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Shaping the Law of AI: Transatlantic Perspectives

Mauritz Kop, September 19, 2020

Abstract¹

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.

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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.*

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 for the EU and the U.S to build a transatlantic sustainable innovation ecosystem together, based on both strategic autonomy, 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.² In such a unified framework, the rights and freedoms we cherish, play a central role. Designing joint, flexible governance solutions that can deal with rapidly changing exponential innovation challenges, can assist in bringing 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](#)”³ 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 the United States.

In its 2019 ‘[White Paper On Artificial Intelligence - A European approach to excellence and trust](#)’⁴, 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.⁵ 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](#)⁶ in the EU economy.⁷ Simultaneous to preparing its Law of AI, the EC is designing a legislative framework for data governance: the Data Governance Act.⁸

² Mauritz Kop, Beyond AI & Intellectual Property: Regulating Disruptive Innovation in Europe and the United States – A Comparative Analysis, <https://law.stanford.edu/projects/beyond-ai-intellectual-property-regulating-disruptive-innovation-in-europe-and-the-united-states-a-comparative-analysis/>.

³ See: <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12527-Requirements-for-Artificial-Intelligence>, and the Impact Assessment document itself: <https://ec.europa.eu/info/law/better-regulation/>.

⁴ *Commission White Paper on Artificial Intelligence: A European Approach to Excellence and Trust*, Brussels, COM(2020) 65 final (Feb. 19, 2020), https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf.

⁵ Kop, *supra* note 2.

⁶ 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>.

⁷ Kop. *supra* note 2.

⁸ See: <https://ec.europa.eu/digital-single-market/en/news/proposal-regulation-european-data-governance-data-governance-act>. The creation of the Data Governance Act is a primary objective of the [European Strategy for Data](#), see: <https://ec.europa.eu/digital-single-market/en/policies/building-european-data-economy>. See also: Mauritz Kop, *The Right to Process Data for Machine Learning Purposes in the EU* (June 22, 2020). Harvard

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](#)⁹- 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.¹⁰

1. First, the EU needs to adopt a holistic set of overarching core AI rules.¹¹ Horizontal rules which apply across all industries.¹² These universal core rules¹³ protect our democracy and our fundamental human rights & freedoms in the Information Age.¹⁴
2. Second, the EU should use interoperability in combination with data portability as a policy lever.¹⁵ 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,

Law School, Harvard Journal of Law & Technology, Volume 34 Digest Spring 2021, pp. 1-23, <https://jolt.law.harvard.edu/digest/the-right-to-process-data-for-machine-learning-purposes-in-the-eu>.

⁹ Atlantic Council, The future of data and AI in space, April 22, 2020.

<https://www.atlanticcouncil.org/blogs/geotech-cues/video-recap-future-of-data-and-ai-in-space/>.

¹⁰ Mauritz Kop, *Machine Learning & EU Data Sharing Practices*, TTLF NEWSLETTER ON TRANSATLANTIC ANTITRUST AND IPR DEVELOPMENTS STANFORD-VIENNA TRANSATLANTIC TECHNOLOGY LAW FORUM, STANFORD UNIVERSITY 2020, VOLUME 1, <https://www-cdn.law.stanford.edu/wp-content/uploads/2015/04/2020-1.pdf>. For the latest GDPR guidelines, see: The European Data Protection Board, Guidelines 07/2020 on the concepts of controller and processor in the GDPR, https://edpb.europa.eu/our-work-tools/public-consultations-art-704/2020/guidelines-072020-concepts-controller-and-processor_nl.

¹¹ 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.

¹² See: https://ec.europa.eu/competition/state_aid/legislation/horizontal.html.

¹³ Notwithstanding cultural differences, there is a growing consensus on the importance of aspects such as privacy, accountability, safety and security, transparency and explainability, fairness and non-discrimination, human control, professional responsibility, see: Principled Artificial Intelligence: Mapping Consensus in Ethical and Rights-Based Approaches to Principles for AI, Berkman Klein Center Research Publication No. 2020-1, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3518482. See also European Commission, *supra* note 6; and Müller, Vincent C., "Ethics of Artificial Intelligence and Robotics", *The Stanford Encyclopedia of Philosophy* (Fall 2020 Edition), Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/fall2020/entries/ethics-ai/>.

