INSTITUTE FOR POLITICS AND SOCIETY

elf

AI.EU

POLICY RECOMMENDATIONS / JANUARY 2020

EUROPEAN LIBERAL FORUM
INSTITUTE FOR POLITICS AND SOCIETY

WWW.LIBERALFORUM.EU

WWW.POLITIKASPOLECNOST.CZ

OFFICE@POLITICSANDSOCIETY.CZ

Summary

- AI should be the EU's true moonshot. We should not only develop safe AI but using AI to ensure the safety and security of Europeans. The overall narrative should be changed by showing examples of using AI for citizens' benefit.

- If Europe cannot fully compete in the development of AI in all areas, it should build on quality, rather than quantity of R&D and support a competitive AI ecosystem. The regional specialization should be embraced and the EU-wide AI hubs focused on such specific areas should be supported. DARPA style research calls should be set up to attract talents from outside of the EU.

- The EU should draw strict lines to prevent misuse of AI, similar to how the GDPR set clear rules for the use of technology without compromises. However, the legislation should be enacted only to answer market demand.

- New AI regulation should set clear rules to create legal certainty and support the development of AI, not to hinder innovations and undermine Europe's position in the AI race.

- Europe should focus on leadership in AI applications in line with fundamental rights and values. Its main competitive advantage should be a strong emphasis on unbiased, societally benefit and pro-democracy oriented AI applications, especially towards developing countries.

- Europe should embrace AI deployment to companies (esp. SMEs) ahead of China and the US, support the potential future champions and direct financial support towards this goal. It should be the ultimate tool for convergence of EU economies.

- All Europeans should have an equal possibility to gain benefits from AI and automation. It should be one of the goals for the planned European Future Fund.

1

AI.EU

1. European AI Moonshot

Digital economic transformation is driven by megatrends such as AI-supported automation and robotization. It should not be seen as a threat, but as an opportunity for the EU to modernize national economies, raise wages, and improve overall welfare. AI should truly become the new European moonshot. It is also necessary to bear in mind that despite a huge wave of attention in recent years, the technologies commonly known as artificial intelligence are still at the very beginning of their development and often quite immature. AI is at the beginning of the journey and will prove its true potential, as well as the impact on society, in the coming years or decades. The main role of public bodies should therefore be in the adoption of appropriate policies (especially removing regulatory barriers), investments in fundamental research and coordination, where necessary.

EU countries have huge research and business potential in the field of artificial intelligence. Given the nascency of the technology, the research funding from public bodies is increasingly necessary. This process is reminiscent of the development of the first internet protocols at universities in the second half of the twentieth century. Yet, when Member states are acting on their own, they can neither implement globally relevant commercial projects nor can they properly prepare for the political and economic impact of AI on our societies. Some coordination takes place on the EU level, e.g. Research and Innovation Strategies for Smart Specialisation (RIS3), Communication "AI for Europe" (see the box) and Coordinated Plan. They build on the assets and resources available to specific regions. However, they need more calibrating among EU countries.

> ### BOX 1: Artificial Intelligence definition
>
> *"Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications)."*

[1]

The key to European competitiveness in the area of AI is in the support of fundamental research, which is usually provided by public sources. As already mentioned, Europe lacks both Silicon Valley-style concentration and China-style massive scale, therefore some level of coordination and focus is needed to allow scientific teams to voluntarily team up and compete on the global level. The example of this approach has been demonstrated in the recent call for "vibrant networks of European Centres of Excellence" (Horizon ICT-048). However, European policy in the AI R&D is still scattered among too many stakeholders and the same ideas and research projects are often funded from different public sources. This leads to an inefficient allocation of scientific and financial resources caused by inefficient public policies, First, public

---

[1] It should be noted that there is no legally-binding definition of AI and such a definition for regulatory purposes threats to significantly undermine freedom of scientific research in the EU.

and private R&D centres should work on similar projects with a certain level of cooperation or at least information exchange. Second, politicians should reflect on the importance of AI not just on the EU level, but also in all Member states and commit their support. It will change the structure of labour markets and supply chains, and shift power on the global level.

China's acquisitions, along with its Digital Silk Road and the 16+1 format[2], are by far the best proof that the next struggle for dominance will be technology-driven. Third, all public administrations participate in EU or UN regulatory work on AI ethics and standardization, e.g. addressing matters such as the responsibility for algorithmic decisions and the technical compatibility of autonomous systems. Some countries have their own initiatives, but we need more coordination on the EU level.

