AmCham EU
SPEAKING FOR AMERICAN BUSINESS IN EUROPE

Our position

# Fostering Artificial Intelligence in Europe

## Building a strong public-private partnership

AmCham EU speaks for American companies committed to Europe on trade, investment and competitiveness issues. It aims to ensure a growth-orientated business and investment climate in Europe. AmCham EU facilitates the resolution of transatlantic issues that impact business and plays a role in creating better understanding of EU and US positions on business matters. Aggregate US investment in Europe totalled more than €2 trillion in 2016, directly supports more than 4.5 million jobs in Europe, and generates billions of euros annually in income, trade and research and development.

**American Chamber of Commerce to the European Union**
*Speaking for American business in Europe*

Avenue des Arts/Kunstlaan 53, 1000 Brussels, Belgium • **T** +32 2 513 68 92
info@amchameu.eu • amchameu.eu • European Transparency Register: 5265780509-97

# Executive Summary

- Artificial Intelligence (AI) is **a combination of technologies** which allows systems to understand, reason, and learn. In other words, systems that can determine meaning from data inputs, form hypotheses and prioritise suggestions, and which are capable of continuous learning, accumulating insight through interactions. These systems are not programmed, but are instead trained, acquiring knowledge through experience and improving with time. Human interaction and partnership are central to both the technology and philosophy of AI.

- **AI is diverse**. It is a tool with different uses and applications, depending on the sectors, private or public, the business models, business-to-business (B2B) or business-to-consumers (B2C), etc. This is crucial to bear in mind both when developing policies to support research and development (R&D) and uptake of AI-driven technologies and when considering some of the non-technology-related aspects. About the latter, it should be considered to take sector or application-specific approaches as one-size-fits-all solutions are unlikely to be appropriate.

- There are many **misperceptions** around the technology's impact. Therefore it is important to focus on the social and economic benefits of AI. There is a need for a positive, fact-based and forward-looking approach to address constructively opportunities and challenges.

- The industry needs to build and deploy AI solutions in a **responsible** manner, with a human-centric approach, incorporating shared human values and ethics in their design as much as possible and based on global discussions. The industry needs to explore tools to improve explainability and accountability around automated decisions and the usage of AI.

- The role of policy-makers should be to focus on the **benefits** and take a constructive approach to tackle identified challenges, as the potential of AI in Europe is enormous. In order to develop Europe as a competitive market power on AI, policy-makers should focus on: attracting investment, promoting research, re-skilling of the workforce, ensuring a structured and inclusive dialogue with all stakeholders, adopt a global approach on the overall policy direction and applicable standards as these emerge, and possible voluntary measures such as codes of practice.

- In particular, industry and governments need to work together to address the potential impact on **jobs, skills and the future of work**. It is inevitable that AI will have an impact as any other major technology shift has had in the past. This impact needs to be managed and current and future workforces' skillsets updated to achieve the same outcome as past major transitions that have generated net job gains.

# Introduction

What is commonly called Artificial Intelligence (AI) is actually a combination of various technologies (data analytics, machine learning, automation, voice recognition etc.) which are software-based or embedded into hardware. This is not an entirely new technology. Machine learning for example, continues to build on the same fundamentals from its 1950s origins: statistics. An early example of this is from the 1970s when an AI programme was developed diagnosing blood infections with better accuracy than doctors. However, research and applications around AI are now booming, thanks to more abundant data as well as major developments taking place in the capabilities of software and algorithms, increasing computing power and connectivity.

Progress in technology is staggering across the world. Our members are at the forefront of research on machine learning and are investing in making Europe a leading power on AI. Europe hosts some of the most advanced research institutions and is home to successful AI start-ups.

