Developers Alliance Submission To The European Commission's Consultation On The White Paper On AI

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Developers Alliance welcomes the opportunity to provide our contribution to the consultation on the European Commission's White Paper on AI.

We support the twin objectives proposed by the White Paper. Our comments and suggestions refer to the appropriate approach to meet these objectives based on the expertise of the software developers that build and develop AI applications, and on developer's experiences in policy and regulation of technology.

1. On notions, concept and the proposed approach.

Policymakers are often preoccupied with the social impact of technology. Ethical problems, and follow-on legal and technical solutions for the responsible use of technology, are to be found throughout the history of science and technological development. Previous experience in addressing the societal impact of technological progress should serve the EU in the quest for the right approach to AI.

The tremendous benefits of AI must be kept in mind when deciding how rules should be built and applied.

AI is already widely present in our daily lives. It has many benefits that range from simple and invisible to radically transformational. The developer community is proud to build products and services, based on AI technologies, that transform lives for the better.

For example, developers have built AI systems that enable elderly people and people with disabilities to access essential information, services, and digital cultural content.[1] Assistive applications using AI, such as speech recognition solutions or virtual and augmented reality (VR/AR), have great potential to significantly improve the life of disabled persons by enabling better participation in society.[2]

In its introduction, the White Paper recognizes the benefits of AI tools and mentions the large scale opportunities that AI is offering (e.g. in achieving the Sustainable Development Goals). Unfortunately, this perspective is then lost in the text of the strategy.

AI systems are not inherently dangerous.

Like any other technology, AI provides many benefits when used appropriately. It is the misuse of AI, not its existence, that can lead to social risk.

As the historian of technology, Melvin Kranzberg, stated in his six laws, the outcome in using technology depends entirely on humans, its creators.[3] Kranzberg's First Law reads as follows:

> *"Technology is neither good nor bad; nor is it neutral."*
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> *"By that I mean that technology's interaction with the social ecology is such that technical developments frequently have environmental, social, and human consequences that go far beyond the immediate purposes of the technical devices and practices themselves, and the same technology can have quite different results when introduced into different contexts or under different circumstances."*

For example, the same AI tools that enable applications for people with disabilities can be misapplied with harmful consequences (e.g. facial or speech recognition). A restrictive

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[1] Digital Culture – Access Issues - European Parliament Briefing

[2] Plug And Pray? A disability perspective on artificial intelligence, automated decision-making and emerging technologies. - European Disability Forum

[3] Technology and History: "Kranzberg's Laws"

approach to the development of these specific tools might reduce the risk of misuse, but would certainly reduce the ability to improve people's lives. Addressing the risks associated only with how tools are used, on the other hand, will provide the necessary safety and security while fully maintaining the opportunities that AI technologies offer.

As the White Paper rightly indicates, one of its main objectives is "addressing the risks associated with certain uses of this new technology." This is not always properly reflected by the rest of the text. The optimal approach is based on the appropriate semantics and legal clarity. The regulatory intervention should address those special situations when the use of certain AI applications might pose high risks for users, not "high risk AI applications." Those situations should be clearly defined in order to avoid legal uncertainty and overregulation.

The white paper focuses only on precaution and overlooks innovation.

We are disappointed to see that the EC decided to adopt an approach based exclusively on the precautionary principle. The parallel objective, to stimulate the uptake of AI, is undermined by this disproportionate focus on perceived risks.

A "smart" policy and regulatory approach is the best option to support and encourage technological progress. Innovation suffers in sectors where a policy maker's unfounded fears result in measures that discourage experimentation. Further, this mindset can stand in the way of the general uptake of AI solutions, reducing the market for innovation. Regulatory measures should be "designed in a way that creates the best possible conditions for innovation to flourish," according to the EU Better Regulation policy.[4] Put another way, the innovation principle must complement the precautionary principle, especially when it comes to emerging technologies like AI.

The regulatory options should be fit-for-purpose.

The White Paper is proposing regulatory options that go beyond the main objective of "addressing the risks associated with certain uses of this new technology." By seeking to cover more than certain uses, these proposed regulations translate into complex legal requirements and administrative burdens that span the full lifecycle of AI systems.