The AI research done in the European way should neither copy Silicon Valley with its concentration of R&D, nor China with its focus on the number of outputs. EU should not direct the research but support and coordinate it to achieve higher efficiency on a free-market basis. The EU should prioritize the coordinated building of regional AI hubs with a pan-European specialization in selected fields of research and development, such as mobility, cybersecurity, or industrial robotics. This approach has been proposed for building the planned European testing facilities but is missing in the plan to build networks of European centres of excellence. Such centres, or hubs, should consist of not only top-level R&D but the whole ecosystem including spin-offs and startups. These promising companies should be built on an "AI-grid", that provides access to data and infrastructure while supporting open and fair competition. Financial support should be focused especially on high risk (B rating) projects in new technologies, as a further expansion of the Juncker plan. The monopolization natural for network industries may happen, but it should be an outcome of competition for monopoly, not any creation of European champions and protectionism. Europe does not have manpower like China or Big Tech companies like the US, therefore it should focus on talents in specific areas of groundbreaking R&D and, ultimately, agile and competitive companies that can scale-up globally.

Through bold investments and by acting in a coordinated and focused way, Europe should play a role in the area of AI that matches its economic weight. Only through deepened cooperation in pursuit of a common goal can the EU challenge major actors, such as the United States and China. If the EU wants to build on its strong R&D in AI as well as its technological tradition it should support efforts to organize networks of European centres of excellence and build cross-border world class testing facilities. The question where the public bodies should influence research and companies is still of the utmost importance. However, the fundamental research is most often financed from public sources and private research organizations are still very rare in the field of AI in Europe. Therefore, the EU should focus on building the true AI research superhubs based both on cooperation with the top researchers across Europe and the involvement of top researchers from all member states. The private resources and investments will be attracted to build a full-scale ecosystem around these research centres if the EU will adopt the right policies.

---

[2] The 16+1 format is an initiative by the People's Republic of China aimed at intensifying and expanding cooperation with 11 EU Member States and 5 Balkan countries.

The main policy areas to focus on are:

1. investments in knowledge and research,

2. investments in talent and human capital,

3. light-touch approach to regulation.

The real-human intelligence is essential to build an artificial one. It is therefore of the utmost importance to nurture talent, skills and life-long learning. EU countries face shortages of ICT (Information and Communication Technologies) professionals and lack AI-specialised higher education programmes. The Commission, together with European countries, committed themselves to supporting advanced degrees in AI through, for example, dedicated scholarships. Many governments have recently adopted AI strategies and pledged significant sums of money towards investments to economic innovation, with an emphasis on funding SMEs. The network of European Digital Innovation Hubs (DIHs) will be one of the most Important tools for this task. It would be very helpful to set out all of the conditions for planned European DIHs and their cooperation with SMEs, with a particular emphasis on the required European dimension.

Regarding the investments, the European Commission should outline specific plans for investments also in talent, skills and lifelong learning as stipulated in the Coordinated Plan. The current focus on the testing and transfer of technologies to businesses is very valuable. However, the EU should support the whole ecosystem to strengthen its global competitiveness in AI. Therefore, it is necessary to reconsider the support for AI hubs and/or European centres of excellence not only in the Horizon programme (see box bellow), but also in the new Digital Europe Program. Entire ecosystems can be constructed on the basis of this kind of support. Also, the DARPA style research calls (non-specific support for a certain amount of time) should be established to attract AI talents from non-EU countries.

We are still at the beginning of the AI era and the EU therefore rightfully focuses on support for research and development in the field. However, the implications of automated systems on economics and society amid the so-called four wave of AI can be huge. Besides the investments in AI research and development and creation of the regulatory framework for trusthworthy and human-centric AI, the EU should already focus on the application and deployment of AI systems via European companies.

4

2. AI the European Way

Europe needs to become more competitive in the AI game, therefore it should also pay attention to its specialization - the EU is an area with a high protection of safety and fundamental rights, as well as legislation which ensures that AI is both ethical and trustworthy. Therefore, Europe needs to define its own distinct approach to standards for AI. And given its economic weight, there is a possibility that the European standard could influence others in the world, just as it did recently on data protection and GDPR.

This European way of dealing with AI should be human-centred and value-based. Recently published Ethics Guidelines and Investment and Policy Recommendations (see box) are a good first step, but we need to move forward and draw clear lines for the usage of AI technologies such as facial recognition systems. The upcoming European Commission already pledged to present a new AI regulatory framework as one of its main priorities in its first 100 days. The main aim of this legislation should be to set clear rules that create legal certainty and support the development and deployment of AI, thereby focusing on drawing red lines of AI usage. If considered too strict, regulation can hinder innovation and undermine Europe's position in the AI race.

