



A Liberal Blueprint for Artificial Intelligence in Europe and Beyond

Abstract:

Artificial Intelligence (AI) is already part of our lives, transforming our world and our societies. AI will play an increasing role in our everyday lives, improving our quality of life, offering new opportunities and opening new perspectives for individuals and businesses, across all sectors.

AI can make a huge contribution to reaching our common goal of improving the lives of our citizens and fostering prosperity within the EU. As a strategic engine of productivity and economic growth, it will increase global GDP in the years ahead.

In areas such as health, agriculture, energy, transport, climate and various industrial processes AI can contribute to the development of better strategies and innovations. Its development is also a condition to reach the sustainability goals of the Green Deal in many different sectors. Digital technologies can boost the impact of policies in delivering environmental protection.

renew europe.

About Renew Europe Group

The Renew Europe Group is a coalition of progressives, liberals, democrats and reformists, that make up the largest centrist group in the history of the European Parliament. Brought to you from the European Liberal Forum, this new reference series aims to disseminate Renew Europe Group positions to the wider liberal family, policymakers and industry stakeholders, civil society and the general public. While, at the same time, the position papers will raise awareness on a number of issues and policy sectors, from sustainability and climate change, to democracy and the rule of law, human rights and fair competition.

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About ELF

The European Liberal Forum (ELF) is the official political foundation of the European Liberal Party, the ALDE Party. Together with 47 member organisations, we work all over Europe to bring new ideas into the political debate, to provide a platform for discussion, and to empower citizens to make their voices heard. Our work is guided by liberal ideals and a belief in the principle of freedom. We stand for a future-oriented Europe that offers opportunities for every citizen. ELF is engaged on all political levels, from the local to the European. We bring together a diverse network of national foundations, think tanks and other experts. In this role, our forum serves as a space for an open and informed exchange of views between a wide range of different EU stakeholders.

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Therefore, a European operational framework is of key importance in avoiding the fragmentation of the Single Market, resulting from differing national legislations. Thus, we need to act at the European level in terms of a framework for investment, data infrastructure, research and common ethical norms.

Our Union remains the largest economy in the world with a GDP per head of €25 000 for its 500 million citizens. We shall pursue our aim of becoming the leading continent in digital technologies in order to ensure Europe's digital, industrial, operational and technological sovereignty. Several economic sectors where the EU is a global leader could benefit from the development of AI. For instance, Europe is home to three of the world's largest producers of industrial robots and is also home to the world's biggest producers of motor vehicles.

Despite these assets, AI is still at an early stage of development. Most European companies and institutions do not employ AI on a significant scale and Europe needs to do more to facilitate access to data. Therefore, we currently have a unique opportunity to shape this new-generation technology in a way that enhances opportunities for our entrepreneurs and developers and encourages them to invest and innovate.

However, the use of AI systems also raises a number of ethical challenges. It has the potential to create discrimination and inequalities and to call into question human autonomy. Thereby, we must recognise, harness and promote its benefits for our society, while democratically deciding the limitations which need to be laid down and which safeguards should be provided to ensure the deployment of ethically embedded AI that respects the European Charter of Fundamental Rights.

Renew Europe welcomes the new fundamental rights and freedoms. Commission's commitment to come up with a White Paper on AI, followed by a make full use of the existing legislative initiative on the ethical aspects framework.

1. Accountable and Trustworthy AI

An Artificial Intelligence that respects fundamental rights

As a pre-requisite, AI should be a humancentric technology. It should not substitute human autonomy nor assume the loss of individual freedom and should first serve the needs of the people and the common good. Renew Europe strongly believes in an approach to AI that is based on the fundamental rights, freedoms and values enshrined in the EU Treaties, the EU Charter and international human rights law.

However, technologies function and depend on how we design them. For example, the complexity of algorithms may lead to bias. Biased data can lead to biased outputs and to discrimination based on social, economic, ethnic, racial, sexual, gender, disability status or other factors.

