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Shaping the Law of AI: Transatlantic Perspectives

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Abstract

Currently, the European Commission (EC) is drafting its Law of AI. This article gives 25 AI & data regulatory recommendations to the EC, in response to its Inception Impact Assessment on the “Artificial intelligence – ethical and legal requirements” legislative proposal. In addition to a set of fundamental, overarching core AI rules, this article suggests a differentiated industry-specific approach regarding incentives and risks. Besides shaping the Law of AI, the article explores how the upcoming European AI legal framework’s norms, standards, principles and values can be connected to the United States, from a transatlantic, comparative law perspective.

In its 2019 “White Paper On Artificial Intelligence - A European approach to excellence and trust”, the EC set out its mission to foster the development and uptake of safe and lawful AI that offers legal certainty, a favourable investment climate and an innovation optimum across the Digital Single Market, while respecting fundamental rights, ensuring inclusive societal outcomes, protecting citizen’s wellbeing and safeguarding our common Humanist moral values. The White Paper is the prelude to the European Law of AI. The overall goal of this legislative initiative is to stimulate the uptake of Trustworthy AI in the EU economy. Simultaneous to preparing its Law of AI, the EC is designing a legislative framework for data governance: The Data Act.

This article argues that the EU should step up and take the lead to set global norms and standards that will shape the international Law of AI & Data system. The EU must provide a clear North Star to the world, determine direction and lead toward a purposeful destination. The time is now ripe to show ambition, leadership and guidance in building a global technology regulation framework -that will apply both on earth and in space- safeguarding human rights, the rule of law, democracy as well as social, economic and cultural rights. As it did before with the GDPR, that now has become the international standard for privacy, data sovereignty and data protection.

The article maintains that the EU needs to adopt a holistic set of overarching core AI rules. Horizontal rules which apply across all industries. These universal core rules protect our democracy and our fundamental human rights & freedoms in the Information Age. Since both innovation incentive & reward mechanisms, as well as safety/security risks vary per industry and per technology, policy makers should differentiate more explicitly between economic sectors when they design their digital governance solutions. Besides implementing the horizontal core AI rules, the article recommends a differentiated risk-based approach that contains vertical, industry specific boundary setting requirements and sector-specific AI regimes.

While it is critical that the EU considers AI as part of the European strategic autonomy, and a certain amount of strategic European digital autonomy is required to secure Europe’s culture, the article argues that it is crucial for the EU to work together with countries that share our European digital DNA, based on common interests and mutual values. Sovereignty will ensure strong partnerships amongst equals. Against this backdrop, it is essential to incentivise systematic, multilateral transatlantic cooperation and to jointly achieve inclusive, participative digitization. Transatlantic
and geopolitical dialogue on disruptive technology, together with the development of globally accepted technology standards and benchmarks, must be enhanced.

In addition, the article explores how the upcoming European AI & Data Legal-Ethical Framework’s norms, standards, principles and values could be effectively exported from the EU to the US. In general, comparison of legal systems is a rewarding source for legal development and legal reform. Comparative law methods can help facilitate the process of taking on (parts of) the EU framework in the US on state level or even federal level. Given the global nature of the interdisciplinary challenges to be addressed, progression-oriented comparative legal scholarship can play a central role. As the increased use of information and communication technology, including the design and roll-out of its accompanying infrastructure are global phenomena without territorial boundaries, macro level, transnational AI legislation is urgently needed.

The article demonstrates that legal issues and legal uncertainty surrounding AI & data ask for urgent legislative intervention, both in the EU, in the US and beyond. Without legal intervention, these issues continue to cause legal uncertainty and lack of trust, conflict with fundamental human rights, disrupt the transatlantic markets and ultimately hinder AI infused sustainable innovation.

The article concludes that the uncodified territory of AI & Law represents a once in a generation chance to harmonize the AI acquis internationally. The global nature of the identified challenges pertaining to AI, machine learning and data calls for a holistic, unified approach that does justice to ubiquitous nature of AI. An articulated, culturally sensitive global acquis creates a level playing field, supports healthy competition and endorses legal certainty and trust. In this light, it is important that our future AI regulatory frameworks promote “openness”, address risks and take into account the complex, intertwined legal, technical, social and ethical dimensions of our AI & dataversum. When shaping the Law of AI, we should have a clear vision in our minds of the type of society we want, and the things we care so deeply about in the Information Age, at both sides of the Ocean.

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1. Introduction

The race for AI dominance is a competition in values, as much as a competition in technology. In light of global power shifts and altering geopolitical relations, it is indispensable to the continuance of life as we know it, including the rights and freedoms we cherish, that the EU and the U.S will build a transatlantic sustainable innovation ecosystem together, based on mutual economic interests and shared democratic & constitutional values. Discussing available informed policy variations to achieve this ecosystem, will contribute to the establishment of an underlying unified innovation friendly regulatory framework for AI & data.1 Designing joint, flexible governance solutions that can deal with rapidly changing exponential innovation challenges, have the potential to bring back harmony, confidence, competitiveness and resilience to the various areas of the transatlantic markets.