¹⁴ 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>.

¹⁵ 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-eh1sdy>

ISO and NEN standards and certification.¹⁶ AI & data driven products and services created 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.¹⁷

3. AI's dynamic and elusive nature asks for agile, flexible governance solutions.¹⁸ Designing a system that can quickly adapt to changing circumstances should be a key starting point.¹⁹ 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.²⁰ 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. *Ex ante* impact assessments, multi-stake holder dialogue and *ex post* evaluations should be used to review success and utility of new laws.²¹ 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.²² 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

¹⁶ See also: CEN-CENELEC, Artificial Intelligence, Blockchain and Distributed Ledger Technologies, <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>. For further reading on standardisation as a pillar of European innovation policy, see: Granieri, Massimiliano, Renda, Andrea, Innovation Law and Policy in the European Union, Towards Horizon 2020 (Springer 2012).

¹⁷ 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 *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>.

¹⁸ See: Stefaan Verhulst, Introducing the Digital Policy Model Canvas, <http://thegovlab.org/introducing-the-digital-policy-model-canvas/>; and World Economic Forum, White Paper Digital Policy Playbook 2017: Approaches to National Digital Governance, http://www3.weforum.org/docs/White_Paper_Digital_Policy_Playbook_Approaches_National_Digital_Governance_report_2017.pdf. For guidance on how to design agile frameworks that defy outmoded regulatory models, see: Alexander Osterwalder and Yves Pigneur, [Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers](#).

¹⁹ See also World Economic Forum White Paper, *supra* note 18.

²⁰ Kop. *supra* note 8.

²¹ See also: Pelkmans, Jacques and Renda, Andrea, Does EU Regulation Hinder or Stimulate Innovation? (November 19, 2014). CEPS Special Report No. 96, Available at SSRN: <https://ssrn.com/abstract=2528409>, and Granieri & Renda, *supra* note 16.

²² See also: Dan Burk and Mark Lemley, *The Patent Crisis and How the Courts Can Solve It* (University of Chicago Press, 2009) 38, and Mauritz Kop, *AI & Intellectual Property: Towards an Articulated Public Domain*, TEXAS INTELLECTUAL PROPERTY LAW JOURNAL 2020, VOL. 28, [28 Tex. Intell. Prop. L. J. 297 \(2020\)](#)

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.²³

Because of the multidimensional nature of AI, one-size-fits-all solutions are not realistic.²⁴ A silver bullet or catch-all approach would condense complex realities into oversimplified stories.²⁵

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, healthcare²⁶, advertising, finance and defence will be different from requirements and customary regimes in entertainment, art, food-feed-agri and logistics.

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.²⁷ The lower the risk, the lower the required compliance (without trade-offs to the Trustworthy AI paradigm).²⁸ 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 design²⁹ and impact assessments.³⁰

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.³¹ Hybridization of transformative technologies, such as AI with biochemistry or AI with

²³ 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.

²⁴ See also World Economic Forum White Paper, *supra* note 18.

²⁵ González Otero, Begoña. Thinking Slow About IP in Times of Pandemic. *IIC; international review of industrial property and copyright law*, 1-4. 25 May. 2020, [doi:10.1007/s40319-020-00942-x](https://doi.org/10.1007/s40319-020-00942-x)

²⁶ 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, 2020). Forthcoming in: *Artificial Intelligence in Healthcare*, 1st edition, Adam Bohr, Kaveh Memarzadeh (eds.), ISBN: 9780128184387, Copyright Elsevier, 2020, Available at SSRN: <https://ssrn.com/abstract=3570129>.

²⁷ See also: Pelkmans & Renda, *supra* note 21, and Kop. *supra* note 10.