In this regard, we shall ensure that legislation guarantees everyone's rights, in particular those who are the most vulnerable. Furthermore, we should avoid AI systems becoming a factor of inequality, social fracture and exclusion. Therefore, Renew Europe calls on the Commission to screen current legislation and assess if it addresses effectively the risk of biases and discrimination that may exist in AI systems.

An Artificial Intelligence that protects our privacy and data

AI can particularly affect the fundamental right to privacy as new technologies function with data as a key ingredient and it could be potentially used to de-anonymize data. Renew Europe fully defends the principles established in the General Data Protection Regulation 2016/679, as a guiding principle in the development of AI. This regulation includes necessary and proportionate use of data, consent by the user, clear information about the rights of the data subject, the data subject's ownership of their own data, visible and legible explanation about the use of data, no profiling and respect of Article 22 regarding automated decision-making.

General and indiscriminate data retention is unjustified in a democratic society and exceeds the limits of what is strictly necessary. Renew Europe underlines that the EU's principles on data retention - as stated in the ruling of the Court of Justice of the European Union against data retention directive¹ - shall guide the future AI framework.

1 Grand Chamber, 21 December 2016, Joined Cases C 203/15 and C 698/15

A framework that guarantees an ethically embedded AI

The increased use of technologies has improved our quality of life but also led to the development of models of societies in third countries that we do not want to import in the EU. As a legislator, we need to act swiftly in order to prevent such developments. Renew Europe strongly believes that the legal framework governing AI should ensure the development of trustworthy, ethical, and technically robust AI, based on our fundamental values and fundamental rights and guided by the principles of transparency and explicability, fairness, accountability, and responsibility.

Renew Europe calls, therefore, on the Commission to assess in detail the current ethical risks, notably in terms of biases related to the use of AI technologies in their entire lifecycle and to propose solutions to address them. Our priority is to have a common set of standards and targeted measures, enabling the development of ethically embedded AI within the European Union.

As part of the next steps, Renew Europe believes that producers and operators shall, as far as possible, evaluate and anticipate the risks of misuse of their own technology, potentially caused by a cyber-attack, in order to respond effectively if the problem arises. Where appropriate and proportionate, producers should equip their system with means to record information about the operation of the technology. In addition, the Commission should conduct impact-assessments and then propose sectorial requirements on a risk-based approach.

At a time of growing expectations for companies to be more socially responsible, such an approach shall constitute a competitive advantage on external markets and ensure a level playing field in the EU.

The Artificial Intelligence within the framework of public power decisions

The benefits of deploying AI in the public sector are unquestionable. It can, for example, improve health policies, personalise the public service to citizens, or detect anomalies, by highlighting cases, which stand out from others larger data sets. These benefits can better serve citizens if European and national institutions address the "digital gap".

However, the most severe misuses, such as mass surveillance, predictive policing, and breaches of due process rights can also come from public authorities' use of AI.

Thus, and especially given the uptake of AI technologies in the public sector is increasing, Europe should set global standards in the ethical, transparent, and democratically controlled use of AI in the public sphere. Consequently, technologies that can replace public authority decisions should be treated with the utmost precaution, notably in the areas of justice and law enforcement.

Competent authorities should be able to undergo special training in relation to the ethical provisions and standards of AI. In this regard, the Commission should

propose to expand the mandate and resources of the European Union Agency for Law Enforcement Training (CEPOL) accordingly, in order to accommodate specialized training dealing with AI. Such trainings should be updated and cross-checked against the best available European standards. In this regard, the use and application of AI by competent authorities should be subject to the latest auditing, certification and risk assessment valuations.

Renew Europe believes that Member States should have recourse to such technologies only if there is thorough evidence of the trustworthiness of the algorithm and if human verification is possible or systematic in cases where fundamental liberties are at stake.

As regards the right to appeal and redress, Renew Europe considers that any decision taken by an algorithm within the framework of prerogatives of public power should be subject to strict human verification and due process. Thus, as far as the technological progress could advance, machines should not be enabled to harm the physical integrity of human beings nor to distribute rights or to impose legal obligations on individuals. In addition, the Commission should call on public national authorities to undertake strict fundamental rights impact assessments for AI systems deployed in the public sector. Authorities should avoid having recourse to any AI surveillance technologies (such as facial recognition software) before the results of the impact assessment are known and, if necessary, the relevant legislation regulating the use of these technologies is adopted.

