



## Artificial Intelligence Recommendations

### KEY MESSAGES

1. The potential to derive the **benefits AI technologies offer** will rely on the ability for companies to: research, test, acquire a skilled workforce, exist in a vibrant data economy, have appropriate infrastructure to build upon and a beneficial framework to exist within.
2. AI is a collection of technologies and **not a policy area itself**. It is already regulated in several policy areas. Europe should apply this existing framework first in a manner that aids innovation whilst taking society with it.
3. The heterogenous nature of AI and its applications means **a one-size-fits-all framework would be problematic** or risk stifling opportunities. The approach taken must also be **technically robust**.
4. **Trustworthy AI** can only be delivered if applicable legal frameworks are coherent and true to European values.
5. AI applications are data intensive and will need top quality, stable, secure and robust **infrastructure** to exist upon.
6. As AI filters into our society and its various technologies come closer to citizens the need for **security** will grow.
7. AI technologies have appropriate legally certain **liability** frameworks to exist within.
8. **Data** is crucial for deep learning in support of AI and innovative opportunities.
9. A highly educated and entrepreneurial **workforce** is required to promote growth and use of AI in Europe.
10. **Research and investment** in AI will ensure its success. The Multiannual Financial Framework (MFF) should be concluded as soon as possible and view the €9.2 billion for the Digital Europe programme as the low water mark.

### KEY FACTS AND FIGURES

<p>China (\$7 trillion) and North America (\$3.7 trillion) expect to gain most from AI, representing 70% of global economic impact by 2030.<sup>i</sup></p>	<p>The impact of AI in Europe is expected to amount to \$2.5 trillion by 2030.<sup>ii</sup></p>	<p>Citizens who aware of AI are more likely to have a positive view of it.<sup>iii</sup></p>
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## ARTIFICIAL INTELLIGENCE (AI) RECOMMENDATIONS

### CONTEXT

As an observer of the High-Level Expert Group on AI (HLEG on AI), we welcome its continued work to support AI development and roll-out in Europe. Notably, the Ethics guidelines for trustworthy AI (a check list that companies are already piloting) and the Policy and investment recommendations for trustworthy AI are both credible foundations put forward by societal stakeholders to ensure responsible and beneficial AI for Europe.

As an all-encompassing subject there is a lot to determine. As policy makers continue to discuss Europe's approach, BusinessEurope would like to support ongoing initiatives of the HLEG on AI and offer its own positioning on topics for further discussion and debate.

### STRATEGIC SUPPORT AND MEETING EUROPE'S SOCIETAL CHALLENGES

- 1 AI technologies are forecast to add up to 15 trillion USD to the global economy by 2030. AI can strategically support Europe and help us answer many societal challenges that we face.<sup>1 2</sup> At BusinessEurope we also highlight AI can aid these immediate strategic challenges, for instance:
  - Cognitive **cybersecurity** systems combined with human decision-making could proactively detect and provide actions for faster responses to attacks.
  - It could support industry 4.0 and build on strengthening our world-class **manufacturing** sector through improving supply chain communication, harnessing data and cutting waste to answer developing consumer and business needs.
  - We can make **mobility** safer assisting human abilities and greener through platooning heavy goods vehicles to lower emissions and promoting public transport.
  - Support for **smarter cities** can be made through more efficient water supply, waste collection, lighting and indoor heating systems.
  - Ability to fight **resource inefficiency** faster through streamlining energy infrastructure and maintenance of supply.
  - **Healthcare** is already being improved through AI to assist diagnosis and treatment of our ageing population taking strains off our health systems.
  - **Education** can be improved as AI will take simple administrative tasks away, boosting further teacher-student time as a result.
- 2 The potential for Europe to derive these benefits will rely on the abilities for companies to research, test, have a skilled workforce, a vibrant data economy, appropriate infrastructure and a beneficial framework to exist within.

