Digitalization and the Evolution of Artificial Intelligence: Mapping the Societal and Ethical Challenges and Political-Economic Stakes for the Transatlantic Community

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**Abstract**: The rapid pace of development of artificial intelligence (AI) technologies has generated intense debate and varying policy responses in the European Union and the United States. This paper aims to assess the degree of convergence and divergence across the transatlantic space regarding efforts to regulate AI. It begins by mapping the ethical and societal challenges presented by the accelerating deployment of AI which helps to situate the related political and economic implications of this technology and demonstrate its pivotal role in the on-going global digital transformation. The paper then analyzes the policy actions taken by both actors identifying their respective values and priorities and highlighting the preferred regulatory and governance mechanisms pursued by both jurisdictions. The European Commission proposed the AI Act in April of 2021which is now in the final stages of debate in the European Parliament and Council with adoption expected by mid-2023 and implementation by 2024. The United States’ actions are more recent and are considerably less well formulated. Meanwhile, transatlantic dialogue within the context of the Trade and Technology Council has produced a general consensus around the need for regulation and an accompanying roadmap for trustworthy AI. These developments provide a critical test case for assessing how policy preferences in the EU and the US interact and provoke changes within each respective arena. In the EU there is a concerted effort to align their risk-based approach with the EU’s values and respect for fundamental rights as well as an explicit commitment to ethical oversight of AI applications. The question remains as to whether European and American approaches to regulating AI will prove to be complimentary or conflicting, thereby serving as a definitive test of the solidity of purported transatlantic shared values. Furthermore, the ubiquity of AI in all realms of society from social media and the political sphere to healthcare and defense within a context of intensifying geopolitical rivalry and global instability means the answer will be highly consequential for the shape of global governance in a shifting world order.

**Introduction**

 Although Artificial Intelligence (AI) has been around since the 1950s, recent technological breakthroughs, especially developments in large language model generative AI systems such as ChatGPT[[1]](#footnote-2) have sparked intense and polarizing debates. A recent cover of *The Economist* felicitously captures the extremes of the competing narratives with the oversized letters “AI” sporting a halo (on the “A”) and devil’s horns (atop the “I”). While optimists focus on AI’s potential benefits to humanity from increased efficiency and productivity via automation to faster drug discoveries and cures for diseases to solutions for the climate crisis, pessimists worry about how AI systems exacerbate problems like bias, racism, sexism; displace workers and increase inequality; erode privacy and intellectual property rights; and possibly threaten the very existence of humanity. Adding gravitas to the alarmist side of the debates, a recent open letter signed by thousands (originally 1,800 now up to nearly 14,000) technologists, researchers, and figures like Elon Musk and Apple co-founder, Steve Wozniak called for a six-month moratorium on AI systems more powerful than GPT-4. Although the letter has met with some controversy due to allegations of fake signatures, disagreements amongst the signatories and the revelations of Musk’s investments in a new start-up to compete with OpenAI’s ChatGPT (which he ironically co- founded) as well as criticisms of Bill Gates and others who question the feasibility of the “pause,” their warning about AI’s profound risks to humanity and the recommendations are noteworthy.

“AI developers must work with policymakers to dramatically accelerate development of robust AI governance systems. These should at a minimum include: new and capable regulatory authorities dedicated to AI; oversight and tracking of highly capable AI systems and large pools of computational capability; provenance and watermarking systems to help distinguish real from synthetic and to track model leaks; a robust auditing and certification ecosystem; liability for AI-caused harm; robust public funding for technical AI safety research; and well-resourced institutions for coping with the dramatic economic and political disruptions (especially to democracy) that AI will cause.”[[2]](#footnote-3)

What is perplexingly absent from the letter is an acknowledgement that precisely such regulatory groundwork has been laid and existing legislation is in fact due out imminently by both the European Union and the United Kingdom. The letter includes a footnote recognizing the existence of the OECD’s AI principles, which were adopted in 2019 by all 36 OECD members plus six other countries, but these are merely guidelines for governments and industry, not legally binding principles.[[3]](#footnote-4) In addition to the OECD’s framework, 193 countries adopted UNESCO’s “Recommendations on the Ethics of AI”[[4]](#footnote-5) but these too are strictly voluntary and therefore largely symbolic gestures. In addition to such efforts within these international organizations, hardly a week passes without major news coverage of AI developments, commentary and reports from leading think-tanks, academic papers and a host of blog posts and essays penned by prominent researchers and thought-shapers all with a common refrain being the need for international coordination and governance structures for this revolutionary technology.

Public opinion also seems well aligned with the tenor of these positions. As two AI experts featured in the aforementioned issue of *The Economist* point out, a recent poll by the Centre for the Governance of AI reported 91% of a sample of 13,000 people across 11 countries agree that AI ‘needs to be carefully managed.’ In this context, the authors call “for the immediate development of a global, neutral, non-profit International Agency for AI (IAAI), with guidance and buy-in from governments, large technology companies, non-profits, academia and society at large, aimed at collaboratively finding governance and technical solutions to promote safe, secure and peaceful AI technologies” (Marcus and Reuel 2023: x). Another leading AI investor and engineer penned a long-read in the *Financial Times* calling for significant regulation by governments and a practical plan to transform Artificial General Intelligence (AGI) companies (or what he refers to as those attempting to create ‘God-like’ AI) into a Cern-like organization (Hogarth 2023).

As this paper argues, the European Union is on the front edge of these widespread calls for action. Its AI Act will be the first international AI legal framework to impose ethical guidelines and requirements as well as compliance mechanisms with extraterritorial reach. There are important caveats, however, with the first being the legislation is not yet enacted. Second, as will be argued here, the effectiveness of its approach will be highly contingent on the degree to which the US position converges with the contours and specifications of the EU’s final regulation. To develop this argument, the paper begins by mapping the ethical and societal challenges raised by the accelerating deployment of AI and then situates the related political and economic implications of this technology and its pivotal role in the on-going global digital transformation. Next, an analysis of the policy actions taken by both actors is offered identifying their respective values and priorities and highlighting the preferred regulatory and governance mechanisms pursued by both jurisdictions. To assess the extent of convergence of the EU and US on AI matters, a final section examines the actions and positions that have emerged jointly in the context of the Trade and Technology Council. The conclusion reflects speculatively on the likelihood that the EU and the US can collectively lead the way forward to a less risky, more human-centric and rules-governed AI era.

**Mapping the ethical and societal challenges and political-economic implications of AI technologies in the digital transformation**

Before delving into the ethical issues and societal challenges raised by the continuous development of AI technologies, it is important to establish a clear definition of what constitutes AI in the context of the emerging debates about its future governance. Computer scientists Stuart Russel and Peter Norvig define AI as “the study of agents that receive precepts from the environment and perform actions” (Russel and Norvig 2010: viii). Each such agent implements a function to achieve the best outcome or constrained optimal outcome for a given environment and performance parameters independent of idealized human approaches. This technical understanding of AI underpins the initial definition agreed upon by the European Commission’s High-Level Expert Group on Artificial Intelligence: “systems that display intelligent behaviour by analysing their environment and taking actions ––with some degree of autonomy––to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world, or embedded in hard-ware devices…[[5]](#footnote-6)” This definition of artificial intelligence is echoed through legislation in the United States[[6]](#footnote-7), United Kingdom[[7]](#footnote-8), and recommendations from the OECD[[8]](#footnote-9). Definitions remain a contested terrain as legal and policy moves advance (Bryson 2019). In fact, the definition of “AI system” under Article 3(1) of the AI Act has been a major sticking point throughout debates in the European Parliament and Council of the EU with stakeholders requesting a more narrow and precise definition. On December 6, 2022, the Council of the EU adopted a common position on the final compromise text of the AI Act narrowing the definition down to “systems developed through machine learning approaches and logic- and knowledge-based approaches.[[9]](#footnote-10)”

Unsurprisingly, in the wake of the success and widespread uptake of ChatGPT as well as the ensuing panic (the Italians temporarily blocked access to and Italy, France, Canada, and Spain have all launched investigations into OpenAI's ChatGPT due to data privacy concerns), defining AI systems remains a contentious and politically consequential endeavor. All eyes are on the final stages of debate within the EU to see whether or not these latest developments in the AI revolution will be taken into account, namely if “general-purpose AI (GPAI)” such as ChatGPT (Microsoft) and Bard (Google) will be categorized as “high-risk” AI applications.  It is no surprise that these two US Tech giants are lobbying most heavily against it and according to the Corporate Europe Observatory[[10]](#footnote-11) influenced the early draft of the AI Act as GPAI was not classified as high-risk. However, both the Council and the Parliament have already altered the definitional language that would have exempted GPAI. As EU parliamentary deliberations are in the final stages, it is significant that the move away from ‘narrowness’ appears to be sticking as is highlighted and further supported by leading AI experts. On April 13, 2023 in an open letter and policy brief spearheaded by the AI Now Institute, 50 institutional and individual signatories mentioned the evolving definition and cautioned that general purpose artificial intelligence (GPAI) carries serious risks and “must not be exempt under the forthcoming EU AI Act.”[[11]](#footnote-12)

These intensifying lobbying efforts and explosion of commentary from thought leaders, policy analysts and scientists signal the high stakes and ethical and societal challenges bound up with efforts to manage the global AI landscape. Generally speaking, AI presents three major areas of ethical concern for society: (1) privacy and surveillance, (2) human rights, bias and discrimination, and (3) the role of human judgement and responsibility vis-à-vis machines. As the following overview suggests, it is evident that the definition and risk-classification systems of any potential AI regulation will be critical in ensuring that future AI developments are human-centric and rules-governed as opposed to primarily profit-driven and geo-strategically motivated. The following preliminary discussion draws heavily upon a major study produced by the European Parliamentary Research Service (EPRS) on the Ethics of AI published in 2020 and a report in the same year by the Berkman Klein Center for Internet & Society Research at Harvard University. Before examining these rigorously researched and serious analyses in more detail, as an experiment it is interesting to take a look at what ChatGPT generated when asked to provide a brief overview of ethics issues related to AI technologies.

Q:

In less than 1000 words, summarize key societal and ethical challenges raised by the development of AI technologies.

A:

The development of artificial intelligence (AI) technologies has brought forth a range of societal and ethical challenges that must be addressed. These challenges arise from the potential impact of AI on human life, privacy, and security. Here are some of the key challenges raised by the development of AI technologies:

## **Job displacement**

One of the most significant societal challenges posed by AI is the displacement of human workers. As AI and automation become more sophisticated, they are likely to replace many jobs that are currently performed by humans. This could lead to significant unemployment and economic disruption, particularly in industries where repetitive tasks are common.