Future initiatives at European level should set strict standards on AI systems used by public authorities to ensure absence of bias, transparency, accountability, significant human oversight, and liability.

Transparency, explicability and right to redress AI decisions

We will achieve trust in AI only if citizens as well as professionals using algorithms understand how these work and know how their data is being used and valued. Citizens should therefore have the right to be informed when a system uses AI, when AI systems personalise a product or service to its users and whether they can switch off or restrain the personalisation.

However, AI algorithms are becoming increasingly sophisticated and can become indecipherable. As AI systems evolve by “learning”, they should be as transparent as possible whilst still taking into account the need to respect trade secrets. Transparency measures should be accompanied by clear and understandable explanations of the data used, of the algorithm, of its purpose, of its outcomes, and of its potential dangers, as far as is technically feasible.

AI systems that are deemed high-risk should be able to submit to and successfully pass strain tests with outlier data, and the correlation between training and outputs should be replicable. Furthermore, the Union should establish auditing, certification and risk assessment systems with the aim to provide companies and

users with some certainty towards the explicability and AI black box problem². Mutual recognition of such schemes between Member States is crucial.

Transparency, nevertheless, is a means for accountability. Any decision taken by an AI system affecting an individual should be subject to review by a human being, if need be. In cases where a trade secret is at stake, citizens should be allowed to turn to a national or European authority, which would assess the validity or the relevance of the decision which has been taken, without publishing protected data.

Additional requirements on a risk based approach

Europe's approach to AI should take into account segmentation of potential regulation based on risks where major interests are at stake. This approach should focus on specific sectors (such as health and transport) and uses of AI (such as a decision to grant a loan or not). Therefore, our goal is to have a balanced EU framework, which would allow companies to introduce innovative products into the market and create new opportunities while still ensuring the protection of European values and ethical requirements.

The use of Artificial Intelligence in elections

Election manipulation and unlawful interferences with democratic processes are direct threats to our democracy, values, and freedoms. Thus, future regulation should set a global example in sanctioning misuses of AI-powered systems for subverting or undermining free and democratic elections.

Institutional oversight allowing for public trust

Safeguarding our values and freedoms is a crucial objective. Thus, Renew Europe asks the Commission to explore using existing agencies (for example ENISA, EDPS, or the Ombudsman) to audit and certify AI algorithms and systems that have a systemic impact in their respect of fundamental rights, proper and legal deployment, accountability and safeguards.

The Commission should also explore the possibility of entrusting the relevant agency with enforcement and sanction mechanisms so that actions can be taken if an AI system violates our fundamental rights or the European ethical and security framework, without publishing commercially sensitive data.

It would also be in charge of providing, where possible, a comprehensive explanation on the reasoning behind the decision. The responsible institution must be equipped with the necessary technical means and function in coordination with the equivalent national authorities. This mechanism should function quickly and efficiently without replacing national and European jurisdictions.

² Many AI techniques display nowadays some characteristics of a "black box" model i.e. we know what goes in and what comes out of the algorithm, but we do not have a full understanding of its inner workings. This limits the scientific understanding of algorithms, the capability to recover from adversarial examples, and complicates human supervision in practical applications.

2. A True Single Market for AI

AI more than any other technology needs a true single market to develop. Market fragmentation will prevent companies to use data, to scale up rapidly and to create synergies and economies of scale. More harmonisation with a high level of protection of consumers across all Member States is also the best way to build trust to Europeans when using services of buying goods cross border and facilitate the development of technologies. European companies will be able to compete at international level only if the Digital Single Market is fully completed. For this purpose, the Union should undertake a number of steps, among others, in the area of existing legislation, research and innovation and public procurement.