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<sup>1</sup> [Our Digital Ambition: Priorities for 2019-2024](#)

<sup>2</sup> The UN Sustainable Development Goals (SDGs) envisions a world without poverty or hunger, in which high-quality healthcare and education are available to all, where gender inequalities have been abolished, where economic growth does not harm the environment and where peace and freedom reign. Digital solutions from all areas of life can directly contribute to the SDG achievement to all 17 goals and over 50% of the 169 targets.



- 3 Without the correct legal framework, the full potential of AI and as a result, the societal goals which it could achieve, will not be reached. This represents a global competitive challenge. As other regions, such as China, race forward with a large market and relatively relaxed conditions to experiment within. Their technological leaps will be greater and faster as a result.
- 4 Europe faces a choice, get the balance between open innovation and societal protection correct or accept and welcome a future where it will be common place to buy superior AI solutions from 3<sup>rd</sup> countries in a great number of sectors to achieve its ambitions.

## **TRUST AT THE HEART OF EUROPEAN AI**

- 5 The public debate on the misuse of personal data for tracking and profiling purposes and the role of technology in our society has intensified. Trustworthy AI can only be delivered in Europe if the applicable legal frameworks relevant to it are coherent and true to European values. The Digital Single Market needs clear strategic direction and complementary initiatives.
- 6 Europe needs Trustworthy AI systems consisting of three main components: lawfulness, robustness & ethics. AI has to be lawful since it must comply with already existing regulations (eg. the GDPR). AI must be robust from a technical perspective. Any policy intervention should not close off the possibility of further innovation or lock-in current technologies and practices. It is important to remain neutral towards the technology and look at its application. AI technologies must be ethical, ensuring adherence to ethical principles and values.
- 7 AI can be applied differently and as a result yield differing results (particularly between B2C, P2C, P2B, B2B, G2C and G2B use). This can raise a number of ethical challenges for humans. Remaining ethical will aid European competitiveness but should be viewed through the lens of application and balanced with the ability to innovate, otherwise we risk losing first mover advantage in the global AI race.
- 8 Not all AI use will have a strong ethical concern or even an ethical concern at all. Take use of AI in determining weather forecasts or playing chess, as examples. This must be gauged when determining any ethical frameworks that will impact AI.
- 9 A vital value will be championing a human centric approach to AI roll-out that will assist our workforce rather than entirely replace it, enabling the human element of work to be improved.
- 10 Consistency between international norms should also be considered so that Europe can benefit from competing in the global digital economy.
- 11 Citizens must be educated and informed on the real use and impact of AI so that erratic scaremongering does not distort the state of reality. Transparency will gain and sustain trust.



## KEEPING UP WITH THE PACE OF CHANGE

- 12 AI is a collection of technologies and not a policy area in itself. It is other policy areas (eg. competition, data access, privacy and cybersecurity etc.) that will impact AI on the whole – not the other way around. Therefore, AI is already regulated through several National and European legislations.
- 13 The heterogeneous nature of AI and its applications means a one-size-fits-all legislative approach would be problematic or risk stifling the desired opportunities.
- 14 Dialogue with stakeholders through the HLEG on AI should continue and act as a catalyst to explain the reality and demystifying the misconceptions surrounding AI. Particularly, as we support the piloting process of the recently published Ethics Guidelines on AI. Societal concerns can be raised and discussed rapidly. If needed, guidelines and best practice sharing could be more efficient to keep up with the pace of technology. AI is a subject where guidelines, such as those deriving from the GDPR, can explain how existing frameworks apply to these new technologies. The process of finalising guidelines is efficient and effective to explain how overarching frameworks should be interpreted across the EU into new realities (unnecessarily prescriptive regulation should be avoided).
- 15 Any company providing services to European customers should be subject to the same regulatory framework and standards regardless where it is based, but sectoral guidance in relation to AI could be beneficial. The HLEG on AI could consider setting up more focused advisory sectoral groups to carry out this specific work for sectors it deems necessary, particularly those that throw up a multitude of ethical questions about how existing frameworks can be interpreted to fit into these specific situations.<sup>3</sup> Once guidance drafting is complete, an agreement is made so that the private sector carries out a number of actions as the public sector does. Companies are more than happy to demonstrate how they are taking AI challenges seriously to aid public sector support.
- 16 Keeping up with the process of solving ethical questions raised by new technologies is crucial so that more companies will invest and experiment in Europe. Innovation in AI and its ethical uptake could be supported by regulated sandbox testing.<sup>4</sup> This is more appropriate than simply “red-lining” propositions that have not come to light or had solutions tried and tested to overcome them in practice.