## **Bias and discrimination**

AI systems are only as unbiased as the data they are trained on. If the data is biased, the AI system will be biased as well. This can lead to discriminatory outcomes, such as when an AI system used for job recruitment is biased against certain demographics. Addressing this challenge requires careful consideration of the data used to train AI systems and the development of effective algorithms to mitigate bias.

## **Privacy and surveillance**

AI technologies have the potential to collect vast amounts of personal data, which can be used for surveillance and other purposes. This raises significant privacy concerns, particularly in relation to the use of facial recognition technology and other forms of biometric data. To address this challenge, policymakers must develop effective regulations to protect individuals' privacy rights.

## **Autonomous decision-making**

AI systems are increasingly being used to make decisions that have significant impacts on people's lives. For example, AI algorithms are used in the criminal justice system to predict recidivism rates and make parole decisions. However, these systems are often opaque, making it difficult to understand how decisions are made. This raises concerns about accountability and the potential for AI systems to make decisions that are unfair or discriminatory.

## **Ethical considerations**

The development of AI technologies raises a range of ethical considerations, such as the use of AI in military applications, the development of autonomous weapons, and the impact of AI on social structures and human relationships. Addressing these ethical considerations requires a broader societal dialogue about the role of AI in our lives and the values that should guide its development.

Overall, the development of AI technologies presents a range of societal and ethical challenges that must be addressed to ensure that these technologies are used in ways that benefit humanity.

Comparing these results to the work contained in the following tables reveals the fairly comprehensive if somewhat cursory analytical capacity of what is essentially a powerful search engine the ethics itself of which raise questions related to plagiarism, intellectual property and authenticity of authorship. Nonetheless, it gives a quick flavor for how the next level of human-computer/internet interactions will impact the research enterprise across countless fields of work.

Tables 1 and 2 enumerate the ethical issues and societal challenges brought forth by AI technologies and fall within the three areas specified above. The first table is from the EPRS’s study and is very broad in scope. Interestingly, the study drew heavily from the IEEE’s (Institute for Electrical and Electronics Engineers) “Ethically Aligned Design: A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems” (2019) but it also synthesized the key issues and initiatives being addressed by 18 different organizations working on ethics-related AI issues.

**Table 1: Ethical questions related to AI’s impact on society**

* Human rights and well-being: *Is AI in the best interests of humanity and human well-being?*
* Emotional harm: *Will AI degrade the integrity of the human emotional experience, or facilitate emotional or mental harm?*
* Accountability and responsibility: *Who is responsible for AI, and who will be held accountable for its actions?*
* Security, privacy, accessibility, and transparency: *How do we balance accessibility and transparency with privacy and security, especially when it comes to data and personalisation?*
* Safety and trust: *What if AI is deemed untrustworthy by the public, or acts in ways that threaten the safety of either itself or others?*
* Social harm and social justice: *How do we ensure that AI is inclusive, free of bias and discrimination, and aligned with public morals and ethics?*
* Financial harm: *How will we control for AI that negatively affects economic opportunity and employment, and either takes jobs from human workers or decreases the opportunity and quality of these jobs?*
* Lawfulness and justice: *How do we go about ensuring that AI - and the data it collects - is used, processed, and managed in a way that is just, equitable, and lawful, and subject to appropriate governance and regulation? What would such regulation look like? Should AI be granted 'personhood'?*
* Control and the ethical use or misuse of AI: *How might AI be used unethically - and how can we protect against this? How do we ensure that AI remains under complete human control, even as it develops and 'learns'?*
* Environmental harm and sustainability: *How do we protect against the potential environmental harm associated with the development and use of AI? How do we produce it in a sustainable way?*
* Informed use: *What must we do to ensure that the public is aware, educated, and informed about their use of and interaction with AI?*
* Existential risk: *How do we avoid an AI arms race, pre-emptively mitigate and regulate potential harm, and ensure that advanced machine learning is both progressive and manageable?*

**Source:** *The Ethics of Artificial Intelligence: Issues and Initiatives*. European Parliamentary Research Service (March 2020) pp. 42-43.

**Table 2: Core Principles for AI Governance**

**Privacy.** Principles under this theme stand for the idea that AI systems should respect individuals’ privacy, both in the use of data for the development of technological systems and by providing impacted people with agency over their data and decisions made with it. Privacy principles are present in 97% of documents in the dataset.

**• Accountability.** This theme includes principles concerning the importance of mechanisms to ensure that accountability for the impacts of AI systems is appropriately distributed, and that adequate remedies are provided. Accountability principles are present in 97% of documents in the dataset.

**• Safety and Security.** These principles express requirements that AI systems be safe, performing as intended, and also secure, resistant to being compromised by unauthorized parties. Safety and Security principles are present in 81% of documents in the dataset.

**• Transparency and Explainability.** Principles under this theme articulate requirements that AI systems be designed and implemented to allow for oversight, including through translation of their operations into intelligible outputs and the provision of information about where, when, and how they are being used. Transparency and Explainability principles are present in 94% of documents in the dataset.

**• Fairness and Non-discrimination.** With concerns about AI bias already impacting individuals globally, Fairness and Non-discrimination principles call for AI systems to be designed and used to maximize fairness and promote inclusivity. Fairness and Non-discrimination principles are present in 100% of documents in the dataset.

**• Human Control of Technology.** The principles under this theme require that important decisions remain subject to human review. Human Control of Technology principles are present in 69% of documents in the dataset.

**• Professional Responsibility.** These principles recognize the vital role that individuals involved in the development and deployment of AI systems play in the systems’ impacts, and call on their professionalism and integrity in ensuring that the appropriate stakeholders are consulted and long-term effects are planned for. Professional Responsibility principles are present in 78% of documents in the dataset.

**• Promotion of Human Values.** Finally, Human Values principles state that the ends to which AI is devoted, and the means by which it is implemented, should correspond with our core values and generally promote humanity’s well-being. Promotion of Human Values principles are present in 69% of documents in the dataset.

**Source**: “Principled Artificial Intelligence: Mapping Consensus in Ethical and Rights-based Approaches to Principles for AI.” Berkman Klein Center for Internet & Society Research, Harvard University (January 2020) p. 5.

 Table 2 details the summary analysis of research undertaken by the Berkman Klein Center to explore and synthesize the contents of thirty-six prominent AI principles documents, with an aim to survey the thematic trends and trace the emergence of sectoral norms and shared principles that should guide the development of AI and underpin its global governance. The authors conclude that the eight common themes detected across the three dozen documents examined reveal that a consensus is forming around what might be a principle-based approach to AI ethics and governance. A review of both of these studies helps to draw out the key ethics related issues driving the debates about AI governance and more specifically the EU’s legislation and subsequent US buy-in or development of an alternative regulatory model. What is striking about the content in these two tables is the centrality of privacy as it relates to data and its linkage to almost all of the other issues. There is simply no AI (algorithmic decision-making and machine learning advances) without it. No two other jurisdictional areas with presumed shared values of open, democratic societies and respect for human rights have argued and litigated more over this issue than the EU and the US so the culmination of the AI debates and eventual regulation will also put these tensions front and center again. Given the political and economic stakes however and the geopolitical context of a dramatically changing security situation with the Russian war on Ukraine and the growing rivalry and open hostility between China and the US, the urgency of the fast-evolving AI technologies and the need to manage risks, may facilitate compromise and resolution to these long-running disputes. Managing the risks and potential harms of powerful AI systems will be vital for protecting the political system from menacing and rapidly expanding dis- and mis-information attacks and for preparing the economy and society for the inevitable displacements and disruptions in work and livelihood as we know it today.

A growing number of economists are predicting that generative artificial intelligence will disrupt the economy and cause massive job loss. As Diane Coyle notes:

“Goldman Sachs economists, for example, anticipate that as many as 300 million full-time jobs could be automated as a result of the latest AI breakthroughs and that two-thirds of workers in Europe and the United States could be exposed to AI-based automation. A working paper by researchers at OpenAI finds that roughly 80% of the US workforce could see at least some of their tasks automated by the introduction of large language models (LLMs) such as ChatGPT. And some law firms and marketers have already begun to use generative AI tools.”[[12]](#footnote-13)

In the latest assessment of the transatlantic economy, it was noted that more data was generated in ‘the past two years than in the entirety of human history’, thus reinforcing the ubiquity and wide-ranging role data is playing and consequentially the pivotal role AI--dependent on data for training its models--, will play in the global digital transformation. Furthermore, the authors note: “transatlantic data flows are critical to enabling the $7.1 trillion EU-U.S. economic relationship. They account for more than half of Europe’s data flows and about half of U.S. data flows globally. Over 90% of EU-based firms transfer data to and from the United States.” (Hamilton and Quinlan 2023: viii). Its importance to the global economy is also undeniable with total spending on the digital transformation projected at 3.4 trillion USD. The US represents the largest market for such spending -35 % of worldwide total and the region of Western Europe accounting for 25 % (2023:54). Thus, despite the rise of China and its global ambitions, the transatlantic economy stills claims a hefty spot in the overall global digital economy.

Finally, as one commentator put it “If AI is poised to occupy an increasingly central place in our digital infrastructure, it’s time to think long and hard about who will control it. At present, Big Tech companies such as Microsoft, Google and Amazon are positioned to strengthen their foothold on the digital economy, consolidating their power by dominating both the commercial AI industry and the horizon for future AI research.” (West, S. 2023: x ) With such huge stakes at play within the on-going AI and data-driven global economy, regulatory efforts will be a critical test for the transatlantic community. The next section examines the state of play of AI regulatory and governance developments on both sides of the Atlantic.

**The EU’s Legal Framework on Artificial Intelligence**

*****Figure 1: EU AI Act Timeline*

As the timeline here indicates (Figure 1), the European Union has been deliberating publicly over its AI strategy since 2018 when it launched the European AI Strategy enlisting over 4,000 stakeholders to debate the societal implications of AI. Following this, the Commission constituted a High-Level Expert Group (HLEG) to develop Guidelines for Trustworthy Artificial Intelligence. This ‘whole of society’ approach is worth special emphasis here. Although spearheaded by the European Commission in its traditional role as the sole proposer of legislation, the development of the EU’s AI approach has clearly been a multi-stakeholder process of consultation with technologists, researchers, ethicists, business leaders, as well as policy makers at all levels of government. These activities culminated in a series of strategy pronouncements, including the “Ethical Guidelines for Trustworthy AI” in 2019 and the White Paper released in 2020. The White Paper generated broad public debates, and the Commission received more than one thousand inputs from a wide swath of European society, spanning business, universities, and NGOs. Ultimately, the White Paper laid the groundwork for the Regulation proposed on April 21, 2021. It set out the vision for AI in Europe as an “ecosystem of excellence and trust” and rather than a rights-based approach, it pursues a proportionate, risk-based one. The 25-page White Paper evolved into a 108-page regulation excluding the various annex documents. What merits attention here in terms of how the White Paper contents shaped the new policy development is the steadfast commitment to ensuring the public’s trust with the emphasis on the seven key requirements: **human agency and oversight; technical robustness and safety; privacy and data governance; transparency; diversity, non-discrimination, and fairness; societal and environmental well-being; and accountability**. Without trust, there will be no uptake in further adoptions of AI technologies that the EU hopes to see to become more innovative and competitive while maintaining European values.Summarized below are the core components of the proposed regulation as articulated by EU Commissioner Vestager.