AI is a net positive for society. People's lives can be transformed with assistive technologies and more adaptable products and services. It holds the possibility to address challenges facing society including protecting the environment, improving public services and advancing healthcare. Productivity will be enhanced and new business opportunities will emerge. The technology also has the means to do tasks and jobs which humans are not necessarily as well suited to do (i.e. spot discrepancies in massive amounts of data, finely detailed quality control, personalisation at scale, quickly and uniquely onboarding individual IoT devices, autonomously conducting mining operations in dangerous environments, etc.) thereby freeing up people to do more value-added activities such as those involving innovation and creativity. Given this potential, it is paramount to support the uptake and acceptance of this technology. Industry and policy-makers must work together towards this objective.

Human interaction and partnership are central to both the technology and philosophy of AI. We must now build the best possible framework to enable such interaction. Some challenges around AI have already been identified, from fairness and safety to the skills gap and the impact on jobs. While these challenges are real, we believe they need to be subject of a de-mystifying, fact-based analysis. AmCham EU members are committed to participate in this exchange with public institutions and society at large. With that objective, this paper includes preliminary views on the role of industry and governments to reap the full potential of AI for the economy and society.

# A role for industry

To reap the social and economic benefits of AI, the technology must be trusted. Industry should help build trust in AI systems by adopting a responsible approach in development and deployment.

We support the development of AI in **human-centric approach**, where AI empowers humans by increasing human intelligence and capability. AI should not replace human judgment but it should assist humans in making better decisions. As a society, we have the power and responsibility to decide where and how machine learning tools should be used.

Industry should lead efforts to create trust by ensuring:

- **Transparency regarding the use of AI**: Taking into account the technical possibilities, provide clear and meaningful information on what an AI system is intended to do and when it is being used. Depending on the applications, different levels of transparency might be possible.
- **Accountability**: Taking into account the technical possibilities, provide meaningful explanations on how outcomes are generated. Depending on the applications, different levels of accountability might be required. Develop meaningful ways to provide clear information on the composition and quality of initial datasets used to train original models.
- **Ethics**: Develop internal practices to embed certain ethical considerations in the development of models and in their application to products and services. Such principles should reflect a global discussion. Ensure AI developers are trained on issues like bias and fairness.

However, ensuring trust in AI does not mean that users need to understand how algorithms are designed and how AI systems work exactly. There should be no need, and no obligation to expose code or share intellectual property. This would not provide meaningful and understandable information for consumers and citizens.

Industry needs to ensure strong **privacy protection and robust cybersecurity**. The wider adoption of AI systems will also depend on user trust in these systems' ability to handle and protect personal data and sensitive business data. Industry should make use of technical tools which can best guarantee data protection and security, such as anonymisation and encryption. In this respect it is important to keep in mind that AI technologies like machine learning as well as data and behaviour analytics are key in making IT systems and networks safer. Thus, AI is part of the solution to building users' trust in the digitised society and economy.

Furthermore, AI systems should be built and deployed with a constant focus on **user safety**. In the case of fully autonomous systems, industry and policy-makers should assess the applicability of the current legal framework.

Industry is working hard to **support the re-skilling of the workforce** and working with governments on the adaptation of current education systems. If some jobs will disappear in the near future, new jobs will be created and most jobs will change. Industry should support this change by helping people

acquire the skills to engage with AI systems. Training and reskilling programmes will have to be continuously updated as technology develops and is implemented across businesses. For some job functions, machine learning and automation can help free up time previously spent on administrative and/or manual time-consuming tasks that can instead be spent on other higher value work. For instance, the time a network engineer or IT system administrator saves on network maintenance, repair and manual configurations can instead be used on deploying new services and applications for the users.

In the short term, industry should also play a role in facilitating access to these new jobs by adopting a new mind-set on the workers of the future. Many jobs in emerging areas such as AI do not necessarily require a degree but instead rely on practical education and applied skills, such as those of programmers, developers, technicians, managers etc. All of these jobs prioritise skills over degrees.

