



ERT

Expert Paper

Artificial Intelligence

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Introduction

Adoption of Artificial intelligence (AI) and data-driven tools will be a core driver of productivity and economic growth in Europe over the coming years. These tools will also play a significant role in addressing critical societal challenges brought to the forefront in the context of the COVID-19 pandemic.

The Digital Transformation Working Group of the European Round Table for Industry (hereafter 'ERT') wholeheartedly supports the objective of the European Commission outlined in the February 2020 White Paper on AI¹ to encourage the creation of an ecosystem of excellence and an ecosystem of trust for AI development and adoption in Europe. We are convinced that increased use of AI and data-driven technology is a necessary precondition for establishing a resilient European digital society.

The AI Opportunity

AI is a collection of technologies that combine data, algorithms and computing power. The High-Level Expert Group on Artificial Intelligence has defined AI as follows: "Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behaviour by analysing how the environment is affected by their previous actions."²

ERT calls on policy makers to seize the AI opportunity by boosting the development and usage of AI, giving equal attention to the competitive promise as to the ethical dimension.

Europe currently lags behind its main competitors as concerns investments in AI (around €3.2 billion AI investments in Europe in 2016, €12.1 billion in North America, €6.5 billion in Asia³). The McKinsey Global Institute states that "if Europe on average develops and diffuses AI according to its current assets and digital position relative to the world, it could add some €2.7 trillion, or 20 percent, to its combined economic output by 2030. If Europe were to catch up with the US AI frontier, a total of €3.6 trillion could be added to collective GDP in this period".⁴

Europe can leverage its technological capacity and strong industrial base with a high-quality digital infrastructure and a regulatory framework based on its fundamental values to become a global leader in AI and data driven innovation. On that basis, Europe can develop an AI ecosystem that shares the benefits of this technology across all parts of the economy and society:

- For business (including companies led by Members of ERT) AI can be used to increase efficiency and output in areas where Europe is particularly strong (machinery, transport, cybersecurity, farming, energy management and transition, the green and circular economy, healthcare and high-value added sectors like fashion and tourism).
- Citizens can reap new benefits for example through improved health care and prevention, longevity of digital products and services, safer and cleaner transport systems and better public services.
- The wider public interest can be served for example by using AI as a way to increase cybersecurity, reducing the costs of providing public services and utilities (transport, education, energy and waste management) and contributing to enhanced sustainability.

¹ White Paper on Artificial Intelligence - A European approach to excellence and trust, European Commission, February 2020

https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf

² Ethics Guidelines for Trustworthy Artificial Intelligence (AI), High-Level Expert Group on Artificial Intelligence, April 2019

<https://ec.europa.eu/futurium/en/ai-alliance-consultation/guidelines>

³ 10 imperatives for Europe in the age of AI and automation, McKinsey Global Institute, October 2017

<https://www.mckinsey.com/featured-insights/europe/ten-imperatives-for-europe-in-the-age-of-ai-and-automation>

⁴ Tackling Europe's gap in digital and AI, McKinsey Global Institute, February 2019

<https://www.mckinsey.com/featured-insights/artificial-intelligence/tackling-europes-gap-in-digital-and-ai#>

AI has been used for many years across a wide variety of sectoral and industrial activity, as these few examples from companies led by Members of ERT illustrate:

- With AI it is possible to optimise production processes, to enable high flexibility and to ensure efficiency, reliability and quality, resulting in a digital enterprise as a cornerstone of the digital transformation of the European Industry and future European competitiveness.
- AI systems are being deployed deep within telecommunications networks to enable real time monitoring, predictive analysis of issues and root cause analytics, unassisted remote fixes, chatbot support for engineers in the field, and cybersecurity issues detection and management. Automatic network changes based on machine learning result in a decreased dropped call rate and improved speeds.
- AI included in medical telemonitoring solutions (designed to provide remote at-home assistance to chronic patients) brings benefits such as personalised and continuous care, ongoing access to the data for the prescribers and the prevention of hospitalisation.
- AI systems are being adopted in the energy sector to optimise plants' production obtaining several benefits as for safety, asset integrity and sustainability (reduction of CO² emissions). These systems are demonstrating their effectiveness not only in the upstream but also in the mid- and downstream sectors.
- Gas turbine optimisation helps to better protect the environment, using machine learning algorithms which optimise turbine control parameters and thus reduce NOx emissions by 15-20%.

European AI Leadership

Now is the time for the European Union to position itself strongly. It must reflect on its strengths and enact a long-term, fair and holistic AI policy for the future. A harmonised and proportionate policy framework will be key in order to establish a Single Market for AI products and services, to provide legal certainty for AI developers and users and to build consumers' trust in the technology across Europe. Indeed, the principle of subsidiarity imposes today

the creation of a new de facto solidarity among Member States, encompassing a digital vision which allows sovereignty, competitive advantages for European companies, and better protection and services for European citizens and consumers.