The legal framework takes a “proportionate and risk-based approach” that ensures stricter regulation for AI technologies that pose a higher risk to our lives. The framework classifies the use of AI into the following four categories: “minimal or no risk at all” applications, which are permitted without restrictions; “limited-risk” applications, which are subject to transparency obligations; “high-risk” applications that “interfere with important aspects of our lives,” which are subject to several different obligations that include checks to ensure unbiased and high-quality training data and sufficient oversight in the design and implementation of the system; and finally applications that “use subliminal techniques to cause physical or psychological harm to someone,” which would be banned altogether. In short, Vestager stresses that the legal framework “shapes the trust we must build if we want people and businesses to embrace AI solutions[[13]](#footnote-14).”

 Thus, the EU is insistent that the Regulation will be proportionate and spells out clear criteria to differentiate innocuous, benign AI from high-risk applications with the strictest rules to be applied only to high-risk AI while the rest remain voluntary, non-binding guidelines. This will prevent overburdening entrepreneurs or stifling innovation through complex and unnecessary requirements and compliance costs. The EU especially wants to avoid being “excessively prescriptive” or putting disproportionate burden on small and medium-sized enterprises (SMEs) as they also stressed in the White Paper (see page 17). One of the most innovative aspects of the legislation that shows the commitment to promoting SMEs’ capacity to use AI is the regulatory sandbox instrument:

“The objectives of the regulatory sandboxes should be to foster AI innovation by establishing a controlled experimentation and testing environment in the development and pre-marketing phase with a view to ensuring compliance of the innovative AI systems with this Regulation and other relevant Union and Member States legislation[[14]](#footnote-15).”

This element is yet another attempt by the EU to encourage SMEs to innovate while ensuring compliance to the regulation. As Anu Bradford commented: “The US and China have been the ones that have been innovators, and leading in investment into AI, [b]ut this regulation seeks to put the EU back in the game. It is trying to balance the idea that the EU needs to become more of a technological superpower and get itself in the game with China and the US, without compromising its European values or fundamental rights” (*Financial Times*, May 1, 2021). Implicitly embedded in these remarks is the “capacity to lead” question that goes to the heart of long-standing debates in the EU studies literature about what constitutes the EU’s power and how to measure its international influence. (Manners 2002; Aggestam 2008; Whitman 2011; Damro 2012; Fahey et al. 2020). The AI Act’s implementation and international reach will be the latest empirical test of these theoretical debates as well as a gauge of the EU’s evolution and role as a global actor.

Privacy was seen as one of the core normative elements in the discussion above around ethics and AI, so it is imperative to underscore the EU’s related regulatory advantage therewith. Privacy is a fundamental right guaranteed by the Charter of Fundamental Rights, enshrined and enforceable by law via the EU treaties, so GDPR will be relevant as will a host of existing EU legislation on product safety and liability, consumer protection, and race and gender equality measures and protections. In fact, Brattberg et al. assert that the “GDPR could become a unique comparative advantage for the EU when it comes to making good on its ambitions to become a leader in ‘trustworthy AI’” (2020: 11) echoing Renda’s conclusions around the potential for the EU to be a global leader in the ‘AI for Good field’ (2019:109).

Furthermore, the EU’s AI regulation needs to be understood as integral to the much broader digital strategy announced in 2017 and now articulated in the recently released 2030 Digital Compass. The accompanying Digital Services Act, Digital Markets Act, and data strategy attempt to reorient the EU’s industrial strategy to be fit for both the green and digital transformations, while also considering the new geopolitical and economic realities of the 21st century international system. The EU’s broader digital strategy is based on the Electronic Commerce Directive[[15]](#footnote-16), which was adopted in 2000 as the foundational legal framework for digital services in the EU. The Digital Services Act, Digital Markets Act, Data Governance Strategy, Data Act and more recently the Commission’s proposed Path to the Digital Decade build on the e-Commerce Directive alongside the AI Act with concrete mechanisms to achieve the EU’s digital transformation objectives by 2030. The AI legislation is not only a major part of the EU’s digital transformation but is also intrinsically related to the accompanying legislation proposed. These pieces of legislation and initiatives will surely bolster the EU’s potential to become a global AI leader if not necessarily through technological prowess, indutiably via its regulatory and normative power.

* 1. ***Digital Services Act***

Unveiled by the European Commission on 15 December 2020 and entered into force on 16 November 2022, the Digital Services Act[[16]](#footnote-17) (DSA) package aims principally to better protect EU digital users from the several risks posed by technology by establishing an extensive framework that ensures transparency and clear accountability for online platforms. Even though the DSA is not geared specifically towards AI or technologies employing AI, the sheer scope of the package and the mechanisms that it requires service providers to establish will play a major role in EU’s vision of a trustworthy AI infrastructure. In particular, the DSA will have major implications for how algorithms and algorithmic systems will be used and regulated.

For one, the newly established oversight and accountability regime will allow for reliable, consistent monitoring of the algorithmic systems employed by service providers and more effectively assess any harmful biases or profiling. The increased transparency measures should also require platforms to be more explicit with how their algorithms work, enabling platforms to be more liable for any decisions made. Furthermore, Article 11 proposes to require compliance from providers that are not based in the EU but still provide intermediary services in the region by mandating legal points of contact. This legal requirement, if passed in the Parliament, would incentivize providers of AI services throughout the world to adhere to EU regulations given the sheer size of the European market and the ubiquity of data, supporting our claim that the proposed AI Act (and accompanying digital strategy) would meet the legal non-divisibility requirement of the Brussels Effect. It is also important to note that the provisions on regulating illegal and unsafe content online in the DSA could possibly encourage service providers to further use algorithms as filtering tools[[17]](#footnote-18), which has the risk of being biased and thus negatively affecting the rights of digital users. The next few years will paint a clearer picture on how effective the liability and transparency provisions will be in protecting EU citizens from the risks of algorithmic systems.

* 1. ***Digital Markets Act***

The European Commission also rolled out the accompanying Digital Markets Act[[18]](#footnote-19) (DMA) on 15December 2020, and it has entered into force on 1 November 2022. The DMA addresses the disproportionately large market power held by large online platforms and primarily intends to enable SMEs to reap all the benefits of the digital economy in a “contestable and fair environment.”

The EU wishes to provide technology start-ups and SMEs with new opportunities to innovate and in the process provide better services for end users, which would mean major implications in the context of the EU AI framework. Several assessments attribute the EU’s supposed inability to keep up competitively with global players such as the US and China to the lack of incentives for talent to remain in the EU and of policies that enable the transfer of research successes into business applications. In fact, the authors of the Castro et. al report leveraged CB Insights’ advanced search tool to identify that “AI start-ups in the United States and China both received more venture capital and private equity funding in 2017 alone than EU AI start-ups received in the three years covering 2016 through 2018.”

With the DMA, the EU details several obligations that prevent ‘gatekeepers’–– a designation based on quantitative measures that determine if the platform has a significant impact on the internal market––from exploiting their position of power to retain talent and create a competitive environment for SMEs and start-ups. The EU hopes that the various incentives for SMEs and checks on gatekeepers will drive more innovation in the AI sector and enable the EU to become a global AI leader in terms of technological ability as well, which will be crucial in solidifying the EU as a key player in the global AI space.

* 1. ***Data Governance Act***

A major element of the EU’s broader digital framework is its strategy for data––arguably the most impactful set of legislation alongside the AI act in deciding the union’s future in the AI space. The EU data strategy aims to establish a single market for data to further the union’s objective of achieving “global competitiveness and data sovereignty[[19]](#footnote-20).” In order to realize this vision, the European Commission adopted the Regulation on European Data Governance[[20]](#footnote-21) (commonly called the Data Governance Act) on 25 November 2020, which proposes to establish several mechanisms that boost data availability and sharing across states and sectors through the re-use of certain public data, the potentially anonymization or pseudonymization of personal data, and methods to allow individuals and non-profit companies to provide consent to process personal data. The Data Governance Act (DGA) entered into force on 23 June 2022 and is applicable from September 2023.

The Data Governance Act (DGA) will have major implications for the EU’s AI framework, as access to large datasets is integral to accurately train models in today’s AI systems. A major critique of the EU’s AI prowess is its lack of public, easily accessible data. In fact, the EU places behind the US and China in nearly every single data metric in the Castro et al. report, having considerably lower accessible data than the US and especially China in domains ranging from internet of things data to productivity data.

The DGA is what the Commission hopes will enable the EU to become a leading data economy and in the process a giant in the AI space, all while remaining true to its values and principles. In fact, the impact assessment support study[[21]](#footnote-22) on the DGA projects savings of approximately €120 billion a year in the EU health sector and up to €20 billion a year in labour costs of car drivers with the increased availability of health and mobility data alone. Furthermore, the European Digital SME Alliance, the largest European network of information and communication technology SMEs, strongly welcomes the regulation, albeit with some concerns regarding the lack of legal clarity when it comes to data protection, privacy, and intellectual property[[22]](#footnote-23).

* 1. ***Data Act***

On February 23rd, 2022, the EU unveiled the second key pillar of its 2020 European Data Strategy: the regulation on harmonised rules on fair access to and use of data––now called the European Data Act. The Data Act proposes major legislative overhaul in the way data is accessed, shared, and leveraged. The act proposes fundamental changes in the design of products in a way that makes associated data easily accessible; an “unfairness test” in data sharing contracts between businesses to prevent exploitation of SMEs; several data interoperability measures to facilitate switching between data processing services; as well as obligations to protect EU-held non-personal data from international access.

The Data Act significantly builds upon the DGA’s measures to increase data availability and further the DMA’s objective by introducing data interoperability measures and measures to empower SMEs and incite more actors to participate in the data economy. In furthering the objectives of the DGA and DMA, the Data Act will have positive implications for the development of EU AI by bolstering the data economy. The application of the Brussel’s effect is especially relevant in this legislation as the data in question are not simply dependent on the location of the data provider but rather any data placed on the EU market, including non-personal data[[23]](#footnote-24). The ubiquity of data and the size of the EU market will strongly urge non-EU digital service providers to make appropriate changes.