²⁸ For further reading on voluntary labelling of low-risk AI, see: CEN-CENELEC response to the European Commission's White Paper on Artificial Intelligence,

https://www.cenelec.eu/standards/Topics/Documents/CEN-CLC%20AI%20FG_White%20Paper%20Response_Final%20Version_June%202020.pdf.

²⁹ 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, <https://arxiv.org/abs/2007.02423>. For an applied ethics approach to AI systems and data, see: Gry Hasselbach, A Framework for a Data Interest Analysis of Artificial Intelligence (2020),

https://www.academia.edu/44079804/A_Framework_for_a_Data_Interest_Analysis_of_Artificial_Intelligence

³⁰ 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.

³¹ See also: Mauritz Kop, Regulating Transformative Technology in The Quantum Age: Intellectual Property, Standardization & Sustainable Innovation, (October 7, 2020). Stanford - Vienna Transatlantic Technology Law Forum, Transatlantic Antitrust and IPR Developments, Stanford University, Issue No. 2/2020, Available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3653544. For a detailed description of ethical, legal

nanotechnology, as well human-AI symbiosis³² 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.

7. To make AI and machine learning thrive, we have to re-examine the applicability and scope of (intellectual) property rights³³ to data, including copyrights³⁴, *sui generis* database rights and trade secrets.³⁵ Constructing territorially applicable antitrust laws³⁶ together with forward thinking IP regimes (including a Unitary Patent system³⁷ 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.³⁸ IP regimes that nurture innovation and creativity, and ensure integrity of the market place.³⁹ There should be a right to process (e.g. access, share, analyse, re-use) data for machine learning purposes.⁴⁰ I advise against introducing new layers of counterproductive, innovation stifling exclusive rights.⁴¹

8. A robust public domain, that includes open, democratized data should be endorsed in general.⁴² It is imperative that the EU democratizes vital means of production within the

and social guiding principles for quantum technology, see: Mauritz Kop, *Establishing a Legal-Ethical Framework for Quantum Technology*, (February 28, 2021), Yale Journal of Law & Technology (YJoLT) The Record 2021, <https://yjolt.org/blog/establishing-legal-ethical-framework-quantum-technology>

³² See for example: <https://neuralink.com/>

³³ On November 25th 2020 the European Commission presented its IP Action Plan, which promises an ‘overhaul of the intellectual property system to strengthen Europe's ability to develop next generation technologies and reflect advances in data and AI’, see: https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2187.

³⁴ 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).

³⁵ Kop, *supra* note 10. For an analysis of trade secrets on software source codes in the U.S., see: Katyal, Sonia, *The Paradox of Source Code Secrecy* (June 25, 2019). Cornell Law Review, Forthcoming, Available at SSRN: <https://ssrn.com/abstract=3409578>. For copyright on API's, see Menell, Peter S., *Rise of the API Copyright Dead?: An Updated Epitaph for Copyright Protection of Network and Functional Features of Computer Software* (January 18, 2017). 31 Harvard Journal of Law & Technology 305 (2018), UC Berkeley Public Law Research Paper No. 2893192, Available at SSRN: <https://ssrn.com/abstract=2893192>.

³⁶ See also: Hoffmann-Riem, Wolfgang. (2020). *Artificial Intelligence as a Challenge for Law and Regulation*. 10.1007/978-3-030-32361-5_1, in *Regulating Artificial Intelligence*, Editors: Wischmeyer, Thomas, Rademacher, Timo (Eds.) (Springer 2020).

³⁷ See also Granieri & Renda, *supra* note 16.