5

BOX 3: High-Level Group AI Guidelines and Recommendations

The EU started addressing the new ethical and legal questions raised by some AI applications. The Commission wants technologies to be based on European values and on respect for fundamental rights and therefore it has initiated the process of drafting AI ethics guidelines via the High-Level Expert Group on Artificial Intelligence. A European AI Alliance has been established to bring together a large number of relevant stakeholders, to exchange information also with representatives of the Member States. The Commission is also building on self-governing initiatives that businesses have developed themselves with their ethical code of conduct or similar initiatives.

A draft version of the ethics guidelines was presented in December 2018 and a final version was presented on Digital Day 2019 in May. The High-Level Expert Group also prepared Policy and Investment recommendations that were published in June. These are focused on more detailed policies and measures to be taken in the coming years such as the establishment of specialized Centres of Excellence, support for nurturing AI talents, special emphasis on the development of AI skills and educational system reforms.

The Commission also set up an Expert Group working on liability issues for emerging digital technologies; it is looking into the existing Product Liability Directive and beyond (i.e. into the broader challenges brought by these technologies and potential gaps in existing EU and national rules). It will also assist the Commission in setting out possible future orientations on liability, in a report due mid-2019 that will also look at the safety of these technologies.

There are three crucial factors that should have a wide social impact and will need to be considered from the ethical point of view in line with the guidelines:

- ***Responsible use of knowledge***
  AI systems will provide us with an unprecedented amount and quality of information. Currently, the data possessed by companies operating search engines on what people search for show "the mood" of a society, as well as hidden relationships and correlations between factors. It is crucial to discuss how we as a society will use anonymized data and analyse it with help of AI. We should be able to predict with a high degree of certainty what shall happen or what troubles people the most. How this powerful tool should be used depends on society as a whole. However, used depends on society as a whole.

- ***Empowering people and their activation***
  Over the course of time, AI will be able to perform more and more functions and, therefore, make the lives of people much easier. However, there is a hidden trap – instead of helping people to do more of what they like and have more time for themselves, this could produce passive behaviour in people and result in deterioration of their skills and competences due to their heavy reliance on systems working for them. For instance, the recommendation algorithms may help people to choose the right product and save money. AI-powered navigation can help find a better and faster way and save time, but relying on them may also cause overdependence. We can easily rely on such helpers for many tasks. Such algorithms can change our tastes, cause confusion, and possibly render us unable to choose. We may end up relying on AI recommendations of political parties based on its analysis of their manifestos.

6

Consequently, we may be rendered unable vote freely. In such a case, we can be certainly easily manipulated. Human nature and its biological functioning must therefore be taken into account when developing a certain technology and approaches such as behavioural economics should be employed. Such "thinking for us" can even cripple our minds and our spirit. Therefore, we should discuss what is the point when a person should be decided for and up to which point we can potentially let someone damage themselves by relying on AI and its decisions. We need to discuss whether there are some decisions that must never be taken away from a human being even though a person wants someone else including an AI system to decide for them.

- ***Strong support of democracy***
  AI wields a unique capacity to provide more power to those who use it. Therefore, individuals as well as companies, should be more empowered. However, there will never be a true equality in possibilities and influence. The new frontier should be power coming from information, the ability to retrieve knowledge from data and the ability to communicate with a huge number of other individuals. More than ever, democracy must be protected. Individuals should be guaranteed the right to base their decisions on correct and unbiased information, including information about its source (AI/human). It could be perceived as a parallel to a so-called "universal service" as formulated in the Universal Service Directive.[3]

BOX 4: European Council and Parliament

Whilst the main initiative in the area of AI lies still in the hands of the European Commission, the newly elected Parliament will certainly play an important role in coming years. Together with the European Council, it will decide on the scope of financial and political support and naturally will have the important role in shaping AI-related regulation. In the past, the EP has taken an active role in the area and established a specialized legislative observatory. MEPs also adopted several non-legislative acts, such as the Comprehensive European industrial policy on artificial intelligence and robotics Initiative (2018/2088(INI)), the Resolution on Civil Law Rules on Robotics, and most recently the Resolution on autonomous driving in European transport (2018/2089(INI).