## KEY PRINCIPLES FOR CITIZENS

- 17 Even though trust in AI is growing as policy makers and market players respond to specific societal concerns depending on how AI is being applied in practice, some key elements should be upheld across the board of how AI technology will be applied:
  - Human centric roll-out should protect the rights of the individual through human oversight of systems so that if required, emergency decisions can be taken as soon as possible.

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<sup>3</sup> Experience from the UK’s Industrial Strategy covering [“Sector Deals”](#) could aid governance.

<sup>4</sup> The [UK DPA \(ICO\) in creating a regulatory sandbox](#) to support the use of innovative products/services that are in the public interest could be useful.



- Privacy will be a key area to uphold through pragmatic application of the GDPR to each technological area. Sectoral guidance for its application towards AI could be drawn up by policy makers and stakeholders.
- Companies should be accountable for AI systems through the existing Product Liability Directive and other relevant legislations. We await guidance in this regard on how new technologies can be interpreted under these existing frameworks.
- Explainability and transparency will be important to maintain trust in AI. This should be based on a case by case, sectoral review of the impact of the application on individuals and be relevant to that. Transparency through explainability of complex decision-making processes could become a competitive space for AI and provide new alternatives to this challenge. This will involve using the best and most accurate model for each particular use case.
- The issue of bias also threatens the acceptance and success of AI. Stakeholders should monitor for potential risks of bias and correct systems accordingly. This process must permit the learning curve to develop.

## KEY PRINCIPLES FOR THE PRIVATE SECTOR

18 AI will shape the entire digital eco-system that businesses now act within. Depending on its application, this will impact different sectors and technologies in different ways. Yet some key elements will be crucial for businesses to succeed in fostering the benefits AI offers across the board:

- Businesses must be free to innovate and deliver technical solutions that uphold general principles rather than being dictated exactly how to reach those principles. This means forwarding frameworks that champion tech neutrality and robustness.
- Cybersecure conditions must exist and be maintained in order for businesses to continue investing and developing AI in Europe.
- Businesses using AI solutions from others will also require transparency of decision making to be upheld. This means that proportionate principles of explainability and accountability should be upheld. Article 12 of the GDPR already applies to businesses operating with consumers, whereas business to B2B functions may have to use a more tailored approach as more specific solutions will be asked and delivered depending on the need at hand. Auditability will also be a useful tool in this regard.
- Global leadership in AI can be enhanced by the use and development of innovative, state-of-the-art, industry led standards. Such standards cannot be created in a top-down manner, but should rather follow from market demand. A lot of initiatives exist at international level. If first-mover advantage does not exist, we should look to coordinate European standards with international standards rather than contradict them.
- The importance of the relationship between AI and Intellectual Property will continue to grow as new technologies might create new opportunities and challenges that should be taken into account from an IP perspective. Policy makers should ensure that the current IP framework is fit for purpose.



- The use of data is fundamental for AI to improve itself and provide a service. A level playing field for data sharing could ensure a competitive data market, particularly cross-sector.
- While different sectors and business models will be impacted in different ways it is clear that those sectors born digital could aid and partner with more traditional sectors to support their education and drive them through digital transformation.