At the time of writing of this article, the European Commission (EC) is drafting its Law of AI. This contribution gives 25 AI & data regulatory recommendations to the EC, in response to its Inception Impact Assessment on the “Artificial intelligence – ethical and legal requirements”2 legislative proposal. In addition to a set of fundamental, overarching AI rules, this article suggests a differentiated industry-specific approach regarding incentives and risks. Besides shaping the Law of AI, the article explores how the upcoming European AI legal framework’s norms, standards, principles and values can be connected to (made applicable in) the United States.

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In its 2019 ‘White Paper On Artificial Intelligence - A European approach to excellence and trust’, the EC set out its mission to foster the development and uptake of safe and lawful AI that offers legal certainty, a favourable investment climate and an innovation optimum across the Digital Single Market, while respecting fundamental rights, ensuring inclusive societal outcomes, protecting citizen’s wellbeing and safeguarding our common Humanist moral values. The White Paper is the prelude to the European Law of AI, which is expected to be adopted by the EC in the first half of 2021. The overall goal of this legislative initiative is to stimulate the uptake of Trustworthy AI in the EU economy. Simultaneous to preparing its Law of AI, the EC is designing a legislative framework for data governance: The Data Act (expected in mid-2021).

2. The Law of AI: Legislative Recommendations

The EU should step up and take the lead to set global norms and standards that will shape the international Law of AI & Data system. The EU must provide a clear North Star to the world, determine direction and lead toward a purposeful destination. The time is now ripe to show ambition, leadership and guidance in building a global technology regulation framework - that will apply both on earth and in space - safeguarding human rights, the rule of law, democracy

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4 Kop, supra note ______ (Stanford Beyond).
5 Trustworthy AI has 7 key requirements. These are: 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. See: https://ec.europa.eu/digital-single-market/en/artificial-intelligence.
6 Kop, supra note ______ (Stanford Beyond).
as well as social, economic and cultural rights. As it did before with the GDPR, that now has become the international standard for privacy, data sovereignty and data protection.9

1. First, the EU needs to adopt a holistic set of overarching core AI rules.10 Horizontal rules which apply across all industries.11 These universal core rules12 protect our democracy and our fundamental human rights & freedoms in the Information Age.13

2. Second, the EU should use interoperability in combination with data portability as a policy lever.14 The EU should implement mandatory data exchange protocols (e.g. data formats, data models, APIs, mobile services and digital operating systems) and standards for interoperability and interconnectivity in the Internet of Things, together with associated IEC, ISO and NEN standards and certification.15 AI & data driven products and services created

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10 Principles often lead to rules. See also: Artificial Intelligence: The Global Race for the New Frontier - Narrated by David Strathairn, https://www.youtube.com/watch?v=1tdIBdZ0KSg. The wording of the core rules must be consistent with legal formulations that have stood the test of time.


13 These universal rules build on the principles of EU Trustworthy AI and give inter alia answers to questions on how to regulate development of AI for Good, and provide a clear vision on what kind of decisions we want machines to make and rules for humans in the loop e.g. an absolute right to human intervention. They set ex ante transparency requirements, such as obligatory disclaimers in apps that inform users that they are dealing with a machine instead of a human. Rules for quality of algorithms and machine learning training data. They set rules for darker sides of AI, such as surveillance technologies, facial recognition, AI/data bias, autonomous warfare, social credit reward systems etc. These rules also prohibit to predict human behaviour e.g. manipulate consumers into buying articles, engage adversarial disinformation campaigns or influencing people into voting for a particular political party. See also European Commission's Paul Nemitz at AI World, 24 December 2019, [https://www.youtube.com/watch?v=UEhdPTz87Lg](https://www.youtube.com/watch?v=UEhdPTz87Lg).

14 See also: Mark Lemley interview at The Robots Are Coming podcast, July 21, 2020, [https://anchor.fm/ken-and-michael/episodes/The-Robots-Are-Coming-10---Professor-Mark-Lemley-eh1sdv](https://anchor.fm/ken-and-michael/episodes/The-Robots-Are-Coming-10---Professor-Mark-Lemley-eh1sdv)

15 See also: CEN-CENELEC, Artificial Intelligence, Blockchain and Distributed Ledger Technologies, [https://www.cenelec.eu/standards/Topics/ArtificialIntelligence/Pages/Default.aspx](https://www.cenelec.eu/standards/Topics/ArtificialIntelligence/Pages/Default.aspx). The CEN-CENELEC AI Focus Group is preparing a European Road Map for AI standardization, which is expected to be finalised in September 2020, see: [https://www.youtube.com/watch?v=LZn91vb9188](https://www.youtube.com/watch?v=LZn91vb9188). For further reading on standardisation
within the EU or elsewhere in the world should abide by EU benchmarks, including safety and conformity assessments, and adhere to high technical, legal and ethical standards that reflect Trustworthy AI core values, purpose and mission, before they can obtain a CE-marking and enter the European markets.\textsuperscript{16}

3. AI’s dynamic and elusive nature asks for agile, flexible governance solutions.\textsuperscript{17} Designing a system that can quickly adapt to changing circumstances should be a key starting point.\textsuperscript{18} Agility allows for swift application of policies and solutions that effectively respond to citizen’s and business expectations, and to global calamities such as the COVID pandemic. Moreover, normative preferences about how the Law of AI should be are dynamic and contextual, as society is in constant flux.\textsuperscript{19} This means that regulating technology is an ongoing effort, and that related laws need to be updated on a rolling basis.