Compared to the DGA, the Data Act is very bold in what it aims to accomplish and is thus likely to encounter major pushback by the industry and governments alike[[24]](#footnote-25). In fact, in the Commission’s May 2021 Inception Impact Assessment[[25]](#footnote-26), there was strong opposition from the industry towards the proposed data transfer provisions. The obligatory nature of the provisions and restrictions on data sharing with non-EU countries has already caused technological and automotive industries to push back[[26]](#footnote-27). Most concerning, however, is the clear division among EU member states regarding their views on the Data Act, with the Netherlands even publishing a non-paper[[27]](#footnote-28) on the Data Act in January criticizing the proposed data-transfer obligations among other provisions. The EU has been increasingly cautious in their digital strategy to avoid being overly prescriptive with their legislation for good reason––evidenced especially by their choice to implement a risk-based approach for the AI Act––and while the Data Act is a noticeable shift away from this trend, we will have to wait to see how the legislation evolves over the next year at least to better gauge its potential impact on the EU’s AI space. In sum, the main takeaway from the overview of these critical pieces of legislation is the coherence of the EU’s vision and goals driving its proclaimed ‘digital decade’ and the recognition that successful implementation of these governance mechanisms will be critical to both Europe’s societal and economic resilience as well as its global influence (Vestager and Borrell 2021).

**The United States Approach to Regulating AI**

Unlike the EU with its GDPR regime, the United States lacks a comprehensive centralized set of regulations that protect the privacy of personal information. As evidenced by the discussion of the GDPR, data protection legislation lays the foundation for the current efforts to establish AI frameworks and policies in the EU. Thus, the lack of directly implemented policies and protections for American citizens and consumers signifies a key difference between the EU and the US in terms of their approaches to develop and regulate emerging technology, particularly AI with the latter choosing to prioritize military and commercial competitiveness over ethics-based regulation.

Russel Vought of the Office of Management and Budget (2020) was unequivocal in this general policy disposition, underscoring the Trump Administration’s reluctance to regulate AI in his memorandum to the White House executive departments: [[28]](#footnote-29)

Federal agencies must avoid regulatory or non-regulatory actions that needlessly hamper AI innovation and growth… Agencies should consider new regulation only after they have reached the decision…that Federal regulation is necessary.

The Biden Administration’s approach, however, is more open to international regulatory cooperation and receptive to a values-based approach to AI policy. Through appointments and prioritization of the Office of Science and Technology Policy (OSTP), Biden aims to invest in AI both as a geopolitical tool and a scientific advancement, unlike Trump’s sole approach in utilizing AI as a geopolitical tool (Hao, 2021). Director Dr. Alondra Nelson and Dr. Eric Lander (2021) of the OSTP emphasize the need for an *AI Bill of Rights* to “clarify the rights and freedoms we expect data-driven technologies to respect,” specifically citing sources of problems within AI systems such as insufficient datasets to represent American society in cases of discriminatory arrests and algorithmic tendencies towards extreme bounds like negative “sentiment analysis” of race, gender, and general internet trends (Schwartz, 2021). In recognition of the issues associated with AI systems, Nelson and Lander attempt to place the burden away from the lack of regulation and on the competitive landscape: [[29]](#footnote-30)

In the United States, some of the failings of AI may be unintentional, but they are serious and they disproportionately affect already marginalized individuals and communities… In a competitive marketplace, it may seem easier to cut corners. But it’s unacceptable to create AI systems that will harm many people…

However, the absence of regulation has allowed companies to operate without regulatory checks and adherence to data privacy concerns under previous presidencies. At this time, federal remedial steps to address data privacy, marginalization, safety, and security may influence some change in how corporations develop AI. The OSTP proposed the utilization of federal contracts to increase adherence to the potential AI Bill of Rights. However, the leverage of federal contracts pales in comparison to the EU with respect to penalization of regulatory infractions. The Biden administration’s lack of commitment is further reflected by the OSTP’s release of the initial draft of the AI Bill of Rights as a “Blueprint” in October of 2022, declaring a nonbinding roadmap for the regulation and development of AI[[30]](#footnote-31). Thus, working with the EU to address emerging technologies may allow the US to regain some semblance of regulatory capacity over tech companies domestically and abroad.

**National Security Commission on Artificial Intelligence**

Since 2018, the National Security Commission (NSC) has encouraged AI innovation by spending and centralizing resources to focus on the defence community in the domain of artificial intelligence. The NSC’s 2021 report evaluates the status and prospects of AI development in the US in the context of national security and foreign threats posed to the US AI Agenda. Overall, this report paints a picture of the US as significantly behind the Chinese government in competing in the AI markets. In terms of policy recommendations and government oversight, the report mentions the need for regulations and concrete definitions of high-risk AI and accountability. Nevertheless, the vagueness of these recommendations underscores the upper hand the EU has in shaping the international AI landscape.

**U.S. Congress and Federal Agencies**

 Current congressional debates indicate a renewed agenda to pursue regulation of emerging data-based technologies through federal antitrust legislation. Through the FTC Act and Equal Credit Opportunity Act, the legal basis exists to prevent corporations from using “unfair or deceptive practices” or “biased algorithms” on the counts of race, colour, religion, sex, age, and more. In addition, the FTC has developed a new approach called “Algorithmic Destruction” (Kaye, 2022), increasing enforcement against duplicitous data harvesting systems. The information displayed in Table 2 encapsulates the broad approach the US is taking to expand upon AI regulation:

*Table 2: Proposed Congressional Bills*

|  |  |  |
| --- | --- | --- |
| **Bills** | **Name** | **Implication** |
| [(S 3572, HR 6580)](https://www.congress.gov/bill/117th-congress/house-bill/6580?q=%7B%22search%22%3A%5B%22hr6580%22%2C%22hr6580%22%5D%7D&s=7&r=1) | Algorithmic Accountability Act of 2022 | AI Systems – Consumer Impact |
| [(S 2134)](https://www.congress.gov/bill/117th-congress/senate-bill/2134?q=%7B%22search%22%3A%5B%22data+protection%22%2C%22data%22%2C%22protection%22%5D%7D&s=6&r=2) | Data Protection Act of 2021 | Data Rights – Creation of Data Protection Agency |
| [(S 1896, HR 3611)](https://www.govtrack.us/congress/bills/117/s1896) | Algorithmic Justice and Online Platform Transparency Act | Algorithmic Transparency |
| [(S 3029, HR 2154)](https://www.congress.gov/bill/117th-congress/senate-bill/3029?q=%7B%22search%22%3A%5B%22Algorithm%22%2C%22Algorithm%22%5D%7D&s=4&r=2) | Protecting Americans from Dangerous Algorithms Act  | Algorithmic Transparency – Extremist Content |
| [(HR 3825)](https://www.govtrack.us/congress/bills/117/hr3825) | Ending Platform Monopolies Act | Antitrust – Competitiveness  |
| [(HR 3826)](https://www.govtrack.us/congress/bills/117/hr3826) | Platform Competition and Opportunity Act | Antitrust - Acquisitions |
| [(S 3572, HR 6580)](https://www.congress.gov/bill/117th-congress/house-bill/6580?q=%7B%22search%22%3A%5B%22hr6580%22%2C%22hr6580%22%5D%7D&s=7&r=1) | Algorithmic Accountability Act of 2022 | AI Systems – Consumer Impact |

Overall, the Congressional approach to regulating AI has shifted to address algorithmic impact and data privacy. As put by Sen. John Hickenlooper following a US Senate panel in 2022 discussing AI regulation, the US should lead in establishing AI fairness standards; however, “what form that takes, whether it’d be a rulemaking or as legislation,” still lacks materialization and commitment[[31]](#footnote-32) Mirroring the EU’s risk-based regulatory framework, the National Institute of Standards & Technology (NIST) released the *AI Risk Management Framework: Initial Draft* in March 2022. As the framework provides guidance for the AI lifecycle, it coincides with many principles of the EU AI Act: robustness, safety, privacy, accountability, and transparency. However, due its status as initial voluntary guidelines, the risk management framework (RMF) lacks explicit protection against discrimination as well as protection for consumers and the environment. It also falls short of established risk profiles to guide regulatory enforcement. The initial American approach to a risk-based framework provides another avenue for collaborative international standards depending on the synergy of the expected NIST classifications and established EU classifications for risk in AI.

Significantly less of the American legislation considers the ethical implications of algorithmic technologies. Additionally, the US does not guarantee privacy as a fundamental right in the same way as the EU does. However, with recent advancements on corporate data collection and algorithmic oversight in the US, the transatlantic alliance may converge on standards for AI regulation. The EU-US Trade and Technology Council (TTC) will enable a united push to set the international standards on “ethical and secure” AI technologies and provide a strengthened counter to Chinese AI advancements.

***Potential for transatlantic cooperation***

**Transatlantic discrepancies: the CLOUD Act vs. the EU data regime**

The US Clarifying Lawful Overseas Use of Data (CLOUD) Act serves as a forum for facilitating bilateral international agreements for transferring personal data and evidence for criminal proceedings. This framework is differentiated from EU guidelines and existing legislation in two ways: the security of personal data and autonomy of corporations. The conflict between these two approaches to data sharing highlights the need for an agreement between these two jurisdictions to further the goal of a transatlantic AI framework. As the CLOUD Act attempts to establish extraterritorial access of data, it is in contradiction with the EU’s GDPR and most likely the recently proposed EU Data Act, which addresses the protection of EU-held non-personal data from international access.

On this note, Rep. Mike McCaul, a co-chair of the Congressional Internet Caucus and ranking member of the House Foreign Affairs Committee, voiced concerns about the legislation proposed in the EU digital strategy such as the Digital Market Act, claiming that it would “localize the cloud to only the EU” preventing “free flow of information” (Baksh, 2022). The success of the transatlantic effort hinges upon the resolution of these conflicts, including data sharing agreements with the US to allow multinational corporations to conduct business. In fact, resolving these conflicts are items on the TTC agenda waiting to be addressed.

**EU-US Trade and Technology Council**

Established under the direction of US President Biden and European Commission President von der Leyen in June 2021, the EU-US Trade and Technology Council serves as the preliminary forum for bilateral international agreements with respect to emerging technologies. Through this Council, ten working groups have been established to address topics such as technological standards cooperation as well as data governance and technological platforms. Through the established Joint Technology Competition Policy Dialogue and goals to expand trade and investment, reduce technical barriers in trade, and facilitate cooperation, this collaboration provides common ground for establishing standards on an international level (countering those of the Chinese). In December 2022, the TTC issued a Joint Roadmap for informing approaches to Trustworthy AI and Risk Management, outlined key areas for collaboration and reached a consensus on the vocabulary for monitoring emergent AI risks[[32]](#footnote-33).