For this reason, ERT has formulated a number of recommendations that should steer the development of guidelines and policies, governing the deployment and adoption of AI. In this spirit, ERT makes the following requests and observations specifically in view of the main actions outlined in the European Commission's AI White Paper.

Ecosystem of Excellence

In order to ensure the creation of an ecosystem of excellence for AI in Europe, we recommend policymakers to:

- ***Collaborate with Member States and EU stakeholders*** to define a shared European vision on the 2030 horizon.
- ***Ensure consistent implementation*** of the recommendations in the European Commission's Coordinated Plan on AI to facilitate the application of AI in Europe in a coherent way.
- ***Provide ambitious funding*** for AI research, innovation and adoption through Next Generation EU and the MFF including sufficient support and budget for the planned co-programmed Partnership on AI, Data & Robotics, and with mandatory multi-stakeholder applications and public-private partnerships.
- ***Establish a coordinated network*** of European AI research and innovation superclusters that can compete with those in the US and China, with strong industry engagement from start-ups, SMEs and large companies.
- ***Facilitate private investments*** in AI and a fast transfer from basic research to applied science, from lab to practice, including by facilitating spin-offs from AI research institutions, and include SME's and start-ups via the DIHs (Digital Innovation Hubs), where large companies can play a key advisory role on the industrial use of AI technologies.

- **Support cooperation by companies on joint projects** and make use of 'sandboxing' as a tool to boost innovation, for example to test new concepts such as digital twins for manufacturing, in a safely delimited, co-regulatory space at EU level. Such collaboration between regulators, innovators and other stakeholders can deliver the right balance between promoting innovation and mitigating risks. European conclusions should be shared with other key regulators around the world.
- **Facilitate the innovative use of data and a Single Market for data** by swiftly implementing the European Data Strategy, focusing on voluntary B2B & B2G data sharing.
- **Transform access to health data** with a strict regulatory environment, which inspires patient trust. A European health data hub which permits patient access control of his/her personal data and access (to anonymised data) by healthcare providers and companies developing health services is necessary to create a common market for healthcare and prevention. It would allow the development of AI applications to accelerate R&D, improve diagnostics and benefit patient outcomes.
- **Close the digital skills gap** and invest in education & upskilling programmes for AI. Increased cooperation and coordination between public and private sectors are needed to enable better training and to better adjust the curricula to the needs of companies.
- **Give specific attention to the risk for racial, gender or social bias in the domain of Machine Learning algorithms** in AI applications, especially those involving B2C and the relationship between government institutions and citizens.

Regulatory aspects:

- **Avoid rushing into over-regulation** of AI as an onerous regulatory environment and over-prescriptive rules will hinder investments in AI and the use of innovative AI solutions.
- **Review existing EU legislation** potentially applicable for AI and make them fit for AI as needed. Focus areas should include safety, liability, data protection, privacy, employment, anti-discrimination and relevant sector specific legislation. The concerns presented by applications of AI outlined in the White Paper could be addressed with guidelines and targeted amendments of existing horizontal and sector specific EU legislation and by reviewing and empowering existing enforcement mechanisms and oversight bodies. No "one-size-fits all" approach for AI regulation is possible for the wide range of applications in many vertical sectors.
- **Consider keeping B2B applications out of scope of a future AI regulatory framework.** In the context of B2B applications, associated risks can generally be addressed through contracts between business partners. Any regulatory obligations for providers of B2C high risk applications will cascade down the entire supply chain through private contracts.
- **Consider that most industrial applications do not need new regulation**, because they are already sufficiently covered by existing rules, both horizontal (e.g. GDPR, Machinery Directive) and sector specific (e.g. the European Electronic Communications Code).

Ecosystem of Trust

In order to ensure the creation of responsible, trustworthy AI systems for Europe that are built around a human centric approach, we encourage policymakers to take into account the following recommendations:

Building trust:

- **Focus on the potential benefits** that might come through the application of AI technologies and consider the opportunity cost of failing to deploy AI. Recognise the opportunity to leverage AI in order to increase trust (e.g. the use of AI in autonomous cars has a huge potential to drastically reduce the total number of traffic-related fatalities. However, most of the discussions tend to narrow down to cars taking difficult life-and-death decisions).

Risk-based approach and assessment:

- **Take a risk-based approach** to determine which AI applications may be covered by ad hoc legislation and include the risk of non-adoption of AI applications in any risk assessment. Any new or adapted legislation/rules/guidelines for AI will require a clear definition for AI.