Lawmakers should not be afraid to explore new concepts of rights & regulations, learn from past mistakes and experiment with unconventional solutions such as legal sandboxes. \textit{Ex ante} impact assessments, multi-stake holder dialogue and \textit{ex post} evaluations should be used to

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\textsuperscript{16} Excessive standardization, with adverse consequences for innovation, competition and consumer welfare in the data-driven economy, should however be avoided. The effects of requiring all categories of AI to be benchmarked by law \textit{ex ante}, and utilizing open standards before it can obtain a CE-marking should be assessed in light of innovation incentives and global competition. The competitive and innovative dynamics of open ICT standards should be analysed. See: Zafrilla Díaz-Marta, Vicente and Ferrandis, Carlos Muñoz, Open Standards and Open Source: Characterisation and Typologies (May 15, 2020). Available at SSRN: https://ssrn.com/abstract=3632406.


\textsuperscript{18} See also World Economic Forum White Paper, \textit{supra} note....

\textsuperscript{19} Kop. \textit{supra} note....... (Harvard)
review success and utility of new laws. These methods can help to keep regulation up to date.

4. Since both innovation incentive & reward mechanisms, as well as safety/security risks vary per industry and per technology, policy makers should differentiate more explicitly between economic sectors when they design their digital governance solutions. Besides implementing the horizontal core AI rules, I recommend a differentiated risk-based approach that contains vertical, industry specific boundary setting requirements and sector-specific AI regimes. Additionally, I foresee a multilevel approach pertaining to the application of the Law of AI, i.e. on a transnational, national, sectoral, organizational and individual level.

Because of the multidimensional nature of AI, one-size-fits-all solutions are not realistic. A silver bullet or catch-all approach would condense complex realities into oversimplified stories.

In practise, the suggested differentiated risk-based approach means that certain industry specific boundary setting requirements and sector-specific AI regimes in energy, transport/self-driving trucks, healthcare, advertising, finance and defence will be different from requirements and customary regimes in entertainment, art, food-feed-agri and logistics.

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22 For further reading on multilevel governance, see: Arijit Paul et al., A multilevel approach for assessing business strategies on climate change; Monica Di Gregorio et al., Multi-level governance and power in climate change policy networks; and Orlando, Emanuela. (2014), The evolution of EU policy and law in the environmental field: Achievements and current challenges. The EU, the US and Global Climate Governance. 61-80.  
23 See also World Economic Forum White Paper, supra note....  
25 For an analysis of Healthcare related legal challenges in the U.S. and Europe, see: Gerke, Sara and Minssen, Timo and Cohen, I. Glenn, Ethical and Legal Challenges of Artificial Intelligence-Driven Health Care (April 6,
5. I advise against an overreactionary, precautionary approach. Rigid application of the precautionary principle in EU law promotes excessive caution, hinders progress, and remains at odds with accelerated technological innovation.\textsuperscript{26} The lower the risk, the lower the required compliance (without trade-offs to the Trustworthy AI paradigm).\textsuperscript{27} The next step is to group risks, adopt relevant criteria for identifying and categorizing high-risk applications, define an industry-sensitive pyramid of criticality for AI, as well as propose concrete actions aimed at reducing safety risks by proactive legislation, certification & benchmarking, values based design\textsuperscript{28} and impact assessments.\textsuperscript{29}

6. I suggest a broad definition of AI (subject matter) that includes synergies with other disruptive tech such as DLT/blockchain, quantum computing and analogue computing. Machine learning & quantum computing hybrids should be within the scope of our novel law.\textsuperscript{30} Hybridization of transformative technologies, such as AI with biochemistry or AI with nanotechnology, as well human-AI symbiosis\textsuperscript{31} ought to adhere to the Trustworthy AI paradigm. A broader scope means more impact (though perhaps more initial costs/investments) and increased long term benefits.

\textsuperscript{26} See also: Pelkmans & Renda, \textit{supra} note.............., and Kop. \textit{supra} note....... (Stanford ML)
\textsuperscript{27} For further reading on voluntary labelling of low-risk AI, see: CEN-CENELEC response to the European Commission’s White Paper on Artificial Intelligence, \url{https://www.cencenelec.eu/standards/Topics/Documents/CEN-CLC%20AI%20FG_White%20Paper%20Response_Final%20Version_June%202020.pdf}.
\textsuperscript{28} For a techno-sociological analysis of value based design of AI systems, see: Mona Sloane, Emanuel Moss, Olaitan Awomolo, Laura Forlano, Participation is not a Design Fix for Machine Learning, \url{https://arxiv.org/abs/2007.02423}. For an applied ethics approach to AI systems and data, see: Gry Hasselbalch, A Framework for a Data Interest Analysis of Artificial Intelligence (2020), \url{https://www.academia.edu/44079804/A_Framework_for_a_Data_Interest_Analysis_of_Artificial_Intelligence}.
\textsuperscript{29} See also: Council of Europe, Submission to the Consultation on the “White Paper on Artificial Intelligence – a European approach to excellence and trust”, Contribution by the Secretariat of the Council of Europe, 19 June 2020.
\textsuperscript{31} See for example: \url{https://neuralink.com/}
7. To make AI and machine learning thrive, we have to re-examine the applicability and scope of (intellectual) property rights to data, including copyrights, sui generis database rights and trade secrets. Constructing territorially applicable antitrust laws together with forward thinking IP regimes (including a Unitary Patent system that differentiates between sectors) can help to prevent cartelization and the formation of extreme big tech monopolies, driven by the internet’s natural tendency to cause network effects. IP regimes that nurture innovation and creativity, and ensure integrity of the market place. There should be a right to process (e.g. access, share, analyse, re-use) data for machine learning purposes. I advise against introducing new layers of counterproductive, innovation stifling exclusive rights.