In contrast to the previous approach to technologies, nowadays it is clear that we cannot get along without well-timed solutions to the questions of regulation and ethics. Leading scientists concur with big companies that ethics rules must be implemented within the development of algorithms. The same applies for ethical and legal manipulation with data, which are essential for artificial intelligence. In the regulation sphere, the rules must be cautiously set and adjusted so they do not prevent the development of AI, while simultaneously ensuring legal certainty for businesses and consumers. Moreover, experience teaches us that without laws, ethics themselves are not sufficient. It needs to be specified by law and reinforced by law. Regulation, especially in the form of the soft-law, should play a more important role than ever before to guarantee safety, transparency and freedom in a given society.

---

[3] Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services.

> **BOX 5: Future of Work**
>
> *AI-led automation, digitization and robotization can affect labour markets and cause definitive shifts of economic power from labour to capital. Unlike the usual industrial robots, the AI autonomous systems can truly replace human beings and their decision making in many areas, not only in industry, but also in services. These trends will create new opportunities and new types of jobs. Professions will change, new skills will be required and it will be necessary to adapt to these changes. Some of the main necessities will be to invest continuously in Research and Development. However, the adaptation of skills for jobholders to get ready for this next important technological step will be of key importance. It will impact not only low and mid-level jobs, but all types of employment. In the future, the workplace will be characterized by intense collaboration between human beings and machines. Technology-driven changes in labour markets and entire societies may cause a rise in all forms of inequality. The income and wealth disparities in the United States have already risen to heights not seen since the Gilded Age. This results in growing inequality – the bottom 90 percent of US population has only 20 percent of the wealth, while the top 1 percent has upped its share to 40 percent. The AI may cause similar changes to the European labour market.*

3. AI for European Democracy

The upcoming European Commission clearly stipulated "digital for democracy" as one of the pillars of its policy. According to the Commision, it is the third and equally important building pillar for European AI ecosystem. Europe should focus on leadership in AI application in line with fundamental rights and values. The main competitive advantage for European companies of all sizes should be strong emphasis on unbiased, societally benefit and pro-democracy oriented AI applications, especially towards developing countries. It is also the only way to maintain liberal democratic capitalism, the system that helped to build prosperity hand in hand with respect for equal rights, freedoms and opportunities.

The AI-powered systems will undoubtedly gain immense influence not only economically, but also socially in the coming years. If those systems will not be developed under the right framework with regards to fundamental rights and democratic values, they may severely undermine the future of both. The authoritarian or totalitarian states like China are already misusing AI technologies and systems to oppress minorities and political opponents. Such algorithms should not be imported to Europe for use by neither public nor private entities on EU citizens. On the contrary - the EU should aspire to create a new global standard for artificial intelligence based on the protection of fundamental rights and freedoms. This should become one of the main competitive advantages of European companies in this area.

Also, the AI-driven transformation of the economy should not cause further increases in economic inequality among people or between countries, that may lead to further political and social polarization at the domestic, regional and European levels. All Europeans should have the equal opportunity to gain benefits from AI and their rights should be equally protected. The truly autonomous systems may affect the global world order and embrace or undermine liberal democratic capitalism in many ways - from undermining the economic system by fastening the monopolies and leveraging their economic power to new markets, to changing the organization of industries and companies, to undermining the very roots of democratic process by creating deep fakes.

8

The EU's approach should therefore be applied not only internally, but also towards developing countries in the AI race. The EU should embrace AI-driven autonomous systems ahead of China and the US. The EU should also support SMEs and startups to help raise future business champions through financial investment. It should also be the ultimate tool for convergence of EU economies. Europe and Member states` governments should support it by extensive investments to innovations in competition with non-EU countries. Any policies should avoid underestimating Chinese corporations. However, measures should not be based on limitations or any form of protectionism. The planned European Future Fund, a sovereign wealth fund that would invest €100 billion in European digital startups, should therefore focus more broadly on this issue.

The EU should support the development of value based trustworthy AI systems and their export on the global scale. Europe should embrace its own AI companies` expansion to the third markets and cement their competitive position EU support should account for all applicable rules on AI startups in order to allow them to scale up globally. As a result, EU businesses should have comparable conditions to those that other superpowers provide to their companies to expand globally. The EU should support the transfer of top-level R&D, but it should also help the traditional companies to modernize. This policy should be an integral part of the EU's approach to AI from the very beginning, otherwise we could face serious socio-economic disturbances in the near future. The deployment of AI via the planned European DIHs is a very good tool, but it is not sufficient to support the modernization of EU economies and their expansion to other markets.

Europe was built on liberal-democratic capitalism and the only way to preserve it as a driver for prosperity, freedom and innovation is to employ all the three pillars of AI at the same time: R&D, regulatory and fundamental rights frameworks, and support for companies.