³⁸ See also: Ullrich, Hanns, *Intellectual Property: Exclusive Rights for a Purpose – The Case of Technology Protection by Patents and Copyright* (November 19, 2012). Max Planck Institute for Intellectual Property & Competition Law Research Paper No. 13-01, *PROBLEMY POLSKIEGO I EUROPEJSKIEGO PRAWA PRYWATNEGO*, pp. 425-459, Klafkowska Wasniowska, eds., Warsaw (Wolters Kluwer Polska) 2012, Available at SSRN: <https://ssrn.com/abstract=2179511>. For a different perspective on IP regimes in the context of AI, see: Ryan Abbott, *The Reasonable Robot: Artificial Intelligence and the Law* (2020). See also: Michael Conklin, *The Reasonable Robot Standard: Bringing Artificial Intelligence Law into the 21st Century*, September 4, 2020, Yale JOLT, The Record, <https://yjolt.org/blog/reasonable-robot-standard>.

³⁹ Menell, Peter S. and Lemley, Mark A. and Merges, Robert P. and Balganes, Shyamkrishna, *Intellectual Property in the New Technological Age: 2020* (Clause 8 Publishing, 2020), pp. 16-29.

⁴⁰ Kop, *supra* note 8. This overarching right includes public and private data and has certain limitations.

⁴¹ Kop, *supra* note 22. See also: Ullrich, Hanns, *Expansionist Intellectual Property Protection and Reductionist Competition Rules: A Trips Perspective* (February 2004). Available at SSRN: <https://ssrn.com/abstract=632322>.

⁴² Kop, *supra* note 22. For an analysis of the relationship between community-based resource control, democratic rights and open access, see: Rose, Carol Marguerite, *Thinking About the Commons* (2019). *International Journal of the Commons* (2019, Forthcoming), Arizona Legal Studies Discussion Paper No. 19-24, Available at SSRN: <https://ssrn.com/abstract=3487612>.

context of AI, machine learning & reasoning and data, and encourages federated learning & transfer learning on open and democratized data.⁴³

9. Regulation, rights and responsibilities should also be in line with the [United Nations 2030 Agenda](#)⁴⁴ including its [Sustainable Development Goals](#), and adhere to openness in the sense of the upcoming [UNESCO Open Science Recommendation](#).⁴⁵

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.⁴⁶ Since digital infrastructures are not confined by any borders, forum shopping and cross-border regulatory conflicts must be avoided.⁴⁷

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.⁴⁸

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.⁴⁹ 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.⁵⁰ 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.⁵¹ In the same vein, the EU should provide clarity about the specific roles and responsibilities among government, the private sector, non-profits and individuals.⁵² 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

⁴³ Kop. *supra* note 8. 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), <https://www.media.mit.edu/publications/advances-and-open-problems-in-federated-learning/>.

⁴⁴ United Nations, Transforming our world: the 2030 Agenda for Sustainable Development, <https://sustainabledevelopment.un.org/post2015/transformingourworld>

⁴⁵ AI4EQ, Response to the Public Consultation on the European Commission «White Paper On Artificial Intelligence: A European Approach to Excellence and Trust», <https://blogs.uned.es/workshopadvancingtowards/news/>.

⁴⁶ Kop. *supra* note 22.

⁴⁷ See also Hoffmann-Riem, *supra* note 36.

⁴⁸ See: Daniel J. Hemel & Lisa Larrimore Ouellette, *Innovation Policy Pluralism*, 128 YALE L.J. (2019). Available at: <https://digitalcommons.law.yale.edu/yjl/vol128/iss3/1>. See also Kop. *supra* note 2.

⁴⁹ Kop. *supra* note 8.

⁵⁰ See also Pelkmans & Renda, *supra* note 21.

⁵¹ See also World Economic Forum White Paper, *supra* note 18.

⁵² *id.*

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.⁵³

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 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.⁵⁴ 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.⁵⁵

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 law⁵⁶, 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.⁵⁷ New laws should be congruent with requirements set by existing laws as well as sector/industry specific laws e.g. the Medical

⁵³ Kop. *supra* note 8.

⁵⁴ See also Lemley interview, *supra* note 15.

⁵⁵ *id.* See also: Müller, *supra* note 13.