8. A robust public domain, that includes open, democratized data should be endorsed in general. It is imperative that the EU democratizes vital means of production within the

32 For a comparison of American, European and Chinese case law on key aspects of copyright law in the digital age, see: Péter Mezei, Dóra Hajdú, Luis Javier Capote-Pérez and Jie Qin, Comparative Digital Copyright Law (Vandeplas publishing 2020).
34 See also: Hoffmann-Riem, supra note.............
35 See also Granieri & Renda, supra note..........  
38 Kop, supra note .... (Harvard). This overarching right includes public and private data and has certain limitations.
context of AI, machine learning & reasoning and data, and encourages federated learning &
transfer learning on open and democratized data.  

9. Regulation, rights and responsibilities should also be in line with the United Nations 2030
Agenda including its Sustainable Development Goals, and adhere to openness in the sense of the upcoming UNESCO Open Science Recommendation.  

10. When shaping the Law of AI, we should also take principles of international private law, such as lex fori, lex situs and lex loci delicti, into account. These principles aim to connect factors which are used to determine whether parties are physically present, or their activities are associated with certain jurisdictions and legal regimes. International private law determines which court is competent, regulates choice of law and provides conflict rules.

Thorough comparative legal analysis should be performed. The Law of AI impact assessment should also investigate implementation practicalities in monist and dualist countries. Since digital infrastructures are not confined by any borders, forum shopping and cross-border regulatory conflicts must be avoided.  

11. I think it is indispensable that the EU also provide incentives to build and augment datasets, algorithms and inference systems, by layering traditional and alternative innovation incentive & allocation options such as prizes, subsidies, fines, benchmarks and competitions.  

41 Kop. supra note....... (Harvard). For further reading on federated learning, see: Kairouz, Peter et al. (2019), Advances and Open Problems in Federated Learning, MIT Media Lab (Dec. 10, 2019),
42 United Nations, Transforming our world: the 2030 Agenda for Sustainable Development,
43 AI4EQ, Response to the Public Consultation on the European Commission «White Paper On Artificial Intelligence: A European Approach to Excellence an
Trust»,
44 Kop. supra note....... (Texas).
45 See also Hoffmann-Riem, supra note........
Available at: https://digitalcommons.law.yale.edu/ylj/vol128/iss3/1. See also Kop. supra note....... (Stanford Beyond AI).
12. In my view, guidance is an important part of the implementation and enforcement phase of the Law of AI, as explaining its requirements uphold trust, legal certainty and freedom to operate amongst stakeholders and society in general. Policymakers should take citizens and businesses by hand and construct capable, specialized institutions that provide guidance on the current possibilities regarding the development and use of AI, machine learning and data processing. Institutions that can cut red tape burdens. Government structures that can adequately manage digital transformation and protect the digital infrastructure of the Internet of Everything.

The long terms costs of underinvesting in this area is falling behind globally. In the same vein, the EU should provide clarity about the specific roles and responsibilities among government, the private sector, non-profits and individuals. Likewise, I can see a role for specialized regulatory agencies to enforce the higher principles of the Law of AI in specific industries and economic sectors. Identified obstacles to oversight and enforcement, such as the insignificance of borders and the avoidance of strict legal constraints should be taken away. It is pivotal that sufficient attention and funding goes to implementing, applying and explaining new technology related regulations to both incumbents and the general public.

The uptake of trusted AI infused technologies by the general public can assist us in finding accelerated and scaled solutions to the big challenges we face, such as climate breakdown, withering natural resources, interplanetary travel, diversity, equality and inclusivity.

13. In the current state of AI, the right to a human decision, human intervention as well as interpretability and explainability of AI are necessary preconditions for Trustworthy AI. I

47 Kop. supra note....... (Harvard).
48 See also Pelkmans & Renda, supra note....
49 See also World Economic Forum White Paper, supra note....
50 id.
51 Kop. supra note....... (Harvard).
believe that the possibility of human intervention is an essential aspect of gaining trust and creating legal certainty within civic society.

14. I advise however not to limit robust, benchmarked AI, as we will then lose its greatest benefits. In combination with a human sanity check to avoid coincidences, which includes the option of human intervention. Too much precaution will hinder exponential innovation, disruption should not and cannot be overly controlled.