- **Apply the technology neutrality principle** when assessing the need for regulatory intervention.
- **Set up a clear and precise criterion for high-risk AI systems** based on the occurrence and consequences of the expected risk. It should clearly delineate between purely technical applications of AI (such as remote network management, preventive maintenance and diagnostics) and AI that has a direct impact on citizens/consumers. An additional criterion to the definition of high-risk AI systems should focus on fundamental rights, consumer rights and safety-related harms of AI products or services offered by B2C actors (for example a risk to life, health or privacy).
- **Refrain from the application of new ex-ante conformity assessments** for new AI products & services that could cause significant delays in releasing AI products and services to the European market. The effective enforcement of such a model and the lack of expertise on the evaluation of algorithms and models will also need to be addressed within a harmonised European approach. Instead, we suggest that the European Commission considers the application of existing self-assessment tools for Trustworthy AI systems such as the Data Protection Impact Assessment (DPIA) under the GDPR that is built upon companies' existing practices.
- **Apply a process-based certification scheme for high-risk AI systems** instead of individual product- or algorithm-based certifications in order to avoid "repeated assessments over the lifetime of AI systems" as suggested in the White Paper. Such a certification scheme would focus on the effectiveness of the company or system wide processes that are applied to the ethical development, deployment and operation of AI systems. This would enable new product versions without the need to re-assess AI systems throughout their lifetime each time.
- **Steer clear of new risk assessment obligations for products 'subject to important changes during their lifetime'.** Instead, the existing New Legislative Framework (NLF) procedures that take place prior to placing products on the market could be broadened through the adoption of new standards to cover important and foreseeable changes.

Security:

- **Consider that AI development should be by design intertwined with cybersecurity.** Algorithms must be protected (and encrypted) according to the level of (cyber) security determined by the criticality of the application.

Voluntary labelling scheme:

- **Involve businesses in the definition of a possible voluntary labelling scheme** for no-high risk AI applications to provide advice on an implementable, not overly burdensome framework. The benefits of a labelling scheme and its acceptance by industry will highly depend on the scope of future AI-specific legislation, the operational nature of its requirements and its governance structure.
- **Use the AI Ethical Guidelines created by the AI High-Level Expert Group as a foundation** to develop two sets of requirements addressed to AI developers and users. Enforcement could be accomplished by self-assessment by AI developers or deployers and by third-party certification obtaining a 'Trustworthy AI' certification/label. The voluntary nature of such a labelling system remains essential and should not become a de facto standard for market access.
- **Provide more details in relation to the industrial B2B area** (e.g. how it would work and potential incentives) to better understand how such voluntary labelling could bring benefits and not only impose an additional administrative burden on companies (especially for SMEs and start-ups).

Liability Framework for AI

Many of the risks listed in the White Paper and the Liability Report are not strictly or inherently related to AI but are about digital technology and services in general. The existing EU horizontal and sector-specific legislative framework governing liability has proven to be robust and reliable. We would like to make the following recommendations:

- **Any new requirements should be targeted at providers of high-risk AI applications** and must not impose excessively high burdens on industry deploying AI that presents low risks to EU citizens.

- *The Commission should identify gaps first in the current legal framework* before assuming that existing insurance schemes, civil liability rules and tort law as well as contractual arrangements are not fit for purpose.
- *In the context of “strict liability”, it is key to determine who has the economic or social benefit* from deploying the technology and for what use the technology was foreseen (as is typically the case today in the context of a car accident where the victim has a “strict liability” claim against the owner of the vehicle).
- *In most Member States, the current national liability rules are sufficiently implementing “strict liability”.* For specific AI applications, it may be required to adapt the current national liability rules for the operation of AI to better ensure proper compensation for damage and a fair allocation of liability.
- *A reversed burden of proof should only be considered in limited cases* and only apply to very high-level risk AI applications.

Conclusion

Our overarching message on AI regulation is one of firm support for the objectives and actions proposed by the European Commission, with a number of suggestions on how the proposed interventions could be most effectively targeted to achieve the desired outcome and avoid unintended consequences. We caution against rushing into over-regulation of AI as an uncertain regulatory environment and over-prescriptive rules will hinder investments in AI and the use of innovative AI solutions. We very much welcome measures to boost the development and usage of AI, giving equal attention to the competitive promise as to the ethical dimension.



The European Round Table for Industry (ERT) is a forum that brings together around 60 Chief Executives and Chairmen of major multinational companies of European parentage, covering a wide range of industrial and technological sectors. ERT strives for a strong, open and competitive Europe as a driver for inclusive growth and sustainable prosperity. Companies of ERT Members are situated throughout Europe, with combined revenues exceeding €2 trillion, providing around 5 million direct jobs worldwide - of which half are in Europe - and sustaining millions of indirect jobs. They invest more than €60 billion annually in R&D, largely in Europe.

This response is submitted by the Digital Transformation Working Group of the European Round Table for Industry.

For more information, go to: <https://ert.eu/focus-areas/digital-economy/>

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