As Rep. Robin Kelly (D-Ill.) asserted in the EU parliamentary hearing, “Nations that do not share our commitment to democratic values are racing to be the leaders in AI and set the rules for the world…We cannot allow this to happen[[33]](#footnote-34).” As the above sections outline, the EU and US are starkly aware of the challenges a non-democratic actor may pose to the international order in regard to AI governance. However, it is important to note that the Chinese approach to AI as they aim to portray themselves not only as a technical leader but also as a global standard setter and ethical authority. In fact, some have claimed that the Chinese legislation drew inspiration from the EU’s legislation (citation?).

With the release of the 2022 regulation on recommendation algorithms, China has mandated corporations to divulge their algorithms with “public opinion characteristics” and “social mobilization capabilities”[[34]](#footnote-35). The algorithm registry simply lists the security concerns of recommendation-based algorithms and not the performance and impact of such systems. As echoed through previous developments in the digital arena, further implementations of AI regulations from China like the registry affirm China’s desire to control and expand their influence in the AI landscape. Interestingly, the Beijing Academy of Artificial Intelligence published the Beijing Artificial Intelligence Principles in 2019, outlining their perception of the Chinese government's ethical principles, which mirror those of the EU and the OECD. However, recent developments such as the Algorithm Registry contradict their published ethical guidelines. As the fundamental values of freedom, privacy, and security do not align between the Chinese Communist Party and those of the EU and US, similarities of ethical frameworks or general AI development approaches may be limited to the surface level of “Doing Good” and “Being Responsible.” Nonetheless, the very fact that the Chinese AI strategy includes a narrative about ethical AI illustrates the capacity of the EU as a norm shaper given that the Chinese vision—hollow as it may be—mimics the thrust of the EU and OECD ethical frameworks. A recent report has put the contest for global regulatory influence largely in court of the EU and China and urges that lessons be learned from both. “Neither the EU nor China is taking a purely horizontal or vertical approach to governing AI. But the EU’s AI Act leans horizontal and China’s algorithm regulations incline vertically. By digging into these two experiments in AI governance, policymakers can begin to draw out lessons for their own regulatory approaches.” (O’Shaugnessy and Sheehan 2023: x). Surely democratic countries with open economies will more likely opt for the European approach but the US getting on board will be the first critical test.

As this paper aimed to show, the AI regulatory debate is about much more than technological dominance and economic competition and even more than assessing potential harms and benefits and putting standards in place to manage AI developments, it goes to the core of what it means to be human and how much stock societies want to invest in maintaining choice and agency vis-à-vis this fast-evolving and all-encompassing technological revolution. In this vein, it may very well be a final test of the solidity or fragility of purported shared transatlantic values. The latest development to date that illustrates that is the open call of 12 MEPs for a Global AI summit led by President Biden and President von der Leyen. Although the EU AI Act is very close to adoption, lawmakers are sensitive to how technology advances more rapidly than legislation, and furthermore cognizant that coordination with the US is vital.

*Together with Brando Benifei, as* [*European Parliament*](https://www.linkedin.com/company/european-parliament/) *co-rapporteurs on the EU Artificial Intelligence Act, I have initiated a political call to action on very powerful Artificial Intelligence uniting all major political groups in the Parliament working on the* [*#AIAct*](https://www.linkedin.com/feed/hashtag/?keywords=aiact&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7053684633447591936)*.

As law makers, we undertake to provide a first set of rules on General Purpose AI and in particular powerful foundation models, in order to steer the development of this technology in a direction that is human-centric, safe, and trustworthy.

We call on European Commission President* [*Ursula von der Leyen*](https://www.linkedin.com/in/ACoAAC9t7NIBcdtQHhTWVV25CbaB7E6s729cTMQ) *and U.S. President Joe Biden to convene a global Summit on Artificial Intelligence and on the democracies of the world to start working on governance models for very powerful AI. As this is a global topic, we also invite all countries, including nondemocratic ones, to be responsible and exercise restraint in the development of very powerful artificial intelligence.

Last but not least, we call on companies and researchers developing very powerful AI to do so with an ever-increasing sense of responsibility, in cooperation with policy-makers, and while ensuring they maintain effective control over the AI they are building.*With: Brando Benifei, [Axel Voss](https://www.linkedin.com/in/ACoAAA57RnMBnGZm_-T1p0epJvw5Gjl_ebxw7DA), [Deirdre Clune MEP](https://www.linkedin.com/in/ACoAABXYWzYBghb4wGUz7j2O3xvCp2EGXBDdE4s), Petar Vitanov, [Svenja Hahn](https://www.linkedin.com/in/ACoAABYS1AcBqB2KPq8c9H1_OxtHEphvLN_j018), [Sergey Lagodinsky](https://www.linkedin.com/in/ACoAABi5ZJkBIldzJD55u0pWLbrt8Hkxej1sJ6Q), [Kim van Sparrentak](https://www.linkedin.com/in/ACoAABD-pi0BmPdV4VDUeC4PpYvlvchxlJFPNtc), Kosma Zlotowski, [Rob Rooken](https://www.linkedin.com/in/ACoAAAAIk7cB5FanOckMO0kCb0kgDOFJjo24gS4), [Eva Maydell (Paunova)](https://www.linkedin.com/in/ACoAAAo_ra4BIELsb8oZZbV5vLMUs0zHFdWny_4), [Marcel Kolaja](https://www.linkedin.com/in/ACoAAAJGt8kByIXlngHOWkJAPJE-LOaxevPf56I)

Source: Twitter

**Conclusions**

The foregoing analysis has demonstrated that the EU has already exercised global leadership as a norm entrepreneur by inspiring the emphasis on human-centric, as well as trustworthy, ethical, and secure AI in the various frameworks of other governments and international organisations. This should reinforce its first-mover advantage and enhance the prospects of a potential “Brussels Effect” once the Regulation comes into force. The key difference with many of the other existing frameworks is that those are mostly voluntary and will not have the compliance mechanism that the EU has promulgated in its AI Act. In fact, although the OECD principles were heavily shaped by EU Member States, the absence of the enforcement instrument is a key difference between its framework and the EU Regulation.

 The Chinese ethical principles must be considered with circumspection, especially in contrast to their current practices and uses of AI such as widespread facial recognition for social scoring, which the EU’s regulation expressly prohibits. Thus, we see very little compatibility and expect that there will be negative reverberations of the EU’s legislation across all areas of its commercial and diplomatic relationship with China.

As clear from the more in-depth analysis of the United States’ strategy on AI, the European Union’s prospects to become a global standard setter in the AI field may hinge on whether the transatlantic allies can first find common ground on data privacy protections and data sharing practices. The EU-US Trade and Technology Council should serve to promote greater cooperation and coordination but the crucial question is whether the US will be able to implement pending legislation given its fraught domestic politics. Furthermore, will the geostrategic rivalry between China and the US overshadow and accentuate divergences around other unresolved issues related to data privacy and protection, digital taxation, etc. If so, this time around the EU seems prepared to assert its strategic autonomy and pursue with all due speed its attempt to become a global leader through a values-based and human-centric approach to the pervasive and defining technology of the 21st century, and survey research indicates that it will do so with the force of public opinion and moral weight on its side[[35]](#footnote-36).

Tellingly, the authors of *Turning Point* devote an entire chapter to a review of survey data regarding citizen and consumer attitudes about emerging technologies. They find clear evidence of a “techlash” where increasing percentages of the American public are concerned that technology will invade personal privacy, take jobs away, cause greater bias and discrimination, and generally “endanger humanity” (West and Allen 2020: 168). Likewise, as conveyed in Commissioner Vestager’s speech and confirmed in the Castro et al. report, Europeans are generally distrusting of algorithmic decision making and invasive AI. As a result, the EU’s overarching premise behind its regulatory and ethical approach to AI is centred on building trust and promoting understanding of what AI is and how it is used. Public sentiment seems to be well aligned with the spirit and letter of the EU’s AI approach to build confidence while also remaining open to the many benefits of AI. Given the interdependencies with the US economy as well as new security challenges, the question of whether the EU can effectively leverage its first-mover AI policy status coupled with its digital strategy to harness its market power and regulatory reach to assert its values and become a credible global leader and AI norm entrepreneur may be contingent on the US seeing those values as its identical to its own.

**References**

Acemoglu, Daron and Simon Johnson. 2023. “What’s Wrong with ChatGPT? *Project Syndicate.* (February 6, 2023)

Aggestam. Lisbeth. 2008. “Ethical Power Europe?” *International Affairs*

 Vol. 84 (1): 1-11.

Allen & Overy. “The EU Data Act - What Could This Mean for You?” 14 Mar. 2022, https://www.allenovery.com/en-gb/global/news-and-insights/publications/the-eu-data-act-what-could-this-mean-for-you.

Allen, J.R. and Husain, A. 2017. ‘The next space race is artificial intelligence’. *Foreign Policy*, November 3.

# Andreas Goldthau & Nick Sitter. 2015. Soft power with a hard edge: EU policy tools and energy security *Review of International Political Economy*, vol. 22(5): 941-965.

Archibugi, Daniele, and Vitantonio Mariella. 2021. “Is a European Recovery Possible Without

High-Tech Public Corporations?” *Intereconomics* 56(3): 160–66.

BAAI. *Beijing AI Principles*, BAAI, 25 May 2019, <https://www-pre.baai.ac.cn/news/beijing-ai-principles-en.html>.

Bach, D. and Newman, A. 2007. “The European regulatory state and global public policy: micro-institutions, macro-influence, *Journal of European Public Policy*, 14:6, 827- 846.

Barker, Tyson. 2020. “Europe Can't Win the Tech War It Just Started.” *Foreign Policy*, 16 Jan. https://foreignpolicy.com/2020/01/16/europe-technology-sovereignty-von-der-leyen/.

Bauer, M. and Erixon, F. 2020., “Europe’s Quest for Technology Sovereignty: Opportunities and Pitfalls,” ECIPE OCCASIONAL PAPER 02/2020 (Brussels: European Centre for International Political Economy).

Bertuzzi, Luca. “Industry Readies to Fight the Commission's Data Act Proposal.” *Euractiv*, 3 Feb. 2022, https://www.euractiv.com/section/digital/news/industry-readies-to-fight-the-commissions-data-act-proposal/.

Bradford, Anu. 2020. *The Brussels Effect: How the European Union Rules the World.* New York: Oxford University Press.

