, if anything, is missing from the revised principles?***

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<sup>15</sup> <https://www.acm.org/binaries/content/assets/public-policy/acm-europe-tpc-dsa-comments.pdf>

As elaborated upon in its narrative comments above, Europe TPC reaffirms our four initial recommendations and particularly emphasizes here our unaddressed proposal that environmental risks must be addressed in this proceeding and to extend our earlier recommendation. Specifically, we further urge that the policies and regulations ultimately adopted consider not only the carbon footprint of AI systems, but also fully account for their wider environmental impacts including, but not limited to, land degradation caused by mining for materials and water consumed by cooling processes.

Europe TPC also urges (as also elaborated upon in its ten new numbered recommendations above) that: consideration be given to the nuanced requirements of generative AI, as well as to matters of "legitimacy" and "contestability [#5];" the definition of AI be aligned with those of the OECD and European Commission [#6] the definitions and treatments of "security" and "artificial intelligence" be refined and harmonised where possible [#7]; informatics education be promoted [#8]; "open models" be considered [#9]; and the UK's risk management framework align with the OECD's [#10].

**9: Do you agree that the functions outlined in section 3.3.1 would benefit our AI regulation framework if delivered centrally? – YES**

**10: What, if anything, is missing from the central functions?**

Europe TPC underscores, consistent with the second recommendation in our Initial Comments, the importance of ensuring that regulation prioritise the technological interoperability of AI systems with international regulatory frameworks.

**12: Are there additional activities that would help businesses confidently innovate and use AI technologies?**

Europe TPC would highlight the importance of enabling the UK's workforce to support a thriving AI ecosystem. We thus urge the Government to recognize and promote informatics education as articulated in the Digital Education Action Plan developed by the EuropeTPC-supported [Informatics for All](#) coalition.

**13: Are there additional activities that would help individuals and consumers confidently use AI technologies?**

Europe TPC would like to emphasise the importance mentioned in the policy paper on consumer trust and would like to highlight the Stanford's AI Index Report's 2023 analysis of consumer trust across the US, compared to other countries like China. We suggest that the UK might productively undertake a similar exercise to monitor consumer trust in the UK. See [https://aiindex.stanford.edu/wp-content/uploads/2023/04/HAI\\_AI-Index-Report\\_2023.pdf](https://aiindex.stanford.edu/wp-content/uploads/2023/04/HAI_AI-Index-Report_2023.pdf).

**14: How can we avoid overlapping, duplicative or contradictory guidance on AI issued by different regulators? – See response to question 10.**

**15: Do you agree with our overall approach to monitoring and evaluation? – SOMEWHAT AGREE**

**20: Do you agree that a pooled team of AI experts would be the most effective way to address capability gaps and help regulators apply the principles? – STRONGLY AGREE**

Europe TPC completely agrees with this point and looks forward to participating in such a pool.

**21: Which non-regulatory tools for trustworthy AI would most help organisations to embed the AI regulation principles into existing business processes?**

Europe TPC supports the UK Government’s perspective on the importance of “tools for trustworthy AI to support implementation.” We urge the government, however, also to propose relevant policy and regulatory guidelines for open model artifacts, as well as for open source frameworks and data.

## FOUNDATION MODELS

**F1: What specific challenges will foundation models such as large language models (LLMs) or open-source models pose for regulators trying to determine legal responsibility for AI outcomes?**

Europe TPC respectfully submits that consulting its latest AI-related analysis – “Principles for the Development, Deployment, and Use of Generative AI Technologies” – would assist it in this connection. See <https://www.acm.org/binaries/content/assets/public-policy/ustpc-approved-generative-ai-principles>

**F2: Do you agree that measuring compute provides a potential tool that could be considered as part of the governance of foundation models? – SOMEWHAT AGREE**

Europe TPC also underscores that the consideration of environmental risks and impacts will be particularly important for foundation models.

## ARTIFICIAL INTELLIGENCE SANDBOXES AND TESTBEDS

**S1: To what extent would the sandbox models described in section 3.3.4 support innovation?**

**Checkbox question responses:**

- Single Sector, single regulator -> Strongly support
- Multiple sectors, single regulator -> Strongly support
- Single sector, multiple regulator -> Don’t know
- Multiple sectors, multiple regulators -> Don’t know

**S2: What could government do to maximise the benefit of sandboxes to AI innovators?**

Sandboxes could be highly and especially useful to permit low-risk and rapid iteration in sectors characterized by long procurement cycles and large amounts of highly regulatory overhead.

**S3: What could government do to facilitate participation in an AI regulatory sandbox?**

We believe that it would be productive to provide sector-specific regulators with the mandate to enable low-risk rapid iteration environments for innovative technologies and organisations. Their responses could take the shape of accelerator programmes, research centres, innovation centres, university partnerships and many others. However, these may vary from sector to sector.

**S4: Which of the following industry sectors do you believe would most benefit from an AI sandbox?**

**Checkbox responses: Selected ...**

- Primary sectors
- Secondary sectors
- Financial services
- Transportation
- Healthcare
- Education
- Public sector