Retaining a future, optimistic scenario in which AI will develop into benevolent technology, I envisage that the focus on these principles will eventually move to the background. In an AI driven world that has solved the AI control problem, the right to a human decision will eventually become meaningless.53

15. For the sake of coherence, complementarity and interpretability, the EU must ensure that the Law of AI functions in an efficient manner at the intersection of law and tech such as trade law, fair competition/antitrust law44, intellectual property, privacy, investment law, tax law, contract law (e.g. freedom of contract), tort law, corporate criminal liability law, insurance law, employment law (e.g. transition costs of workers replaced by AI) and consumer law. Core AI rules should be methodically linked to other areas of the legal system and embedded in existing regulatory structures.55 New laws should be congruent with requirements set by existing laws as well as sector/industry specific laws e.g. the Medical

52 See also Lemley interview, supra note........
53 id. See also: Müller, supra note......
Device Regulation (MDR)\(^{56}\) the Machinery Directive, the General Product Safety Directive and the product liability regime.\(^{57,58}\) They should also respect International Treaties.

A fragmented patchwork of national rules has to be avoided at all costs.\(^{59}\) Moreover, a coherent European-wide approach to AI that complements member states’ own actions is vital. In order to build a vibrant Europe-wide AI ecosystem that can compete on an international level, alignment of the national AI strategies of EU members is required.\(^{60}\)

16. A healthy AI-ecosystem that is built on legal certainty, democratic values and trust, contains utilitarian companies that produce relevant, beneficial innovation. It is key that corporations are made aware of their global responsibilities and utilize ethical business practises.\(^{61}\) The law is needed to set minimal standards of behaviour. In this respect, excluding liability for AI products and services in general terms and conditions should be forbidden. Undesirable winner-takes-all effects ought to be avoided and solved. Existing power constellations in the digital economy must be critically assessed. This also means more

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\(^{56}\) For an analysis of the MDR, the IVDR and the GDPR that concludes that there is no need for new AI legislation, see: COCIR, the European Coordination Committee of the Radiological, Electromedical and Healthcare IT Industry, COCIR Analysis on AI in medical Device Legislation - September 2020, https://www.cocir.org/media-centre/publications/article/cocir-analysis-on-ai-in-medical-device-legislation-september-2020.html.

\(^{57}\) The obligations for AI developers go beyond product liability. For example, an AI should never do anything that would be prohibited for a human. Businesses and engineers should be responsible for the technologies they develop. See: Paul Nemitz & Matthias Pfeffer, Prinzip Mensch. Macht, Freiheit und Demokratie im Zeitalter der Künstlichen Intelligenz, https://prinzipmensch.wordpress.com/. See also https://youtu.be/vIQ029wMLTU.

\(^{58}\) For liability of autonomous AI systems, see: Schirmer, Jan-Erik. (2020). Artificial Intelligence and Legal Personality: Introducing “Teilrechtsfähigkeit”: A Partial Legal Status Made in Germany. 10.1007/978-3-030-32361-5_6, in Regulating Artificial Intelligence, Editors: Wischmeyer, Thomas, Rademacher, Timo (Eds.) (Springer 2020); and Hennemann, Moritz. (2020). Artificial Intelligence and Competition Law. 10.1007/978-3-030-32361-5_16, in Regulating Artificial Intelligence, Editors: Wischmeyer, Thomas, Rademacher, Timo (Eds.) (Springer 2020).


\(^{60}\) In the same vein, see Brattberg et al., supra note...... (Carnegie)

\(^{61}\) Paul Nemitz & Matthias Pfeffer, supra note...... See also World Economic Forum White Paper, supra note....
aggressively regulating behaviour of companies with too much market power⁶² e.g. enforcing merger laws, not letting dominant monopolists buy any new companies, avoid killer acquisitions⁶³, forge healthy venture-capitalist models, increase business dynamism and create a level playing field with breathing room for SME’s to flourish.⁶⁴

17. Besides AI regulation, the EU should implement an innovation cluster-friendly employment law legal framework in which employee mobility is central, without all kinds of non-competition clauses. To the example of the California and Massachusetts innovation clusters. An intrinsic part of the technological innovation process is the skills agenda. The EU should focus on interdisciplinary competencies that are desired or obsolete on the labor market, and help workers becoming double-educated and more resilient against change.

18. The EU should encourage technology transfer⁶⁵ and eliminate lag time i.e. advance the flow of scientific and technological research (e.g. university spin-offs) to the marketplace and to wider society, along with associated skills and procedures.

19. The EU should actively further equal distribution - beyond path dependency - of the benefits and advances of AI and its value chains across society. We should do socially useful things with these benefits, put profits and gains in healthcare, in improving infrastructure and in solving challenges facing our planet.⁶⁶ The EU should prioritize on using AI’s benefits to

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⁶⁵ See also Granieri & Renda, supra note....... For an analysis of forced technology transfer in China against the background of the US-China trade war, see: Prud'homme, Dan, Reform of China’s ‘Forced’ Technology Transfer Policies (July 1, 2019). University of Oxford, Faculty of Law, OBLB, Available at SSRN: https://ssrn.com/abstract=3514053.