⁵⁶ For further reading on compulsory licenses to force access to big data through application of competition law, see: Schovsbo, Jens and Kokoulina, Olga, Cutting Into Diamonds: Competition Law, IPR, Trade Secrets and the Case of 'Big Data' (May 18, 2020). Forthcoming in *Liber Discipulorum* for Hanns Ullrich (Springer 2020), University of Copenhagen Faculty of Law Research Paper No. 2020-94, Available at SSRN: <https://ssrn.com/abstract=3604063>.

⁵⁷ Hoffmann-Riem, *supra* note 36.

Device Regulation (MDR)⁵⁸ the Machinery Directive, the General Product Safety Directive and the product liability regime.⁵⁹⁶⁰ They should also respect International Treaties.

A fragmented patchwork of national rules has to be avoided at all costs.⁶¹ 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.⁶²

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.⁶³ 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 aggressively regulating behaviour of companies with too much market power⁶⁴ e.g. enforcing merger laws, not letting dominant monopolists buy any new companies, avoid killer

⁵⁸ 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>.

⁵⁹ 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://prinzipmenschu.wordpress.com/>. See also <https://youtu.be/vlQ029wMLTU>.

⁶⁰ 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).

⁶¹ For further reading on preventing legal fragmentation within the EU, see: Metzger, Axel and Senftleben, Martin and Derclaye, Estelle and Dreier, Thomas and Geiger, Christophe and Griffiths, Jonathan and Hilty, Reto and Hugenholtz, P. Bernt and Riis, Thomas and Rognstad, Ole Andreas and Strowel, Alain M. and Synodinou, Tatiana and Xalabarder, Raquel, Selected Aspects of Implementing Article 17 of the Directive on Copyright in the Digital Single Market into National Law – Comment of the European Copyright Society (April 27, 2020). Available at SSRN: <https://ssrn.com/abstract=3589323> and S. Stalla-Bourdillon/E. Rosati/M.C. Kettemann et al., Open Letter to the European Commission – On the Importance of Preserving the Consistency and Integrity of the EU Acquis Relating to Content Monitoring within the Information Society, available at: <https://ssrn.com/abstract=2850483>.

⁶² In the same vein, see Erik Brattberg, Raluca Csernatoni and Venesa Rugova, Europe and AI: Leading, Lagging Behind, or Carving its own way (Carnegie Endowment for International Peace 2020), <https://carnegieendowment.org/2020/07/09/europe-and-ai-leading-lagging-behind-or-carving-its-own-way-pub-82236>.

⁶³ Paul Nemitz & Matthias Pfeffer, *supra* note 59. See also World Economic Forum White Paper, *supra* note 18.

⁶⁴ See also: Johnson, Garrett and Shriver, Scott and Goldberg, Samuel, Privacy & Market Concentration: Intended & Unintended Consequences of the GDPR (July 8, 2020). Available at SSRN: <https://ssrn.com/abstract=3477686>.

acquisitions⁶⁵, forge healthy venture-capitalist models, increase business dynamism and create a level playing field with breathing room for SME's to flourish.⁶⁶

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 transfer⁶⁷ 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.⁶⁸ The EU should prioritize on using AI's benefits to 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 AIA & Code of Conduct](#)⁶⁹ that combines technical, legal and ethical standards⁷⁰, [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](#)⁷¹ and relevant [CAHAI guidelines](#) in this regard.⁷² 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

⁶⁵ Cunningham, Colleen and Ederer, Florian and Ma, Song, Killer Acquisitions (April 19, 2020). Available at SSRN: <https://ssrn.com/abstract=3241707>, and Lemley, Mark A. and McCreary, Andrew, Exit Strategy (December 19, 2019). Stanford Law and Economics Olin Working Paper #542, Available at SSRN: <https://ssrn.com/abstract=3506919>.

⁶⁶ For further reading on anti-trust policy, see: Hovenkamp, Herbert J., "Is Antitrust's Consumer Welfare Principle Imperiled?" (2019). *Faculty Scholarship at Penn Law*. 1985. https://scholarship.law.upenn.edu/faculty_scholarship/1985.

⁶⁷ See also Granieri & Renda, *supra* note 16. 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>.