Brattberg, Erik, Raluca Csernatoni, and Venesa Rugova. 2020. *Europe and AI: Leading, Lagging*

*Behind, or Carving Its Own Way?* Carnegie Endowmnet for International Peace. [https://carnegieendowment.org/2020/07/09/europe-and-ai-leading-lagging-behind-or-carving-its-own-way-pub-82236](https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fcarnegieendowment.org%2F2020%2F07%2F09%2Feurope-and-ai-leading-lagging-behind-or-carving-its-own-way-pub-82236&data=05%7C01%7CMarshSI%40cardiff.ac.uk%7Ce566b054568d4dbdd46308dae2af6bbd%7Cbdb74b3095684856bdbf06759778fcbc%7C1%7C0%7C638071540290155906%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=6FYLv9h%2FAIXGZViRWztidKPnOZBalWB1vnsKAS4pTXQ%3D&reserved=0)

Bretherton, C. and Vogler, J. 1999 *The European Union as a Global Actor*. London and New York: Routledge.

2020 Carnegie Endowment for International Peace Working Paper “European and AI: Leading, Lagging Behind or Carving Its Own Way”

Bryson, J. 2019. “The Past Decade and Future of AI’s Impact on Society” in *Towards a New Enlightenment? A Transcendent Decade*. BBVA Open Mind Series <https://www.bbvaopenmind.com/en/books/towards-a-new-enlightenment-a-transcendent-decade/>

Calderaro, Andrea, and Stella Blumfelde. 2022. “Artificial Intelligence and EU Security: The False Promise of Digital Sovereignty.” *European Security* 31(3): 415–34.

Castro, Daniel, and Nick Wallace. “The Impact of the EU’s New Data Protection Regulation on AI.” *Center for Data Innovation*, 27 Mar. 2018, [www2.datainnovation.org/2018-impact-gdpr-ai.pdf](http://www2.datainnovation.org/2018-impact-gdpr-ai.pdf).

Castro, Daniel, et al. 2019. “Who Is Winning the AI Race: China, the EU or the United States?” *Center for Data Innovation*. [www2.datainnovation.org/2019-china-eu-us-ai.pdf](http://www2.datainnovation.org/2019-china-eu-us-ai.pdf).

Centre for European Policy Studies. *The EU Data Act: towards a New European Data Revolution? Centre for European Policy Studies*, Mar. 2022, https://www.ceps.eu/download/publication/?id=35693&pdf=CEPS-PI2022-05\_The-EU-Data-Act.pdf.

Clarke, Laurie. 2021. “Technical Standards-Setting Is the NEXT China-US Showdown.” *Tech Monitor*, 23 June 2021, techmonitor.ai/technology/technical-standards-setting-shaping-up-next-china-us-showdown.

Coyle, Diane. 2023. “ The Promise and Peril of Generative AI” Project Syndicate (April 10, 2023) <https://www.project-syndicate.org/commentary/generative-ai-tools-could-displace-millions-of-workers-but-also-boost-productivity-growth-by-diane-coyle-2023-04?barrier>

 [Csernatoni](https://carnegieeurope.eu/experts/1709), R.  and Katerina Mavrona 2022. The Artificial Intelligence and Cybersecurity Nexus: Taking Stock of the European Union’s Approach <https://carnegieeurope.eu/2022/09/15/artificial-intelligence-and-cybersecurity-nexus-taking-stock-of-european-union-s-approach-pub-87886?utm_source=carnegieemail&utm_medium=email&utm_campaign=announcement&mkt_tok=ODEzLVhZVS00MjIAAAGG33U_V8a4BtT_cKVIMJYuqus-66hhblqqNflHfTI57sVaIf4Um3U8kohFAX1BnlrGWfbRCoIVRK1urMML9cel3aUevBXCAhYeJ2qK0BY>

Damro, C. 2012. ‘Market Power Europe,’ *Journal of European Public Policy*, 19/5, 682-99.

Damien Geradin, Theano Karanikioti & Dimitrios Katsifis. 2021. GDPR Myopia: how a well-intended regulation ended up favouring large online platforms - the case of ad tech, *European Competition Journal*, 17:1, 47-92, DOI: [10.1080/17441056.2020.1848059](https://doi.org/10.1080/17441056.2020.1848059).

Dempsey, M. McBride, K., Haataja, M. and Bryson, J. 2021. “Transnational digital governance and its impact on artificial intelligence” DOI:[10.31235/osf.io/xu3jr](http://dx.doi.org/10.31235/osf.io/xu3jr)

Dentons. 2020. “The Upcoming Digital Services Act and the Role of Algorithms.” *Dentons*, 9 Dec. 2020, [www.dentons.com/en/insights/articles/2020/december/9/the-upcoming-digital-services-act-and-the-role-of-algorithms](http://www.dentons.com/en/insights/articles/2020/december/9/the-upcoming-digital-services-act-and-the-role-of-algorithms).

Dept. for Business, Energy & Industrial Strategy. 2021. “National Security and Investment: Sectors in Scope of the Mandatory Regime”*,* 2 Mar. 2021, <https://www.gov.uk/government/consultations/national-security-and-investment-mandatory-notification-sectors>.

Dept. of Commerce, NIST. *AI Risk Management Framework: Initial Draft*, 17 Mar. 2022. www.nist.gov/system/files/documents/2022/03/17/AI-RMF-1stdraft.pdf.

DiMolfetta, David. *Biden Administration AI Policy Efforts to Be Complex Balancing Act in 2023*, 5 Jan. 2023, https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/biden-administration-ai-policy-efforts-to-be-complex-balancing-act-in-2023-73477426.

Estrada, Danielle, and David Walko. “FTC Takes Action against Company Formerly Known as Weight Watchers for Illegally Collecting Kids' Sensitive Health Data.” *Federal Trade Commission*, 4 Mar. 2022, www.ftc.gov/news-events/news/press-releases/2022/03/ftc-takes-action-against-company-formerly-known-weight-watchers-illegally-collecting-kids-sensitive.

Etzioni, A. and Etzioni, O. 2017. ‘Should Artificial Intelligence Be Regulated?’. *Issues in Science and Technology,* 33(4), pp.32-36.

EU in the US. 2021. “Trustworthy AI: The EU's New Regulation on a European Approach for Artificial Intelligence.” *YouTube*, EU in the US, 4 May 2021, [www.youtube.com/watch?v=3AVt-jIekks](http://www.youtube.com/watch?v=3AVt-jIekks).

European Commission. “A Definition of AI: Main Capabilities and Scientific Disciplines.” *HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE*, European Commission, [www.aepd.es/sites/default/files/2019-12/ai-definition.pdf](http://www.aepd.es/sites/default/files/2019-12/ai-definition.pdf).

European Commission. “Article 4 GDPR – Definitions.” *General Data Protection Regulation (GDPR)*, European Commission, 25 May 2018, [gdpr-info.eu/art-4-gdpr/.](https://gtvault.sharepoint.com/sites/EUAIResearch/Shared%20Documents/Logistics/gdpr-info.eu/art-4-gdpr)

European Commission. “Coordinated Plan on Artificial Intelligence 2021 Review.” *Coordinated Plan on Artificial Intelligence 2021 Review | Shaping Europe's Digital Future*, European Commission, digital-strategy.ec.europa.eu/en/library/coordinated-plan-artificial-intelligence-2021-review.

European Commission. “Ethics Guidelines for Trustworthy AI.” *Ethics Guidelines for Trustworthy AI | Shaping Europe's Digital Future*, 8 Apr. 2019, ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai.

European Commission. *“*Impact Assessment Report and Support Study Accompanying the Proposal for a Regulation on Data Governance.” European Commission, <https://digital-strategy.ec.europa.eu/en/library/impact-assessment-report-and-support-study-accompanying-proposal-regulation-data-governance>.

European Commission. “Inception Impact Assessment.” *European Commission*, 28 May 2021, [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13045-Data-Act-&-amended-rules-on-the-legal-protection-of-databases\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13045-Data-Act-%26-amended-rules-on-the-legal-protection-of-databases_en).

European Commission. “Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on a Single Market For Digital Services (Digital Services Act).” *EUR*, European Commission, 15 Dec. 2020, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=COM%3A2020%3A825%3AFIN>.

European Commission. “Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Contestable and Fair Markets in the Digital Sector (Digital Markets Act).” *EUR*, European Commission, 15 Dec. 2020, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=COM%3A2020%3A842%3AFIN.

European Commission. “Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on European Data Governance (Data Governance Act).” *EUR*, European Commission, 25 Nov. 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0767>.

European Commission. “Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on harmonised rules on fair access to and use of data (Data Act).” *EUR*, European Commission, 25 Nov. 2020, <https://digital-strategy.ec.europa.eu/en/library/data-act-proposal-regulation-harmonised-rules-fair-access-and-use-data>.

European Commission. “Speech by Executive Vice-President Vestager at the Press Conference on Fostering a European Approach to Artificial Intelligence.” *European Commission* , 21 Apr. 2021, [ec.europa.eu/commission/presscorner/detail/e%20n/speech\_21\_1866](https://gtvault.sharepoint.com/sites/EUAIResearch/Shared%20Documents/Logistics/ec.europa.eu/commission/presscorner/detail/e%20n/speech_21_1866).

European Commission. “Strategy for Data.” *Shaping Europe's Digital Future*, European Commission, <https://digital-strategy.ec.europa.eu/en/policies/strategy-data>.

European Digital SME Alliance. “DIGITAL SME Position Paper on the European Data Governance Act.” *European Digital SME Alliance*, Apr. 2021, [www.digitalsme.eu/digital/uploads/Data-Governance-Act-Consultation-Position.pdf](http://www.digitalsme.eu/digital/uploads/Data-Governance-Act-Consultation-Position.pdf).

European Parliament, and Council of the European Union. “Directive on Electronic Commerce.” *European Union*, 8 June 2000, https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32000L0031.

European Union External Action. “Why European Strategic Autonomy Matters.” *EEAS*, https://eeas.europa.eu/headquarters/headquarters-homepage/89865/why-european-strategic-autonomy-matters\_en.

EU-US Trade and Technology Council. “TTC Joint Roadmap on Evaluation and Measurement Tools for Trustworthy AI and Risk Management.” *Shaping Europe's Digital Future*, European Commission, 1 Dec. 2022, https://digital-strategy.ec.europa.eu/en/library/ttc-joint-roadmap-trustworthy-ai-and-risk-management.

Evas, Tatjana. 2020. “European Framework on ethical aspects of Artificial intelligence, robotics and related technologies. European Parliamentary Research Service. PE 654.179 – September 2020

Executive Office of the President. “Maintaining American Leadership in Artificial Intelligence.” *Federal Register*, 14 Feb. 2019, [www.federalregister.gov/documents/2019/02/14/2019-02544/maintaining-american-leadership-in-artificial-intelligence](http://www.federalregister.gov/documents/2019/02/14/2019-02544/maintaining-american-leadership-in-artificial-intelligence).