⁶⁶ Governments should develop policies that focus on social, economic and environmental sustainability. See: Laguna, J. M. (2014). Institutional Politics, Power Constellations, and Urban Social Sustainability: A
reduce income inequality. Digital taxes should be increased – tax regimes ought to be more progressive in general. To make everybody feel included, winners need to give back to society.

20. Adjacent to regulation I can see an important role for harmonized AI Impact Assessments such as the Dutch AIIA & Code of Conduct\(^{(67)}\) that combines technical, legal and ethical standards\(^{(68)}\), HLEG’s Assessment List for Trustworthy Artificial Intelligence (ALTAI) for self-assessment and Council of Europe’s Recommendations on the human rights impacts of algorithmic systems\(^{(69)}\) and relevant CAHAI guidelines in this regard.\(^{(70)}\) Self-regulation alone should never be enough: industries simply do not have the same incentives to promote public good as governments do.

Coordinated, risk-based assessments and codes of conduct enhance awareness and stimulate forging responsible tech in a proactive manner, in an ongoing effort to balance the effects of disruptive, exponential innovation within and beyond the Digital Single Market. Law and ethics often interact with each other. Ethical standards ought however to be a supplementation to legal measures, and not a replacement.

21. Synchronous to a coordinated, differentiated industry-specific approach regarding incentives and risks, the EU should actively shape technology for good and embed norms, standards, principles and values into the architecture of our technology, by means of Trustworthy AI by Design.\(^{(71)}\) For example by cultivating federated learning and generative adversarial network (GAN) methods, cryptography, anonymisation and privacy-preserving

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\(^{(68)}\) See also World Economic Forum White Paper, [supra note...].

\(^{(69)}\) Recommendation of the Committee of Ministers to member States on the human rights impacts of algorithmic systems - CM/Rec (2020)1.

\(^{(70)}\) For further reading on the types of rules and regulations feasible for AI, see: Hoffmann-Riem, [supra note...].

\(^{(71)}\) Kop, [supra note...](Stanford ML).
synthetic spatio-temporal trajectory dataset generation techniques. The alternative is that societies with social norms, democratic standards and ethical priorities that are perhaps dissimilar in temperament or even incompatible with our own system, impose their values on us through the design and distribution of their technology.

22. It is crucial for the EU to work together with countries that share our European digital DNA, based on common interests and mutual values. Multilateral cooperation with any country that wishes to jointly achieve inclusive, participative digitization is paramount. Against this backdrop, it is essential to incentivise systematic transatlantic cooperation.

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72 See also: Kyle Wiggers, AI has a privacy problem, but these techniques could fix it, Venturebeat December 21 2019, https://venturebeat.com/2019/12/21/ai-has-a-privacy-problem-but-these-techniques-could-fix-it/, and Kop, supra note....(Stanford ML).


74 See Kop, supra note........ (Stanford ML). See also: Atlantic Council, Beyond 5G, Central Europe will be key to countering Chinese technological influence, August 14 2020, https://www.atlanticcouncil.org/blogs/new-atlanticist/beyond-5g-central-europe-will-be-key-to-countering-chinese-technological-influence/.


76 First, countries need to agree on AI principles, through a culturally sensitive approach to ethical values. In some cases, exporting values, or consensus about their hierarchy will be difficult. This is a challenge for establishing a harmonized global AI acquis. A successful example is Star Trek’s ‘Prime Directive’. See also Berkman Klein Center, supra note....., and World Economic Forum White Paper, supra note....


78 See also: Atlantic Council, Democracy vs. authoritarianism: The role of American foreign policy (a discussion on the United States leading the democratic world and promoting democratic values effectively in the current geopolitical climate), 20 August 2020, https://www.youtube.com/watch?v=NFSx3ZEY5u8.
the development of globally accepted technology standards and benchmarks, must be enhanced.  

23. A central policy objective should be to enable fair-trading conditions between key information age players, such as online platforms and its users. In a proportional and efficient manner. Conditions that can help bringing back harmony to the various areas of the European and transatlantic markets. Informed public policies will strengthen our multilateral trading system and result in closer, intensified economic relations across The Atlantic.

24. It is critical that the EU considers AI as part of the European strategic autonomy. A certain amount of European digital autonomy is required to secure Europe’s culture. Sovereignty will ensure strong partnerships amongst equals.

25. Lastly, purposeful digitization policies must be sensitive to context – cultural, political and social, as well as to demographic, economic and political circumstances in each Member State. As the increased use of information and communication technology, including the design and roll-out of its accompanying infrastructure are global phenomena without territorial boundaries, macro level, transnational AI legislation is urgently needed. Creation, implementation, maintenance, enforcement and adjudication of the Law of AI within the Digital Single Market and beyond, will be a formidable challenge.