Such a disproportionately broad set of rules can introduce "...barriers to the development of new, improved products and production processes. They can encourage or discourage research efforts by firms. They can distort the choice of technologies that are explored and adopted. They can create barriers to innovation by increasing the uncertainty and costs of the development process. And they can affect technology diffusion."[5]

AI is, in fact, a dual-use technology. In the introduction, it is clearly stated that the White Paper "does not address the development and use of AI for military purposes." While not all applications are dual-use, and not all applications are built with the intention to be dual-use, new forms of use can be discovered after systems are in the market. Any EU regulation affecting AI development will obviously have a direct impact on both civilian and military innovation.

The Single Market dimension is highly relevant, for both sets of proposals, for the "ecosystem of excellence" and "the ecosystem of trust." A harmonized approach across the EU is essential in achieving the proposed objectives, not only for the appropriate legal and governance frameworks but also to tackle the digital divide within the EU.

European developers and entrepreneurs don't need a new layer of red tape within the current fragmented landscape of the Single Market. We support the adaptation of existing legislation and would not support adoption of new regulations.

The Global dimension is equally important. Many AI systems, like the large majority of software solutions, are developed in a collaborative environment at a global level. The

[4] Ensuring EU Legislation Supports Innovation

[5] Regulatory Reform And Innovation - Organisation For Economic Co-Operation And Development (OECD)

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developer community relies on open source software from both inside and outside the EU. Any new requirements affecting advanced software solutions deployed in the EU must consider the impact on existing practices and avoid putting EU developers at a disadvantage. Global considerations such as the free flow of data, privacy and trust, and security must be reflected in any recommendations.

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2. *On a legal definition*

The proposed definition should be circumscribed to artificial intelligence technology as such and to the declared policy objectives.

The EC defines AI very broadly, as "a collection of technologies that combine data, algorithms, and computing power." The approach is focusing mostly on algorithms and data. These are basic components of AI development, indeed, but not the only ones. The proposed definition erroneously captures software and computing hardware generally, thus leading to legal uncertainty.

AI is defined in many ways and no agreed definition has yet been found. Instead of thinking about the perfect definition, an appropriate definition is largely a matter of context and the objectives being pursued. A definition used in an academic environment, for a paper on computing science, for example, might not be entirely pertinent and fitted to a regulator. The white paper is a policy document that proposes the options for a future regulatory framework. Therefore, the working definition should not be over-inclusive but should seek legal clarity, in order to serve regulatory purposes.

Differentiating AI from general-purpose software or hardcoded "expert systems" on the one hand, and from human intelligence on the other, would be a starting point fit for regulatory usage. In this case, AI refers to software that performs tasks that normally take human intelligence, i.e. tasks that cannot be pre-coded and fixed in digital logic. Typically, AI systems are also goal-seeking and evolve over time through exposure to a targeted problem space. In this sense, we can also differentiate AI as a software tool from generalized AI, which is theoretically untargeted.

The definition should describe those elements that are specifically relevant for any proposed regulatory approach. As previously mentioned, maintaining a distinction between automation and AI is very important. The use of advanced systems that learn from experience would highlight the most unique risks. Taking into consideration the proposed objective of the regulatory intervention, these types of technologies should be the subject of such a definition.

3. *On the ecosystem of excellence*

We fully support the proposed objective to "mobilise resources (...) along the entire value chain, starting in research and innovation, and to create the right incentives to accelerate the adoption of solutions based on AI, including by small and medium-sized enterprises (SMEs)." For example, digitalisation and AI will play a significant role in the EU economic recovery from the coronavirus crisis.

The EU needs an all-out effort to create a conducive environment for the development of and use of AI technologies. We agree that this should be directed to the following areas specified by the White Paper:

- **advance research and innovation in the EU**

The proposal to "create more synergies and networks between the multiple European research centres on AI" is appreciated. The excellence of the European R&D&I community needs to be coordinated in order to reach its full potential.

It is important to avoid any potential "academia monopoly" at the level of certain research centres. The "ecosystem of excellence" should uniformly cover all regions of the EU, providing

opportunities for researchers and innovators from all Member States. It is equally important to allow independent researchers and innovators outside academia to present and promote their ideas. The EU will also benefit from continuing international cooperation in R&D&I. A scenario of working in isolation will deprive European researchers and innovators of fruitful exchanges in ideas and collaborative projects with their fellows in other parts of the world.