Completion of the Digital Single Market

The European Union has been lagging behind in many key digital areas. As a result, our companies have not had the possibility to scale up. This concerns the uptake of new digital technologies in Europe - especially if compared to the North American and Chinese markets - where larger economies of scale are a reality. Therefore, the completion of the Digital Single Market must be a priority.

At present, Europe especially lags behind other continents in research and patents in AI. We need to stress the importance of European projects in cloud computing and high-performance computing as these play a crucial role in the development of deep learning algorithms and mega data processing. Furthermore, these technologies are essential in ensuring the competitiveness of the wider innovation ecosystem in which AI can thrive.

Periodic assessment of the European regulatory framework

As a transformative technology that is characterised by its autonomy in decision-making, AI has the potential to challenge legal notions such as responsibility and legal personality due to the increased number of actors involved in development, distribution and use. An adapted and proportionate liability regime, along with an adequate insurance scheme, would allow companies to invest without facing a lack of clarity due to existing loopholes and would increase citizens' trust in new technologies. This is of key importance as the presence of AI may increase safety risks in some cases. Renew Europe believes that liability should always lie with natural or legal persons; we oppose the idea of attributing a legal personality to devices.

Concretely, the Union should update European rules for the liability for defective consumer products to fit the specific characteristics of AI-based products. In addition, we believe that the Commission should evaluate the mandatory safety

requirements that exist in the Machinery Directive 2006/42/EC and the Radio Equipment Directive 2014/53/ EU, that are applicable to robots, in light of the new technological developments.

Furthermore, we should screen the existing AI standards in place and consult with businesses and other stakeholders to understand which new standards they need. The Commission should also examine if some mandatory standards would be required to ensure, for instance, the interoperability ensure, for instance, the of systems. Given the advantage in the number of votes that the EU has in the global ISO system, we have often seen that European standards can easily become global standards.

Renew Europe considers that the Commission should publish, where necessary, guidelines for the use of AI in the public procurement sector and make sure that the public sector has a sufficient and adequate data architecture.

These examples show that our legislation should be up to date with the rapidly growing technological progress. We believe, therefore, that the Commission should carry out a periodic assessment of the European regulatory framework related to AI, starting with liability as well as product safety and consumer and data protection rules. This assessment should aim to analyse whether our laws are fit for the digital age in view of the legal issues that will arise in the coming years.

Research and Innovation

All Member States should be encouraged to put in place national AI strategies and plans as soon as possible. There should also be an AI scoreboard in addition to the Digital Economy and Society Index (DESI) report or at least a separate and specific indicator on AI within DESI. We should also investigate the merits of setting up AI centres of excellence in Member States.

In addition to acting at MS level, we must bundle our research activities on AI: instead of having various uncoordinated national AI programmes, we should pool these efforts together and capitalise from Europe's diversity. The EU needs to invest more in research and innovation to leverage national public and private investments. A coordinated approach will help attract first class AI researchers and innovators to boost Europe's innovation ecosystems. Additionally, an EU-wide monitoring effort should be in place to report on the development of AI technology.

The EU should make use of the many existing instruments such as the European Innovation Council (EIC) and the European Institute of Innovation and Technology (EIT) to foster collaboration between academia and industry and to turn technology research into market-ready products.

The newly proposed Digital Europe Programme foresees a framework to build on the success of digital Hubs (constituted under Horizon2020) by strengthening and expanding the network of competent Digital Innovation Hubs all over

Europe. This will be the first step towards offering a one-stop shop interface to public and private actors to look into tested technologies. Another viable approach in the coordination of Member States' activities in AI could come from having a structured dialogue among national AI centres and testing facilities. In order to develop infrastructures, the Joint undertaking on EHPC is the first step that the Commission needs to reinforce in the future.

Industrial uptake

Digital infrastructures that provide high quality, fast and secure connectivity are prerequisites for the integration of AI technologies into our economies and societies. The EU and all Member States must continue to promote measures that encourage investments in high-capacity networks.