## KEY PRINCIPLES FOR THE PUBLIC SECTOR

19 Not only citizens but also businesses will rely on public services that utilise AI. The public sector also has the ability to set a good example and lead the way in responsible AI use when engaging with society. As an initial step public services across Europe should:

- Make raw public data sets (free of bias) and the results that are used to inform governmental decisions public in order to improve transparency, available for researchers and developers, even when it crosses physical borders.
- Uphold accountability principles so that criteria by which decisions are taken can be auditable if necessary, to improve fairness. This means the ability to explain decision making in layman's terms, not share algorithms.
- Define processes to bring AI knowledge and tools into the hands of civic organisations and individuals.
- Deliver regular public progress updates through advisory committees (composed of governments, businesses and NGOs) to build and maintain momentum and support for delivery.
- Promote collaboration and partnerships with the private sector to develop appropriate AI systems.

## A EUROPEAN FRAMEWORK FOR AI

20 Europe should at first use existing frameworks in a manner that aids innovation whilst taking society with it. Fragmentation should be avoided. In order to become AI champions, it will be vital that these key areas are understood and forwarded by policy makers:

### INFRASTRUCTURE

- 21 AI applications are particularly data intensive and therefore need to be based on top quality, stable, secure and robust infrastructure.
- 22 Europe should focus on investment support for very high-speed broadband fixed and mobile networks capable to exploit network virtualisation and softwarization in conjunction with AI system to achieve optimised network use and services provision. Coherence with the EU Gigabit Society objectives, 5G networks development should be promoted.



- 23 Priority should be granted to spectrum for mobile broadband - ensuring there is an efficient, secure and future proof use of spectrum avoiding fragmentation for the benefit of all the users.
- 24 AI will also be energy intensive. A great amount of affordable, low-carbon electricity supply will be needed to make processes and data flows between entities. While AI can itself improve our energy resource use, we support an integrated value chain approach to link future energy needs in powering AI to low-carbon energy infrastructural development and further improvements in energy efficiency.
- 25 Investment in High Performance Computing (HPC) will be required given that AI uses high-performance data analytics and powerful processes across computing, networking and storage. As a result, more companies need to increasingly use HPC solutions for AI-enabled innovation and productivity.
- 26 Investments for AI can be framed in existing initiatives across Europe (IPCEI, HPC, e-infrastructure), also in order to improve synergies (eg. between quantum computing and AI). A holistic approach should enforce the integration of these initiatives, also in order to further develop large-scale public-private partnerships.

## SECURITY

- 27 As AI filters into our society and is utilised in various technologies that are interfacing with citizens closer than ever before the need for security in our data economy will grow.
- 28 While businesses already see cybersecurity of our technologies as an important principle to uphold a growing number of sectors and sizes of businesses will have to make it become a reality on the ground. Market relevant cybersecurity schemes can encourage this. Structured information sharing on attacks and the state of the technological landscape among the private sector and between the private sector and security agencies should also be improved.
- 29 We also expect more actions from Member States in order to deter third countries from supporting state funded industrial espionage. Europe needs to demonstrate that it is a safe place to invest and run AI technologies within.

## LIABILITY

- 30 New technologies such as AI need legally certain frameworks to exist within. Entirely automated decision-making processes present a challenge to Europe as it could seem unclear as to who was at fault for certain decisions being taken. However, the current wave of technologies utilising AI is not fully automated. We are currently only witnessing the growth of narrow AI.
- 31 In the B2C context, we believe that current frameworks, including the Product Liability Directive, offer legal stability for these technologies to be delivered. As a result, the consumer always has recourse if something goes wrong with the technology in practice. Upcoming Commission guidance should facilitate interpretation of this in the real-world in relation to new technologies.
- 32 In the B2B context, transparency and accountability should be pursued and contractual freedom respected.