The setting up of “testing and experimentation sites to support the development and subsequent deployment of novel AI applications” could be linked to specific Innovation Deals.[6] Such actions should not be strictly limited to the area of research but conceived as frameworks which not only allow researchers and innovators to develop new AI solutions but also go further and bring them to the market. This would provide a smart, flexible way to identify regulatory challenges as products are deployed. The public authorities will be able to identify the barriers to innovation and the appropriate ways to adapt/update the relevant regulations. This requires a flexible legal framework at the EU level.

- **ensure the necessary skills for the workforce and improve education and training systems**

These measures are essential. Without the right skills, the uptake of AI is impossible.

The updated Digital Education Plan and the new Skills Agenda should stimulate STEM programs and digital training programs focused on diversity and under-represented groups. These strategies should also promote and support digital skills training for persons with disabilities of all ages.[7] Other measures should include support accelerators and code camps for aspiring digital entrepreneurs, with a focus on AI development.

- **support for small businesses**

We welcome the focus on access to financing for startups and SMEs and we hope that the Digital Europe Programme and InvestEU will have an adequate budget in this sense.

EU and Member States should quickly adopt support measures for non-digital SMEs to adopt AI-based business tools which will help them compete in an increasingly digital marketplace. This is especially important in the context of economic recovery after the coronavirus crisis.

- **the adoption of AI tools across all public institutions**

We are convinced that increasing both digitisation of public administrations and their uptake of AI solutions will bring immense benefits for EU citizens. AI tools will raise the quality of public services, making them more responsive to citizens' needs. The OECD Observatory on Public Sector Innovation published an extensive guide to help government officials to understand AI and orientate them on specific issues related to the public sector.[8]

Innovative public procurement will not only allow the public sector to benefit from AI solutions in an efficient manner, but will also "encourage small enterprises with new ideas and reduce the risks for new technology start-ups.”[9]

A special note on data: Data represents only one of the building blocks of the digital economy in general and for AI development in particular. The creation of a constrained data system inside the EU should be avoided, as it would only create a disincentive for European innovators and entrepreneurs. We previously mentioned this in our contribution to the consultation on the European Strategy for Data.

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[6] Identifying Barriers To Innovation - European Commission

[7] Plug And Pray? A disability perspective on artificial intelligence, automated decision-making and emerging technologies. - European Disability Forum

[8] OECD Working Papers On Public Governance

[9] Guidelines For AI Procurement - World Economic Forum

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4. On the ecosystem of trust

We agree that the European regulatory framework should properly address the risks associated with the use of certain AI technologies. We also agree that a lack of trust could hold back a broader uptake of AI. The work of the High-Level Expert Group on AI in providing guidelines on building trustworthy AI is valuable in this sense, especially in that it represents the outcome of a multi-stakeholder consultation. The common ethical principles already established at the international level should be closely followed.[10] As the White Paper mentions, the EU actively participated in their development and endorsed this common approach.

AI is not developed and deployed in the EU in a legal vacuum.

The current EU sectoral legal framework is, of course, applicable to AI solutions in those domains. We recognize that issues related to the risk of specific AI applications may require a careful assessment of the existing legislation, followed by a targeted intervention to update it where necessary. The White Paper seems to support a fit-for-purpose approach, mentioning that “any changes should be limited to clearly identified problems for which feasible solutions exist.”

AI technologies can have dual-use, or new forms of use can be discovered after they are placed on the market. Other new, innovative solutions can always be discovered. This requires that the applicable legislation be future-proof and technology-neutral.

Regulatory sandboxes and Innovation Deals represent the appropriate approach for the development of innovative AI solutions in safe environments.

As stated in OECD Principle 2.3 - Shaping an enabling policy environment for AI:

“Governments should promote a policy environment that supports an agile transition from the research and development stage to the deployment and operation stage for trustworthy AI systems. To this effect, they should consider using experimentation to provide a controlled environment in which AI systems can be tested, and scaled-up, as appropriate.”[11]

Moreover, EU Better Regulation experts are warning that “EU regulation matters at all stages of the innovation process” and that “typically, more prescriptive, rigid regulation can hamper innovative activity by reducing the attractiveness of engaging in R&D, constraining modes of commercialization, and creating lock-in effects that force the economy into suboptimal standards."[12]

AI doesn't need a new horizontal regulatory framework.