The upcoming long-term strategy for Europe's industrial future, which aims to advance us towards industry 4.0, as well as the forthcoming SME strategy require that we facilitate access to AI technology and tackle the development of advanced digital skills. A comprehensive consultation of public and private stakeholders should be the starting point to design an industrial strategy that will allow any company, no matter its size, to invest in AI solutions without excessive administrative oversight, while counting on legal certainty. AI needs to be accessible in particular to SMEs and start-ups through, for example, effective and enhanced European Digital Innovation Hubs or regulatory sandboxes.

New strategies should further support the growth and scale-up of innovative SMEs and start-ups, notably by addressing non-technical barriers (e.g. facilitate access to finance, reduce administrative burden), providing advice and networking opportunities as well as developing testing and experimentation. The enhanced European Innovation Council will play an important role in this regard.

Skills and European talent

The jobs landscape is changing profoundly. About 40% of today's children will work in jobs that do not exist yet. We need to address the skills gap and adopt strategies to develop the skills of tomorrow, including an entrepreneurial mindset. These strategies should also aim to address the issue of "brain drain". We must be better at retaining and (re)attracting European and foreign talent, and we need to increase the representation of women in the digital sector. To ensure that AI reflects our fundamental values and rights, it is also important to diversify the technology sector and encourage students, in particular girls, to enrol in STEM courses, to avoid "gender-biased" programming in algorithms. Furthermore, we call for a Programme for European AI teaching posts, a European wide academic AI exchange programme and university networks.

Financing of AI

The Digital Europe Programme, Horizon Europe, the digital part of the Connecting Europe Facility (CEF) and related budget considerations will play a key role as we aim to boost EU investments in digital transformation. We should ensure synergies and complementarities between all relevant instruments and funding programmes.

The Digital Europe Programme, with a proposed budget of 9.2 billion euros (including 2.5 billion directly into AI) focuses on building the EU's strategic digital capacities and on facilitating the wide deployment of digital technologies used by Europe's citizens and businesses. We need to ensure that this new programme will become a reality.

Renew Europe underlines the necessity to coordinate investments made at European, national and regional levels, and we support cooperation with the European Investment Bank as well as national banks. As AI and other emerging disruptive technologies are capital intensive, the EU should aim to develop a dynamic EU-wide investor community. The EU should foresee the further development of financing instruments to leverage private capital, building upon the increase of equity investments in AI start-ups. The European Artificial Intelligence and Blockchain Investment Fund is a step in the right direction in this regard.

3. Valuing our Data for Businesses and Citizens

Free flow of non-personal data is a pre-requisite for a competitive data economy within the Digital Single Market. We need to ensure the free flow of data to fully unleash the benefits of the data economy, allowing companies and public administrations to store and process non-personal data wherever they choose in the EU. The new Commission should ensure the full implementation of the recently adopted regulation as well as all other relevant elements adopted in the Digital Single Market strategy of 2014 - 2019.

The Commission should also adopt a new European Strategy on Data to facilitate the exchange of data in Europe, the fuel of AI solutions, with full respect of our legislation on privacy. Policies should also encourage the wider availability of privately held data and adopt legislation to improve data sharing/data exchange while taking into account that a one-size-fits-all approach might disproportionately burden SMEs.

Companies and citizens frequently use "clouds" for data storage. As digitalisation is moving forward in a rapid pace, questions arise on how to safeguard our data from third party interference. Because most of the major data storing facilities are outside the EU, we cannot guarantee their integrity via EU law. The Commission has already launched the European Cloud Strategy and several initiatives have followed, such as the cloud computing certification system (e.g. the NIS Directive and the legislative act on cybersecurity), infrastructure projects (Important Projects of Common European Interests (IPCEI), continuation of the current public- private partnership on 5G).

The new EU Regulation on platform-to-business relations (P2B regulation) deals with issues related to access and (re-)use of data in platform-to-business relations. As it entered into force in July 2019, we must prioritise its enforcement. The quality and interoperability of data as well as the access to data to SMEs and start-ups are crucial for AI and a prerequisite for a European strategy towards a single market for data. Thus, we should promote better coordination and cooperation in data.