We should expect the EC to manoeuvre in such a way that as many of the described preferences as possible -including establishing the suggested universal core AI rules together

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79 See also Kop, *supra* note....(Stanford Beyond).
80 See also Kop, *supra* note....(Texas).
82 See also Odlum, *supra* note.......... 
83 See also World Economic Forum White Paper, *supra* note....
84 See also Hoffmann-Riem, *supra* note........
85 See also World Economic Forum White Paper, *supra* note....
with a differentiated risk-based approach- can be realized at the present time, without thereby diminishing its long-term prospects.86

3. Exporting the European AI Legal-Ethical Framework to the United States

In the United States, a well-balanced legal-ethical-technical system that regulates the development and use of AI in the data-driven economy in mind, does not yet exist.87 As with the GDPR, which inspired the Californian CCPA, one can expect the final EU AI 2021 framework to be adopted in the US soon after its implementation.88 Differences between civil and common law systems seem not to be a hurdle for a legal transplant of core principles.89 AI legislation for European companies also stimulates other parties, such as American companies to follow these rules.90 Firms serving EU customers appear use higher levels of data protection.91 Raising professional awareness of legal, regulatory, ethical and policy challenges encompassing exponential innovation will strengthen mutual understanding between the EU and the U.S. and expedite transatlantic collaboration.92 How can norms, standards, principles and values be effectively exported from the EU to the US within the

88 The U.S. Safe Data Act, presented on 17 September 2020 by Senators Wicker, Thune, Fischer, Blackburn, introduces consumer data privacy legislation on a federal level. See: https://www.commerce.senate.gov/2020/9/wicker-thune-fischer-blackburn-introduce-consumer-data-privacy-legislation. At the moment it is unclear how this legislation, if adopted by Congress, will interface with state level consumer data protection legislation such as the CCPA.
89 Legal transplants likely to be more successful if there is nothing there yet (i.e. no existing data protection laws, no existing AI regimes that could cause conflicts). For further reading on differences and similarities between common and civil law traditions, see: Paul Goldstein & Bernt Hugenholtz, International Copyright: Principles, Law, and Practice (4rd edn, OUP 2019).
90 Microsoft for example is effectively exporting the GDPR to other parts of the world by using the GDPR principles as a starting point for the Microsoft privacy policy.
92 Kop, supra note______________ (Stanford Beyond).
context of AI & data? Comparative law methods can help facilitate the process of taking on (parts of) the EU framework in the US.

These 5 scenarios’, or a combination, seem realistic on condition of necessary political support:

1. Legal transplant on federal level, enacted by Congress and the White House;
2. Legal transplant on state level, enacted by State legislature’s bicameral bodies;
3. Implementing the European AI Impact Assessment & HLEG’s ALTAI in line with EU Trustworthy AI principles in the US;³⁹³
4. The EU setting a holistic global legal-ethical-technical standard that includes rights, responsibilities & *ex ante* obligations and uses EU market power and CE-markings to make other countries copy/implement its framework;
5. Encouraging transatlantic dialogue and develop joint overarching EU-US technology standards together with mutual sector-specific boundary-setting rules.

Besides strategically following up on these methods and bolster alliances with like-minded countries, the US government should strenuously remove obstacles for the deployment of

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responsible tech.\textsuperscript{94} Technology that is legal\textsuperscript{95}, ethical and technically robust. Technology that fosters democracy.\textsuperscript{96} Cyberspace must not remain unregulated.

The US government should regulate data brokers and develop its own industrial policy i.e. work together with businesses to advance new technologies, cultivate public-private partnerships and urgently increase federal funding for AI for Good.\textsuperscript{97} Trustworthy, responsible AI that gained the trust of the general public has important marketing advantages. Data and technology literacy amongst citizens should be actively promoted. Relevant interdisciplinary private sector knowledge and government sector knowledge has to be exchanged continuously, in the form of a free flow of ideas.\textsuperscript{98} If the goal is maintain global leadership in AI, there is a key role for federal funding of AI education and research.\textsuperscript{99} This all needs to be a bipartisan effort. Long terms effects of underinvesting in AI are no less than existential and encompass democratic rights, fundamental freedoms and national security concerns.\textsuperscript{100}


\textsuperscript{95} For the legality of contact tracing Corona-apps in the US, see: Todd E. Hutchins, The Legality of Artificial Intelligence Contact Tracing to Stop Coronavirus in the U.S., 12 September 2020, Yale JOLT, The Record, \url{https://yjolt.org/blog/legal-italia-intelligence-contact-tracing-stop-coronavirus-us}.

\textsuperscript{96} For further reading on the major reforms needed to save the U.S. democracy, see: William G. Howell and Terry M. Moe, Presidents, Populism, and the Crisis of Democracy, (University of Chicago Press 2020), \url{https://press.uchicago.edu/ucp/books/book/chicago/P/bo58173644.html}.

\textsuperscript{97} supra note________, (NYU)

\textsuperscript{98} 20200917_IETC Hearing with Chairman Eric Schmidt: “Interim Review of the National Security Commission on AI” \url{https://youtu.be/U5Kv3sN94o8?t=862}. Furthermore, techies should actively participate in the representative democracy. See also Paul Nemitz & Matthias Pfeffer, supra note......

\textsuperscript{99} Schmidt, supra note....

A fragmented patchwork of state level rules must be avoided.\(^{101}\) The U.S. requires a coherent federal-level approach to AI that complements the states own actions.

### 4. Comparison of Legal Systems

Comparison of legal systems is a rewarding source for legal development and legal reform.\(^{102}\) Given the global nature of the interdisciplinary challenges to be addressed, progression-oriented comparative legal scholarship can play a central role.\(^{103}\) A step further is to compare the proposed solutions with each other and implement the ones that would work within the context of a particular jurisdiction and its respective society. On both federal and state levels.