Fahey, Elaine. 2017. *The Global Reach of EU Law*. London: Routledge.

Fahey, E. Mancini, I. Harrison, J., Suttle, O., Zelazna, E., Garcia, M., Gammage, C., Araujo, B. M., Kuner, C., Yakovleva, S., Ott, A., Moerland, A., Gehrke, T., Farrell, H., Newman, A., Kalypso, N. and Shleina, V. The EU as a Good Global Actor (City Law
School (CLS) Research Paper No. 2020/04). London, UK: City Law School, City, University of London.

Fahey, E. and Mancini, I. eds. 2022. *Understanding the EU as a Good Global Actor Ambitions, Values and Metrics*. Cheltenham: Edward Elgar.

Farrell, H. and Newman, A. L. 2014, “Domestic Institutions Beyond the Nation-State: Charting the New Interdependence Approach,” *World Politics*, 66/2, 331-63.

FTC. “FTC Grants Final Approval to Settlement with Former Cambridge Analytica CEO, App Developer over Allegations They Deceived Consumers over Collection of Facebook Data.” *Federal Trade Commission*, 18 Dec. 2019, www.ftc.gov/news-events/news/press-releases/2019/12/ftc-grants-final-approval-settlement-former-cambridge-analytica-ceo-app-developer-over-allegations.

Jilson, Elisa. “Aiming for Truth, Fairness, and Equity in Your Company's Use of Ai.” *Federal Trade Commission*, 19 Apr. 2021, www.ftc.gov/news-events/blogs/business-blog/2021/04/aiming-truth-fairness-equity-your-companys-use-ai.

Justo-Hanani, R. 2022. The politics of Artificial Intelligence regulation and governance reform in the European Union. *Policy Sci* 55**,**137–159 <https://doi.org/10.1007/s11077-022-09452-8>

Hamilton. D. and Quinlan, J. 2023. The Transtlantic Economy. American Chamber of Commerce.

Hidvegi, Fanny, and Daniel Leufer. 2019. “Laying down the Law on AI: Ethics Done, Now the EU Must Focus on Human Rights.” *Access Now* (blog), April 8. https://www.accessnow.org/laying-down-the-law-on-ai-ethics-done-now-the-eu-must- focus-on-human-rights/.

Howarth, I. 2023. “We must slow down the race to God-like AI.” *The Financial Times*, April 13,

2023.

“Interinstitutional File: 2021/0106(COD).” *Council of the European Union*, 25 Nov. 2022, https://data.consilium.europa.eu/doc/document/ST-14954-2022-INIT/en/pdf.

Kaye, Kate. “The FTC's New Enforcement Weapon Spells Death for Algorithms.” *Protocol*, Protocol, 18 Mar. 2022, www.protocol.com/policy/ftc-algorithm-destroy-data-privacy.

Kingdom of the Netherlands. *Non-Paper on the Data Act*. *Kingdom of the Netherlands*, 1 Oct. 2021, https://www.permanentrepresentations.nl/permanent-representations/pr-eu-brussels/documents/publications/2021/10/1/non-paper-on-the-data-act.

Kop, Mauritz. 2021. “EU Artificial Intelligence Act: The EU Approach to AI” <https://www-cdn.law.stanford.edu/wp-content/uploads/2021/09/2021-09-28-EU-Artificial-Intelligence-Act-The-European-Approach-to-AI.pdf>

Kumar, N., et al. 2016. ‘Ethical aspects and future of artificial intelligence’. In *2016 IEEE International Conference on Innovation and Challenges in Cyber Security (ICICCS- INBUSH)* (pp. 111-114).

Lander, Eric. “Americans Need a Bill of Rights for an AI-Powered World.” Wired, Conde Nast, 8 Oct. 2021, www.wired.com/story/opinion-bill-of-rights-artificial-intelligence/.

Larsson, S. 2020. On the Governance of Artificial Intelligence through Ethics Guidelines. Asian Journal of Law and Society. 7 (3 , 437-451. Doi: 10.1017/als. 2020. 19

Laskai, Lorand, and Graham Webster. (2019) “Translation: Chinese Expert Group Offers 'Governance Principles' for 'Responsible AI'.” *New America*, 17 June 2019, https://www.newamerica.org/cybersecurity-initiative/digichina/blog/translation-chinese-expert-group-offers-governance-principles-responsible-ai/.

Livingston, Scott. 2021. “The New Challenge of Communist Corporate Governance.”  *The New Challenge of Communist Corporate Governance | Center for Strategic and International Studies*, 15 Jan. 2021, www.csis.org/analysis/new-challenge-communist-corporate-governance.

Lopez, C. Todd. 2020. “DOD Adopts 5 Principles of Artificial Intelligence Ethics.” *U.S. DEPARTMENT OF DEFENSE*, DOD News, 25 Feb. 2020, [www.defense.gov/Explore/News/Article/Article/2094085/dod-adopts-5-principles-of-artificial-intelligence-ethics/](http://www.defense.gov/Explore/News/Article/Article/2094085/dod-adopts-5-principles-of-artificial-intelligence-ethics/).

Manners, I. 2002. ‘Normative Power Europe: A Contradiction in Terms?’ *Journal of Common Market Studies,* 40, 235-258.

# Marcus, G. and Reuel, A. 2023. “The world needs an international agency for artificial

# intelligence”. *The Economist*, April 22, 2023.

Mercer, S. 2020. The Limitations of European Data Protection As A Model for Global Privacy Regulation. *AJIL Unbound,* *114*, 20-25. doi:10.1017/aju.2019.83.

Metzinger, Thomas. 2019. Expert commentary: "Ethics washing" made in Europe. https://www.business-humanrights.org/en/latest-news/expert-commentary-ethics- washing-made-in-europe/ Business and Human Rights Resource Centre. April 9, 2019. Tagesspiegel

Michael Veale, 2020. A Critical Take on the Policy Recommendations of the EU

 High-Level Expert Group on Artificial Intelligence’ (2020) *European Journal of Risk*

 *Regulation,* doi:10/ggjdjs.

National Security Commission. 2020 *Final Report on Artificial Intelligence* (Chaired by Eric Schmidt and Robert Work).

Nicolaïdis, Kalypso, and Robert Howse. 2002. “‘This Is My EUtopia ...’: Narrative as Power.” *JCMS: Journal of Common Market Studies* 40(4): 767–92.

OECD. *OECD AI Principles overview*. The OECD Artificial Intelligence (AI) Principles - OECD.AI. 2022, https://oecd.ai/en/ai-principles.

Olhede SC, and Wolfe PJ (2018). The growing ubiquity of algorithms in society: implications, impacts and innovations. Phil. Trans. R. Soc. A 376: 20170364. <http://dx.doi.org/10.1098/rsta.2017.0364>.

# O’Shaughnessy, Matt and Matt Sheehan. 2023 Lessons From the World’s Two Experiments in

# AI Governance. <https://carnegieendowment.org/2023/02/14/lessons-from-world-s-two-experiments-in-ai-governance-pub-89035> Accessed March 1, 2023.

Overly, Steven, and Melissa Heikkil. “China Wants to Dominate AI. The U.S. and Europe Need Each Other to Tame It.” *POLITICO*, POLITICO, 2 Mar. 2021, [www.politico.com/news/2021/03/02/china-us-europe-ai-regulation-472120](http://www.politico.com/news/2021/03/02/china-us-europe-ai-regulation-472120).

Ovide, Shira. “What Congress Wants from Big Tech.” *The New York Times*, The New York Times, 24 June 2021, [www.nytimes.com/2021/06/24/technology/congress-big-tech.html](http://www.nytimes.com/2021/06/24/technology/congress-big-tech.html).

Oyez. "Microsoft Corp. v. AT&T Corp." *Oyez,* [www.oyez.org/cases/2006/05-1056](http://www.oyez.org/cases/2006/05-1056).

Renda, A. (2019, February 15). *Artificial intelligence: Ethics, governance and policy challenges*. Center for European Policy Studies (CEPS) Task Force. Retrieved 11 January, 2022, from <https://www.ceps.eu/download/publication/?id=10869&pdf=AI_TFR.pdf>

Reuters. “Internet Privacy Laws Revealed - How Your Personal Information Is Protected Online.” *Reuters*, [legal.thomsonreuters.com/en/insights/articles/how-your-personal-information-is-protected-online](http://legal.thomsonreuters.com/en/insights/articles/how-your-personal-information-is-protected-online).

Russel, Stuart J, and Peter Norvig. *Artificial Intelligence: A Modern Approach*. 3rd ed., Prentice Hall, 2010.

Schwartz, Oscar. 2021. “In 2016, Microsoft's Racist Chatbot Revealed the Dangers of Online Conversation.” *IEEE Spectrum*, IEEE Spectrum, 30 Sept. 2021, spectrum.ieee.org/in-2016-microsofts-racist-chatbot-revealed-the-dangers-of-online-conversation.

Schwartz, Paul M., 2019. Global Data Privacy: The EU Way (October 10, 2019). Paul M. Schwartz, Global Data Privacy: The EU Way, 94 New York University Law Review 771 (2019), Available at SSRN: [https://ssrn.com/abstract=346554](https://ssrn.com/abstract%3D346554)

Scott, B., Heumann, S. and Lorenz, P. 2018. Artificial Intelligence and Foreign Policy. Publication by Stiftung Neue Verantwortung. January 2018. Available at <https://www.stiftung-nv.de/sites/default/files/ai_foreign_policy.pdf>.

Sheehan, Matt, and Sharon Du. 2022. “What China's Algorithm Registry Reveals about AI Governance.” *Carnegie Endowment for International Peace*, 9 Dec. 2022, <https://carnegieendowment.org/2022/12/09/what-china-s-algorithm-registry-reveals-about-ai-governance-pub-88606>.

Stanford University. 2021. “Summary of AI Provisions from the National Defense Authorization Act 2021.” *Stanford HAI*, 2021, [hai.stanford.edu/policy/policy-resources/summary-ai-provisions-national-defense-authorization-act-2021](http://hai.stanford.edu/policy/policy-resources/summary-ai-provisions-national-defense-authorization-act-2021).

Stix, Charlotte. 2019. A Survey of the EU’s Artificial Intelligence Ecosystem <http://lcfi.ac.uk/media/uploads/files/Stix_Europe_AI_Final.pdf>

Tarkowski, Alek, and Paul Keller. 2021. “Regulate, but Build Too: For a European Digital Sphere.” *Social Europe*, 21 Dec. 2021, <https://socialeurope.eu/regulate-but-build-too-for-a-european-digital-sphere>.