### DATA SHARING

- 33 Data sharing is a varying issue of importance depending on the sector involved. While it is clear that a one-size fits all policy would be detrimental due to the specific nature of each sector, data sharing will be crucial for deep learning in support of AI and innovative opportunities.
- 34 In this sense, standardisation in support of interoperability must be ensured and data usage agreements promoted.
- 35 Voluntary data sharing between businesses and sectors would support an open and vibrant data economy. This should be the norm, while respecting firms' contractual freedom. When this cannot be promoted between business and sectors, current competition policy should address evidence-based instances of market failure or anti-competitive behaviour.
- 36 If competition policy cannot address these concerns, a European assessment, involving all stakeholders in the relevant sectors, should take place to determine whether barriers exist or if the playing field is unbalanced. Any potential action to alleviate these concerns should be justified, legal, proportionate and non-discriminatory. It should achieve level competition and the protection of IP rights.
- 37 In order to avoid proliferation of legal disputes, or negative access to justice for SMEs, it is essential to ensure that in the event of a dispute, the jurisdiction of the country in which the company who generated the data is based, is applied.
- 38 Sharing and reuse of large public data sets through "data lakes", where data sets should be homogeneous should be encouraged, while respecting IP, privacy and cybersecurity requirements.

### **EDUCATION & SKILLS**

- 39 A highly educated and entrepreneurial workforce is required to promote growth and use of AI in Europe.
- 40 All levels of education and training, starting at an early age, should be strengthened to improve skills on cognitive, social and cultural levels of future workers to establish a new "data culture" and "awareness of AI". It is important that there is close cooperation between companies and education at all levels.
- 41 The current workforce should be introduced to AI through re-skilling and upskilling on the job programmes organised through a cost sharing approach. The EU could sponsor and support these activities, while it should remain the sole task of the Social Partners to coordinate and ensure that demand and supply can be matched. There would nevertheless also be scope for mutual learning and the exchange of best practices at EU level.
- 42 As companies develop their workforce strategies, the key challenge they face is to design and introduce technological solutions in a way that improves production processes in terms of outputs, making use and making sense of AI in a way that supports employment. Achieving this across the economy will be critical to ensure that the digital transformation





creates new opportunities, both in terms of employment creation and transformation of jobs/reallocation of tasks.

- 43 General knowledge of citizens and workers must also increase since AI works best if users understand the process and as a result gain trust in it. Free-of-charge online “courses” should be created at national level. People also need the practical skills that will improve how to use AI more effectively (eg. critical decision making and systemic thinking).
- 44 Businesses should also take the time to educate, train and assist the public sector on the benefits of AI and how it can improve public services.
- 45 Objectives to be achieved at European level in the fields of Education and digital skills should be set by next European Commission.

## **IMPORTANCE OF RESEARCH**

- 46 Research and Investment in AI will continue to play a dominant role in ensuring its success in Europe. We have world class Universities and Research Facilities.
- 47 Europe (including the EEA) leads the world in terms of research output in Artificial Intelligence.<sup>5</sup> However, the link between these and business needs are low. As is coordination between Member States as they progress in different fields. The EU and its Member States should intensify their collaboration with business and the research community.
- 48 Horizon 2020, Horizon Europe, Digital Europe, ESIF funds, programs under “Europe for Citizens” and IPCEI programs should be ambitiously funded and allocate resources to support research in AI, contributing to create centres of excellence for AI-related topics.
- 49 The Multiannual Financial Framework (MFF) should be concluded as soon as possible and should also view the €9.2 billion for the Digital Europe programme as the low water mark.
- 50 A network of European universities and research institutions for purposes of teaching and dissemination is also supported by industry and we are already seeing progress – this should continue to enable a collective European knowledge sharing space on AI development. We can then focus on how to connect business development and roll-out of products and services that benefit society.
- 51 Further funding should also be allocated for investment in applied research supporting AI with a focus on the development of AI in B2B applications.

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<sup>i</sup> [Global AI Study, PWC, 2018](#)

<sup>ii</sup> *Ibid*

<sup>iii</sup> [Special Eurobarometer 460, European Commission, 2017](#)

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<sup>5</sup> [AI: unravel the research, fulfil the potential, Elsevier, 2018](#)