The many opportunities of gathering data resulting from an increasing use of AI applications in space activities should not be underestimated either. When designing the future European Industrial Strategy, the Commission should look into promoting synergies with the new Space Programme, in close collaboration with the European Space Agency (ESA) and the European Global Navigation Satellite Systems Agency (GSA). This will allow us to build on ESA's early experience in applying deep learning to spacecraft navigation, and in using AI to plough through vast amounts of data to extract information and in managing satellites operations.

AI also has the potential to improve European cyber defence capabilities, providing greater resilience and robustness in our ICT systems. However, AI can inevitably also contribute to cyber-attacks. The Commission should assess the benefits as well as security risks of the application of AI in cybersecurity and evaluate the need for better prevention and mitigation measures thereof.

Data not only has value for businesses, but also for consumers. Big Data also has the potential to give automated and personalised protection of consumers. The Commission should explore how consumers can be better empowered via the use of automated systems that optimise offers to their profile and help raise awareness of their rights, without hampering their ability to access diversified offers at all times.

In the health sector, the combined use of Big data and AI technologies applied, for example, to the human genome has led to considerable advances in the treatments for cancers and emergence of predictive medicine (calculation of individual risks factors for various diseases).

It is important for scientific advancement to ensure the ability to share and process health data in sufficient depth and detail. Therefore, the challenge lies in finding the right balance between privacy protection and data utility. An appropriate degree of anonymization should avoid excessive data minimization, and be linked with an assessment of the utility and of the level of risk of re-identification.

4. European Strategy for International Leadership

Future defence initiatives

AI is also becoming increasingly relevant for military purposes - an area often characterized by an immense density of information and a high speed in the processing and evaluation of information. In all dimensions, time, speed and responsiveness will be decisive criteria for the successful conduct of operations.

With the increasing importance of research and development in the private sector, and massive investments from third countries such as the United States and China, Europe is facing competition and is, simultaneously, at risk of losing its strategic autonomy in this area.

The European Defence Fund (EDF) and Permanent Structured Cooperation (PE-SCO) should stimulate cooperation between Member States and European defence industries to develop new European defence capabilities in the field of AI and ensure security of supply. Of course, ethical considerations play a key role when developing AI in the defence sector, and the mobilisation of the fund must take place within this framework.

It should be noted that the potential use of AI for creating autonomous weapons systems and other systems that enable to end human lives is of particular concern for the protection of human rights. Renew Europe believes that the defence area must be covered by an ethical framework taking into account the specificities of the sector.

Global Leadership on Artificial Intelligence

The EU should aim to act as a norm-setter in a hyper-connected world by adopting an efficient strategy towards its external partners. We are already experiencing a situation where big foreign technology companies are shaping standards, for example, in the UN's International Telecommunication Union for facial recognition.

While the EU should first adopt its own ethical framework on AI, further cooperation at international level will be of great importance. Our leadership towards net neutrality and data protection rules has shown that Europe can take the lead on the global stage by setting efficient standards in protecting the rights of citizens without experiencing any competitive disadvantages. Renew Europe believes that the EU should foster its efforts to set global ethical norms for AI at international level, be it for civil, law enforcement or military uses. Renew Europe calls on the European Commission and Member States to cooperate with third

countries to avoid their AI systems violating citizens' fundamental rights and security.

With digitalization as a key strategic priority of a Commission that strives for more, Europe is in a position to have an increasingly stronger voice on the international scene. Thus, our approach should be to proactively influence AI development worldwide, in line with our European values and fundamental rights. Further to the export of our ethical standards, Renew Europe calls on the Commission to increase cooperation at the international level on AI, coordinating work on AI with the OECD and promoting our future EU model on AI on the international scene. For this, multilateralism is key - beginning with our partners who are likely to share our values and vision on AI. Besides the OECD, the G7 and G20 are also major partners where the EU can play a determining role, as a first step to reach a global consensus in the UN. Renew Europe believes that these are important avenues to pursue, on an important topic, that would allow the EU to play an increasingly influential role on the global stage.

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