Tortoise Media. 2020. “The Global AI Index Methodology.” *The Global AI Index*, Tortoise Media, Dec. 2020, [www.tortoisemedia.com/wp-content/uploads/sites/3/2020/12/Global-AI-Index-Methodology-201203.pdf](http://www.tortoisemedia.com/wp-content/uploads/sites/3/2020/12/Global-AI-Index-Methodology-201203.pdf).

Tortoise Media. 2021. “The Global AI Index | Spotlighting the G20 Nations.” *The Global AI Index*, Tortoise, [www.theglobalaisummit.com/FINAL-Spotlighting-the-g20-Nations-Report.pdf](http://www.theglobalaisummit.com/FINAL-Spotlighting-the-g20-Nations-Report.pdf).

The National Security Commission on Artificial Intelligence. “2021 Final Report.” *NSCAI*, 4 May 2021, [www.nscai.gov/2021-final-report/](http://www.nscai.gov/2021-final-report/).

The White House. “Blueprint for an AI Bill of Rights.” *The White House*, The United States Government, 4 Oct. 2022, https://www.whitehouse.gov/ostp/ai-bill-of-rights/.

The White House. “FACT SHEET: The American Jobs Plan.” *The White House*, The United States Government, 4 May 2021, [www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/.](http://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/)

The White House. “Remarks by President Biden at the 2021 Virtual Munich Security Conference.” *The White House*, The United States Government, 19 Feb. 2021, [www.whitehouse.gov/briefing-room/speeches-remarks/2021/02/19/remarks-by-president-biden-at-the-2021-virtual-munich-security-conference/.](http://www.whitehouse.gov/briefing-room/speeches-remarks/2021/02/19/remarks-by-president-biden-at-the-2021-virtual-munich-security-conference/)

United States, Congress, “Cross-Border Data Sharing under the CLOUD Act.” *H.R.4943 - CLOUD Act*. [www.congress.gov/bill/115th-congress/house-bill/4943](http://www.congress.gov/bill/115th-congress/house-bill/4943).

United States, Congress, House. Equal Credit Opportunity Act. *Congress.gov,* https://www.congress.gov/bill/93rd-congress/house-bill/9265. 93rd Congress, 2nd session, House Resolution 9265, passed 28 Oct. 1974.

United States, Congress, House. Federal Trade Commission Act Amendments of 1994. *Congress.gov,* https://www.congress.gov/bill/103rd-congress/house-bill/2243. 103rd Congress, 2nd session, House Resolution 2243, passed 26 Aug. 1993.

United States, Congress, House. National Artificial Intelligence Initiative Act of 2020. *Congress.gov,* <https://www.congress.gov/bill/116th-congress/house-bill/6216>. 116th Congress, 2nd session, House Resolution 6216, passed 3 Dec. 2020.

Veale, Michael and Zuiderveen Borgesius, Frederik, (2021). Demystifying the Draft EU

Artificial Intelligence Act (July 31, 2021). *Computer Law Review International* (2021) 22(4), [https://ssrn.com/abstract=3896852](https://ssrn.com/abstract%3D3896852)

Vestager, M. and Borrell, J. 2021. Why Europe’s Digital Decade Matters” Project Syndicate. (March 10, 2021) <https://www.project-syndicate.org/commentary/europe-digital-decade-by-margrethe-vestager-and-josep-borrell-2021-03?barrier=accesspaylog>

Vought, Russel T. 2020. “Guidance for Regulation of Artificial Intelligence Applications.” EXECUTIVE OFFICE OF THE PRESIDENT OFFICE OF MANAGEMENT AND BUDGET, 10 Nov. 2020.

West, D. M. and Allen, J. 2020. *Turning Point: Policymaking in the Era of Artificial Intelligence*. Washington, D.C: The Brookings Institution.

West, S.M. 2023. “Competition authorities need to move fast and break up AI

Unless regulators act, Big Tech’s dominance over the digital economy will be cemented.” *The Financial Times*. (April 17)

Wheeler, T. (2023) “ The UK and EU establish positions as regulatory first

 movers while the US watches” Brookings, March 8.

Whitman, R. 2011. *Normative Power Europe: Empirical and Theoretical Perspectives*. London: Palgrave Macmillan.

Wolff, Guntram B. 2020. “Europe May Be the World's AI Referee, but Referees Don't Win.” *Bruegel*, 19 Feb. 2020, https://www.bruegel.org/2020/02/europe-may-be-the-worlds-ai-referee-but-referees-dont-win/.

Wu, Wenjun, et al. 2020. “Ethical Principles and Governance Technology Development of AI in China.” *Engineering*, vol. 6, no. 3, 2020, pp. 302–309., doi:10.1016/j.eng.2019.12.015.

Young, A. R. 2015. “Europe’s Influence on Foreign Rules: Conditions, Context and Comparison,” *Journal of European Public Policy*. 22/9: 1233-52.

1. Released by OpenAI in November 2022, ChatGPT in early February already had more than 30 million users (now estimated at 100 million) and five million visits per day making it one of the fastest-growing software products in history with Instagram, by comparison, taking nearly a year to get its first 10 million users. <https://www.nytimes.com/2023/02/03/technology/chatgpt-openai-artificial-intelligence.html> [↑](#footnote-ref-2)
2. “Pause Giant AI Experiments: An Open Letter” published on the Future of Life’s website:

<https://futureoflife.org/open-letter/pause-giant-ai-experiments/> [↑](#footnote-ref-3)
3. For more details, see <https://www.oecd.org/science/forty-two-countries-adopt-new-oecd-principles-on-artificial-intelligence.htm> [↑](#footnote-ref-4)
4. Adopted in November 2021and accessible at [https://unesdoc.unesco.org/ark:/48223/pf0000381137](https://unesdoc.unesco.org/ark%3A/48223/pf0000381137) [↑](#footnote-ref-5)
5. European Commission. ‘A Definition of AI: Main Capabilities and Scientific Disciplines,’ 1. A similar extension of this definition appears in the AI Act, page 2. [↑](#footnote-ref-6)
6. US Congress. *National Artificial Intelligence Initiative Act of 2020 (*[*Division E, Sec. 5001*](https://www.congress.gov/116/crpt/hrpt617/CRPT-116hrpt617.pdf#page=1210)*)*. [↑](#footnote-ref-7)
7. Dept. for Business, Energy & Industrial Strategy. ‘National Security and Investment: Sectors in Scope of the Mandatory Regime.’ [↑](#footnote-ref-8)
8. OECD, ‘OECD AI Principles overview.’ [↑](#footnote-ref-9)
9. Council of the European Union. ‘Interinstitutional File: 2021/0106(COD),’ p. 4. [↑](#footnote-ref-10)
10. See: <https://corporateeurope.org/en/2023/02/lobbying-ghost-machine?tpcc=nlceodaily> [↑](#footnote-ref-11)
11. For the full brief and recommendations to the EU, see: <https://ainowinstitute.org/publication/gpai-is-high-risk-should-not-be-excluded-from-eu-ai-act>. [↑](#footnote-ref-12)
12. See her recent *Project Syndicate* commentary at https://www.project-syndicate.org/commentary/generative-ai-tools-could-displace-millions-of-workers-but-also-boost-productivity-growth-by-diane-coyle-2023-04 [↑](#footnote-ref-13)
13. European Commission. ‘Speech by Executive Vice-President Vestager at the Press Conference on Fostering a European Approach to Artificial Intelligence.’ [↑](#footnote-ref-14)
14. European Commission. *Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL LAYING DOWN HARMONISED RULES ON ARTIFICIAL INTELLIGENCE*, 34. [↑](#footnote-ref-15)
15. European Parliament, and Council of the European Union. *Directive on Electronic Commerce*, 8. [↑](#footnote-ref-16)
16. European Commission. *Digital Services Act*, 17-86. [↑](#footnote-ref-17)
17. Dentons. ‘The Upcoming Digital Services Act and the Role of Algorithms.’ [↑](#footnote-ref-18)
18. European Commission. *Digital Markets Act*, 33-54. [↑](#footnote-ref-19)
19. European Commission. ‘Strategy for Data.’ [↑](#footnote-ref-20)
20. European Commission. *Data Governance Act*, 22-40. [↑](#footnote-ref-21)
21. European Commission. *Impact Assessment Report and Support Study Accompanying the Proposal for a Regulation on Data Governance*, 2-3. [↑](#footnote-ref-22)
22. European Digital SME Alliance. ‘DIGITAL SME Position Paper on the European Data Governance Act.’ [↑](#footnote-ref-23)
23. Allen & Overy. ‘The EU Data Act - What Could This Mean for You?’ [↑](#footnote-ref-24)
24. Centre for European Policy Studies. *The EU Data Act: towards a New European Data Revolution, 3-5.* [↑](#footnote-ref-25)
25. European Commission. ‘Inception Impact Assessment.’ [↑](#footnote-ref-26)
26. Bertuzzi, Luca. ‘Industry Readies to Fight the Commission's Data Act Proposal.’ [↑](#footnote-ref-27)
27. Kingdom of the Netherlands. *Non-Paper on the Data Act, 3-4.* [↑](#footnote-ref-28)
28. Vought. ‘Guidance for Regulation of Artificial Intelligence Applications.’ [↑](#footnote-ref-29)
29. Lander. ‘Americans Need a Bill of Rights for an AI-Powered World.’ [↑](#footnote-ref-30)
30. White House. ‘Blueprint for an AI Bill of Rights.’ [↑](#footnote-ref-31)
31. DiMolfetta. ‘Biden administration AI policy efforts to be complex balancing act in 2023.’ [↑](#footnote-ref-32)
32. TTC. ‘TTC Joint Roadmap for Trustworthy AI and Risk Management.’ [↑](#footnote-ref-33)
33. Overly and Heikkil. ‘China Wants to Dominate AI. The U.S. and Europe Need Each Other to Tame It.’ [↑](#footnote-ref-34)
34. Sheehan and Du. ‘What China’s Algorithm Registry Reveals about AI Governance.’ [↑](#footnote-ref-35)
35. Two different Pew surveys show that Europeans are slightly more wary of AI than Americans <https://www.pewresearch.org/fact-tank/2020/12/15/people-globally-offer-mixed-views-of-the-impact-of-artificial-intelligence-job-automation-on-society/>.

 and that they are more supportive of government regulations in general: [https://www.pewresearch.org/fact-tank/2018/08/17/how-americans-and-western-europeans- compare-on-4-key-social-and-political-issues/](https://www.pewresearch.org/fact-tank/2018/08/17/how-americans-and-western-europeans-%09compare-on-4-key-social-and-political-issues/) [↑](#footnote-ref-36)