When reforming or designing new laws, an interesting option is to transplant a certain legal concept or rule from one system to another. This is called “legal transplant”.\(^{104}\) Transplanting laws and - on a larger scale- reception of legal systems leads to convergence and diffusion of law.\(^{105}\)

Naturally, every society -this applies to both American States and European Member States- has a unique mutual relationship of sources of law.\(^{106}\) The hierarchy of legal norms, standards and their interpretation and enforcement determines whether a particular legal concept or rule of law leads to the desired outcome. As a result, the same standard could be qualified as

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102 Kop, supra note....(Stanford Beyond).

103 van Erp, S., Ownership of data: the numerus clausus of legal objects. Brigham-Kanner Property Rights Conference Journal, (6), 235-257 (WILLIAM & MARY LAW SCHOOL 2017), [https://scholarship.law.wm.edu/propertyjournal/6/](https://scholarship.law.wm.edu/propertyjournal/6/). See also: Kop, supra note....(Stanford Beyond); and Annemarie Elizabeth Oderkerk, De preliminaire fase van het rechtsvergelijkend onderzoek, Amsterdam Center for International Law (ACIL), (Nijmegen: Ars Aequi Libri 1999).

104 A. Watson, Legal Transplants: An Approach to Comparative Law, (EDINBURGH, 1974).


106 Sources of law such as the constitution, general laws, treaties, case law, customary law and general principles of law.
efficient in a specific institutional context and in-efficient in another context.\textsuperscript{107} This means that transplanting the EU Trustworthy AI paradigm could lead to different outcomes in innovation clusters such as California and Massachusetts, as opposed to Delaware, Nebraska or French law inspired Louisiana.

Moreover, the internal separation of legislative, executive, and judiciary powers as directed by Montesquieu’s trias politica\textsuperscript{108} makes that an equivalent legal concept is expected to have a different impact in one country than in the compared country. Therefore, during legislative efforts, contextual comparison of law provides lawmakers with a powerful instrument to proactively identify undesired consequences of legal transplants across the transatlantic markets.\textsuperscript{109}

5. Conclusion: Towards a Clear Vision of the Society We Want

Legal issues and legal uncertainty surrounding AI & data ask for urgent legislative intervention, both in the EU and the US. Finding effective legal solutions for disruptive technology related problems demands for a comparative, beyond IP innovation law perspective.\textsuperscript{110} Timing and the degree of intervention is everything.\textsuperscript{111} Without legal intervention, these issues continue to cause legal uncertainty and lack of trust, conflict with

\textsuperscript{107} Danny Pieters & Bert Demarsin, Rechtsvergelijking, De uitdagende wereld van het recht, (ACCO, UITGEVERIJ 2019). To achieve best results, the authors advocate that comparatists must use an exogeneous, unbiased approach that includes an objective perspective.\textsuperscript{108} Charles Montesquieu, l’Esprit des Lois, (1748)\textsuperscript{109} For this reason, it should be an integral part of new legislation impact assessments.\textsuperscript{110} See for example: Camilla Hrdy, Challenging what we think we know about "market failures" and "innovation", https://writtendescription.blogspot.com/2020/03/challenging-what-we-think-we-know-about.html. See also: https://law.yale.edu/innovation-law-beyond-ip-conference.\textsuperscript{111} For further reading on the timing of regulatory intervention to address technological developments see: Genus, A. and A. Stirling, Collingridge and the dilemma of control: towards responsible and accountable innovation, RESEARCH POLICY, 47 (1), 61–9 (2018), https://www.sciencedirect.com/science/article/pii/S0048733317301622
fundamental human rights, disrupt the markets and ultimately hinder AI infused sustainable innovation.

Methods of comparative law could be helpful to develop the best innovation stimulating regulatory framework, that respects democratic principles, fundamental rights and constitutional values.\textsuperscript{112} Although solutions cannot always be adopted 1 on 1, law- and policymakers can learn a lot from scientifically sound comparisons between legal systems. The comparative method provides insight, encourages creativity and offers legislators an extended horizon of regulatory possibilities.

The uncodified territory of AI & Law represents a once in a generation chance to harmonize the AI acquis internationally.\textsuperscript{113} The global nature of the identified challenges pertaining to AI, machine learning and data calls for a holistic, unified approach that does justice to ubiquitous nature of AI. It asks for universalism instead of pluralism.\textsuperscript{114} An articulated, culturally sensitive global acquis creates a level playing field, supports healthy competition and endorses legal certainty and trust.\textsuperscript{115} In this light, it is important that our future AI regulatory frameworks promote “openness”, address risks and take into account the complex, intertwined legal, technical, social and ethical dimensions of our AI & dataversum. When shaping the Law of AI, we should have a clear vision in our minds of the type of society we want, and the things we care so deeply about in the Information Age, at both sides of the Ocean.

\textsuperscript{112} See also Kop, supra note... (Stanford Beyond).

\textsuperscript{113} For further reading about public domain in the context of AI, see: Kop, supra note........ (Texas).


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