## A role for governments

Policy-makers should approach AI as a tool to increase European competitiveness and an opportunity for EU industry to thrive, and adopt a positive approach looking at the economic and social benefits AI can offer. The following aspects are of particular importance:

- **Stimulate the uptake of AI** within priority industry sectors, by focusing on EU industries that can benefit from digital transformation. This should include supporting R&D as well as facilitating access to computing power, skills, advice and mentoring.
- **Invest in research**, including through Horizon 2020 Future and Emerging Technologies, public-private partnerships and cross-border testing, as well as create an innovation-friendly environment through incentives for investment in research (applied research in particular), development and application of AI to keep Europe competitive.
- In this context, it is also fundamental to **make non-sensitive public sector data available** for research to boost data available for training AI systems, as well as to support the creation of AI ecosystems and public-private partnerships.
- Facilitate **AI research that helps overcome barriers** to implementation: For instance, AI systems should become more explainable and make more efficient use of data. These are research challenges that are being explored by researchers across industry and academia. Public institutions should support this fundamental work.
- Unleash the **potential of the data economy** in Europe by making sure data can move freely across borders, facilitate text and data mining and avoid creating prescriptive rules for data ownership or data access[1].

[1] See AmCham EU position paper on Building the European Data Economy (March 2017): http://www.amchameu.eu/position-papers/position-paper-european-commission-communication-building-european-data-economy

- There can be **no horizontal, one-size-fits-all approach** to AI policy. AI is a fast-evolving domain, with different applications depending on markets and business models. Different uses of AI pose different challenges and require different responses. Policy-makers should assess existing regulatory frameworks to see if they are fit to address AI and adapt existing legal frameworks rather than create new AI laws. It is also essential to make sure that future legislation addressing issues other than AI do not undermine its development. For example, the expected EU Regulation on platform-to-business relations and the recently released 'New Consumer Deal' package include new rules around data access and algorithmic transparency which could fundamentally impact the way algorithms are used in these specific contexts and related applications.

- The focus should be on global developments and discussions. There is a need to **clarify the governance framework for AI** by promoting a global discussion identifying a clear path for further development and use of AI. Sectoral experts should assess context-specific uses in their domains, with the help of technology experts. Consensus-driven best practices and self-regulatory initiatives should be explored as these also promote responsible innovation.

- Remain informed on **AI market developments** and ensure a structured and inclusive dialogue with industry and all relevant stakeholders on major issues (research, education, ethics, regulatory adaptation, skills, liability, etc.).

- Enhance **public understanding and trust** by promoting facts-based dialogue and understanding of AI (including a better understanding of the positive social impact of AI), creating opportunities for awareness-raising with the public as well as adopt a transparent approach on AI application in public services.

- **Invest in education, life-long learning and re-skilling** to ensure our workforce is ready for the jobs of tomorrow. Vocational training and apprenticeships will also continue to play an important role, but we need to better align education with in-demand skills like Science, Technology, Engineering and Mathematics (STEM) skills and competences. While continued support for STEM is important, AI requires multi-disciplinary skills – science, technology, engineering, mathematics, arts and creativity will be just as important. We also need to develop systems for workers to signal their applied skills beyond classic education institutions.

- **Work with education institutions** to create curricula that meet the needs of an AI-powered economy such as ethical training for engineers and technology training for lawyers or healthcare professionals.

- Build **technical expertise within public institutions** and oversight bodies, to ensure public servants are familiar with the technology and its implications, and that anyone using AI systems to provide public services is fully and regularly trained.

# Conclusion

Governments have a fundamental role to play in promoting the development and uptake of the technology by incentivising R&D, tackling regulatory barriers, raising awareness, developing skills and taking a constructive approach to identified challenges. At the same time, industry needs to help building trust in AI systems by adopting a responsible approach.

One clear area where industry and governments need to work closely together is to address the potential impact on jobs, skills and the future of work. It is inevitable that AI will have an impact as any other major technology shift has had in the past. This impact needs to be managed and current and future workforces' skillsets updated to seek to achieve the same outcome as past major transitions that have generated net job gains.

For Europe to reap the full benefits of AI, a strong public-private partnership is needed. This paper includes preliminary views on the principles around which this partnership could be built.

AmCham EU looks forward to engaging with the EU institutions in more detailed discussions on the issues raised.