A distinct regulation imposing a compulsory ex-ante conformity assessment will only set up a layer of redundant and overlapping obligations. The better option is a proportional regulatory approach that assesses the gaps in legislation that is already applicable. The process of adjusting the current legislation should follow the objective of addressing high risks and identifying where amendments or new specific provisions should be added, as *lex specialis*. For example, the use cases related to consumer protection could be easily addressed by amending that specific legislation.

We recommend an ex-ante risk self-assessment (similar to the data protection impact assessments under GDPR), complemented by ex-post enforcement. This approach would address the proposed objectives in a more efficient way, building on current industry practices and avoiding unnecessary burdens. This will allow developers to further innovate while still promoting caution.

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[10] OECD AI Principles Overview

[11] Shaping an enabling policy environment for AI (Principle 2.3) - OECD

[12] European Commission - How Can EU Legislation Enable and/or Disable Innovation,Â Jacques Pelkmans Andrea Renda

The "high-risk" formula should be applied case-by-case, according to the proposed cumulative criteria (selected sectors and use cases).

We fully agree that "the determination of what is a high-risk AI application should be clear and easily understandable and applicable for all parties concerned." In this sense, exceptional instances should also be clearly specified. Beyond this, however, extending liability to immaterial harm could prove extremely difficult and pose legal uncertainties - we reiterate our general remark on dual-use.

Addressing the risks associated with the use of AI systems should be done in an objective manner, balanced against the risks of alternative non-AI solutions. For instance, AI systems which insulate human operators from dangerous physical or mental tasks should be assessed relative to the risk reduction they enable. Restricting the use of AI solutions based only on a narrow assessment of potential and absolute risks, versus probable and relative ones, could imply higher costs and even lead to new types of losses.

Specific comments on the requirements proposed for an ex-ante conformity assessment:

On AI models, developers are making wide use of research data repositories, giving them access to international and EU open data sources, and open-source software libraries. It is important to consider this context when setting such requirements.

On training data, the requirements should be clear and avoid ambiguous notions (e.g. "sufficiently broad," "sufficiently representative," "dangerous situations"). The scope and the expected outcome of the AI system should be considered. For instance, some systems need to be "biased," therefore the models are deliberately trained on particular datasets (e.g. solutions used in healthcare to address problems specific to a certain category of patients). Sometimes biases are intentionally created in order to improve the learning performance for certain circumstances.

We strongly oppose the proposal to "re-train the system in the EU in such a way as to ensure that all applicable requirements are met," in case the conformity assessment shows that an AI system does not meet the requirements. In the context of open source as mentioned above, it would be impossible to meet this requirement. There is no guarantee that adequate datasets could be available in Europe for each situation - or that they might actually be more biased than non-EU sources. Such a restriction could easily lead to low-quality AI systems only applicable to the European market. The negative impact on consumers, innovation and businesses competitiveness is obvious.

On explainability, although there are ongoing developments on Explainable Artificial Intelligence (e.g. tools - Google's Cloud Explainable AI or research projects - DARPA's XAI Program), applying this principle as a standard for every AI solution might be implausible. We recommend a less prescriptive approach that considers the limitations of current technology. Just as in the case of certain categories of approved drugs, in which the specific mechanism of action relevant to therapeutic effects is unknown or unclear, it is reasonable to expect that complete explanations on how the outputs of some AI systems are provided might be impossible.

This becomes obvious when we consider that human decision-making processes aren't fully known, and that AI targets the same problems. One should avoid setting a higher standard on AI than human decision-making. We suggest the following, based on solid academic support: "the sorts of explanations for algorithmic decisions that are analogous to intentional stance explanations should be preferred over ones that aim at the architectural innards of a decision tool."[13]

On robustness and accuracy, we strongly caution against prescriptive norms that could negatively affect the development of innovative products and services. Again, there are existing norms in human decision systems and traditional software. Holding AI to a special

[13] Transparency in Algorithmic and Human Decision-Making: Is There a Double Standard? - ResearchGate

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standard would create an incentive for innovative developers to shift their work to other jurisdictions. This is a general comment that applies in relation to the other proposals too.

