Enhancing the resilience of Artificial Intelligence made in Europe

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Recognising that

- Artificial intelligence (AI) refers to systems that display intelligent behavior by analyzing their environment and taking actions – with various degree of autonomy – to achieve human-defined objectives such as predictions, recommendations, or decisions influencing the environments they interact with. Many AI systems have been already deployed to solve some of the biggest challenges like treating chronic diseases or reducing traffic accidents to fighting climate change or anticipating natural threats.

- AI is a fast-evolving and strategic technology with tremendous opportunities. However, some of its uses pose specific significant risks to fundamental rights, ensuring safety & transparency, and attributing liability. For that reason, It is essential to ensure that those who are the end-users and are impacted by AI can participate in the regulation process. This should be a lesson learned from GDPR implementation. It is worth mentioning that given the nature of AI its application may cause major harms at social level even when they cause only negligible harm to individuals (i.e., widespread disinformation).

- AI could contribute up to EUR 13.33 trillion to the global economy in 2030[1], and around 70 % of companies would adopt at least one type of AI technology by 2030, while less than half of large companies would deploy the full range.[2]

- AI with the convergence of other transformative technologies has the potential to overcome the physical limitations of labour and capital and to create a new basis for economic growth.

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[1] **USA-China-EU plans for AI: where do we stand?, 2018:** https://ati.ec.europa.eu/sites/default/files/2020-07/USA-China-EU%20plans%20for%20AI%20-%20where%20do%20we%20stand%20%28v5%29.pdf
[2] **AI Report The future of work? Work of the future!, 2019:** https://digital-strategy.ec.europa.eu/en/library/future-work-work-future

The new emerging technologies will have different impacts on jobs in the short and longer term. The OECD finds that across 32 countries, about one in two jobs could be significantly affected by automation, given the tasks they involve. [3]

- Europe is behind in private investments in AI thus larger investment rounds have been mostly driven by overseas investors. Therefore, European Union (EU) has a significantly lower number of tech scale-ups than the US and China, and scale-up financing lags that for start-ups in contrast with world-leading position of the EU's AI research community. [4] [5]

- Undoubtedly, AI has the potential to address some of society's largest problems. However, AI algorithms are only as good as the data being fed into them. For example, If the data is not inclusive or representative it contains discriminatory/ preferential bias, that will have a significant impact on subsequent decisions made by the AI systems. In such cases AI systems have reflected and amplified undesirable ethnic, gender or social biases that lurk within the datasets being used. [8]

- AI should be thought of, and treated, as a dynamic process[9], which involves multiple actors rather than a one-off product or service. The AI systems learn and evolve through time and data access creating not anticipated differential impacts post-release as they can be used significantly different from the initial developers' original intentions. For that reason, ordinary one-off product, or service approaches to understand AI fail to capture the complexity of how AI is used in the real world.

- AI is disruptively shaping the future of our societies across nearly every sector. To horizontally future proof EU, European Commission (EC) is launching a regulatory oversight (EU AI Act)

[3] **Economic impacts of artificial intelligence, 2019:** https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/637967/EPRS_BRI(2019)637967_EN.pdf
[4] **EU AI Strategy, 2018:** https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0237&from=EN
[5] **A New European Innovation Agenda, 2022:** https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0332&from=EN

for a wide range of AI applications since they share common features. However, the sectors in which they are deployed have different drivers, objectives, characteristics, technologies, organizational structures, and needs. Inevitably to ensure the effective implementation in the area of AI it is necessary to take context-sectors of application-into account[8].

Acknowledging that

- For several years now, the EU as a driving force has been working on a number of projects concerned with regulating AI. EC in 2020 published the AI White Paper[6], presented the first draft of the Artificial Intelligence Act in 2021, and now the second draft law in 2022[7]. In addition, the Czech Presidency published a new compromise proposal on the European AI Act on July 20, 2022, while intensive debates also take in the European Parliament. Moreover, EC is planning to issue new liability rules to the digital age and AI in 28th of September 2022.

- That EC initiate a huge public consultation process that involved multiple stakeholders from various backgrounds—citizens, academics, EU member states, civil society, as well as businesses and industry in order to ensure that AI made in Europe will be safe, lawful and in line with EU fundamental rights.

- The EU AI Act aspires to establish the first comprehensive regulatory scheme for artificial intelligence to set a worldwide standard, promoting a "human-centric" approach. EU focuses on regulating "high-risk" AI applications to anchor the strong protection of fundamental rights in a framework that encourages innovation and to enable a responsible rollout of AI globally. There is value in regulation of AI systems but being among the first authorities to do so will have broad global impact to the benefit of the EU (Brussels Effect).

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6 **EC AI White Paper, 2020:** https://ec.europa.eu/info/sites/default/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf
7 **EU AI ACT proposal, 2021:** https://eur-lex.europa.eu/resource.html?uri=cellar:e0649735-a372-11eb-9585-01aa75ed71a1.0001.02/DOC_1&format=PDF
8 **EIT AI Community Policy reports:** https://ai.eitcommunity.eu/
9 **Ada Lovelace Institute:** https://www.adalovelaceinstitute.org/blog/three-proposals-strengthen-eu-artificial-intelligence-act/

- EU is not leading the global race for Deep tech talent. Skilled researchers and potential academics have moved from the EU to the US, and the EU has been less successful than other OECD countries in attracting global talent at earlier career stages. In parallel, the EU's workforce is shrinking due to demographic change, and expected changes to the labour market resulting to growing skills mismatches and future shortages.[5]

YEPP Calls on

1. EU institutions and Member States to consider investing extra recourses in enhancing public sector capacity to promote a smooth collaboration with the private sector and regulators on whether a solution can be placed on the market and to improve the efficiency of public services.

2. The EC to offset some of the regulatory burden introduced through AI Act by providing technical recourses -data, computing infrastructure- as well as legal services (regulatory sandbox) accessible through a single online AI platform to SMEs, start-ups, and research bodies. This action will benefit the early-stage commercial innovation but more importantly the non-commercial and basic AI research which is critical to the long-term competitiveness of EU innovation ecosystem.

3. The EC to support EU citizens understand AI results and challenge/ complain about AI systems in use when their fundamental rights are breached promoting effective enforcement, inclusion and protection of democratic rights and values.

4. The EU Members States to consider the representation of different AI influenced sectors in the AI national supervisory authorities which will act as market surveillance authorities.

5. The EC to address issues regarding the accountability (with an emphasis on responsibility between "producer", "developer", "user" of AI), the transparency, the fairness, the algorithm explainability of AI systems and the ex-ante impact assessment of AI systems at social level.

6. The EU to reinforce and deepen the collaboration between EIC, EIT, EIB, Horizon Europe projects and other funding instruments to create an acceleration pipeline for European Deep Tech AI innovations.

7. The EC to ensure that the AI systems use training data, that is relevant, representative, inclusive, up-to-date to the best extent possible and explicitly both representative and inclusive considering state of the art statistics.

8. The EC to coordinate actions with Members States and Committee of the Regions to jointly identify regional AI skills/competences gaps in order to provide tailor made support to local Higher Education Institutes, Digital Innovation Hubs and businesses through Erasmus+ and EIT skills development programmes.

9. The EC to further promote the development of tools and actions that assist matchmaking between professionals, AI related courses and job offers.

10. The EC to continue to engage in fruitful dialogue with key global actor, so the EU driven common global standards to be achieved to the highest possible extent