On human oversight, an approach requiring full human oversight at any time is disproportionate. It would lead to restrictions on the use of advanced techniques of machine learning, such as unsupervised learning. It should be understood the level of human intervention required varies, depending on the methods and tools used to develop a particular AI system.

The risk assessment should take account of the entire operational environment, where different levels of risk depend on different processes. A case-by-case assessment can highlight those situations where the decision-making process should not be entirely automated, and integrate human intervention or supervision. For example, in certain situations, a human vetting of the outcome might be sufficient. In others, human oversight might actually be counter-productive, for instance by re-introducing bias.

On the use of biometric systems, consideration should be made of situations where use is actually highly appropriate and beneficial. The use of such systems can create efficiencies in law enforcement, or highlight existing biases. Use cases such as prevention of violent crimes and terrorist activity will remain highly relevant. Governments could set conditions and limits in their usage to ensure public security while respecting the fundamental rights of citizens and the democratic values.

The proposed labelling system will create pressure on startups and scale-ups.

Even if voluntary, the proposed system will add additional costs and administrative burdens that only larger businesses can afford. SME access to the market could be hampered. There are already standardization efforts in the field of AI, early work in progress on common agreed approaches on essential concepts, governance and best practices for ensuring safety, privacy and security or transparency. But it is still premature to think that AI standardization could offer solutions at scale for the market. Developers already benefit from self-regulatory efforts that provide best practices in different software development ecosystems.

5. On the liability regime

We welcome the harmonized approach proposed by MEP Axel Voss in the European Parliament Committee of Legal Affairs draft Report with recommendations to the Commission on a Civil liability regime for AI. [14]

We provide some special remarks on the following aspects:

- There is no need for a complete revision of liability rules, only for specific adaptations.
- Civil liability claims only against the deployer of an AI-system is the optimal solution.
- The existing fault-based tort law of the Member States, in most cases, offers a sufficient level of protection for persons that suffer harm caused by another.
- The basic principles of the current product liability regime have proved their worth, and there is no need for a substantive change. This is also relevant for the burden of proof. The Product Liability Directive has proven to be an effective means of getting compensation for damage triggered by a defective product. AI solutions are already embedded in many products, and the existing legal framework has proven viable. An extension of the definition of “product” to software will introduce serious legal ambiguity.
- Adapted and sufficient liability insurance schemes could be anticipated, according to different liability rules for different risks.

The assessment of the appropriate liability regime for AI, as for software in general, should take into account the unique aspects of software development, especially in open source

[14] Civil liability regime for artificial intelligence - European Parliament Legislative Observatory

environments. It is often impossible to identify a single developer, or group of developers, as the unique creators of the systems under scrutiny. Usually, the code is subject to multiple iterations over time, and the system is constantly being optimized. The developers that wrote the reusable code put into an open source repository cannot be aware of how that piece of code will be further developed or used to build various AI applications.

We also welcome the main conclusion of the Report on the safety and liability implications of AI, IoT and robotics, "that the current product safety legislation already supports an extended concept of safety protection against all kinds of risks arising from the product according to its use." Here are some comments on the proposed areas for regulatory intervention:

- It is premature to adopt specific legislation considering the current state of development of AI-enabled fully autonomous systems. These projects represent good candidates for regulatory sandboxes and experimental legislation.
- Collaboration with humanoid robots should not be considered a priori as potentially harmful for mental health. On the contrary, human assisting robots are increasingly and successfully used in healthcare and care of elderly people with dementia, Alzheimer's disease, and other mental conditions.
- Features of certain AI agents embedded in products providing personalized and interactive services could be considered as anthropomorphic, and therefore could disproportionately be subject to strict rules.
- The notion of "faulty data" is unclear, as well as a possible obligation to maintain the quality of "the data at the design stage." We could foresee possible standards for ensuring the quality of the datasets used for training AI systems. In any case, products which contain embedded AI systems have to be compliant with the applicable safety requirements for placing them on the market.
- Any additional transparency obligations should be proportionate and justified. Trade secrets protection should be considered. The administrative burden for start-ups and small businesses should be always kept in mind.
- It is unclear why the current rules on product safety need to be adapted "in the case of a stand-alone software placed as it is on the market or downloaded into a product after its placing on the market when having an impact on safety."

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