⁶⁸ 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 Comparative-Historical Analysis. Retrieved from http://purl.flvc.org/fsu/fd/FSU_migr_etd-9022. See also Lemley interview, *supra* note 15

⁶⁹ See: AI Impact Assessment | Netherlands, December 6, 2018, <https://airecht.nl/blog/2018/ai-impact-assessment-netherlands>.

⁷⁰ See also World Economic Forum White Paper, *supra* note 18.

⁷¹ Recommendation of the Committee of Ministers to member States on the human rights impacts of algorithmic systems - CM/Rec (2020)1.

⁷² For further reading on the types of rules and regulations feasible for AI, see: Hoffmann-Riem, *supra* note 36.

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.⁷³ For example by cultivating federated learning and generative adversarial network (GAN) methods, cryptography, anonymisation and privacy-preserving synthetic spatio-temporal trajectory dataset generation techniques.⁷⁴ Our AI & data system's architectures should vigorously support democratic and constitutional values.⁷⁵ 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.⁷⁶

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.⁷⁷ Multilateral cooperation with any country that wishes to jointly achieve inclusive, participative digitization is paramount.⁷⁸ Countries that have matched AI for Good concerns, including but not limited to the U.S., U.K. and Canada.⁷⁹ Against this backdrop, it is essential to incentivise systematic transatlantic cooperation.⁸⁰ Transatlantic and geopolitical dialogue on disruptive technology, together with

⁷³ Mauritz Kop, Machine learning and EU data-sharing practices: Legal aspects of machine learning training datasets for AI systems, (March 3, 2020). Research Handbook on Big Data Law edited by Roland Vogl, Chapter 22, pp. 431-452, Edward Elgar Publishing Ltd., 2021, Forthcoming.

⁷⁴ 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 10.

⁷⁵ See also: Nemitz, Paul Friedrich, Constitutional Democracy and Technology in the age of Artificial Intelligence (August 18, 2018). DOI 10.1098/RSTA.2018.0089 - Royal Society Philosophical Transactions A, Available at SSRN: <https://ssrn.com/abstract=3234336> and Hoffmann-Riem, *supra* note 36. For further reading on how technology and democracy can mirror each other, see: Djeflal, Christian, AI, Democracy, and the Law (2019). Djeflal, C. (2019). AI, Democracy, and the Law. In A. Sudmann (Ed.), Digitale Gesellschaft: Vol. 25. The Democratization of Artificial Intelligence: Net Politics in the Era of Learning Algorithms (pp. 255–284), Available at SSRN: <https://ssrn.com/abstract=3535735>.

⁷⁶ See Kop, *supra* note 10. 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/>.

⁷⁷ See also: Geoffrey Odlum, EU-US convergence vs competition on the EU's Digital Strategy 26 June 2020, <https://futurium.ec.europa.eu/en/european-ai-alliance/open-discussion/eu-us-convergence-vs-competition-eus-digital-strategy>.

⁷⁸ 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 13, and World Economic Forum White Paper, *supra* note 18.

⁷⁹ See also: Brattberg et al., *supra* note 62.

⁸⁰ Mauritz Kop, Democratic Countries Should Form a Strategic Tech Alliance, 1 TTLF Newsletter on Transatlantic Antitrust and IPR Developments Stanford-Vienna Transatlantic Technology Law Forum, Stanford University 2021, <https://law.stanford.edu/publications/democratic-countries-should-form-a-strategic-tech-alliance/>. 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.⁸¹

23. A central policy objective should be to enable fair-trading conditions between key information age players, such as online platforms and its users.⁸² 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 system⁸³ 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.⁸⁴ 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.⁸⁵ 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.⁸⁶ Creation, implementation, maintenance, enforcement and adjudication of the Law of AI within the Digital Single Market and beyond, will be a formidable challenge.⁸⁷

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 with a differentiated risk-based approach- can be realized at the present time, without thereby diminishing its long-term prospects.⁸⁸

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.⁸⁹ 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.⁹⁰ Differences between civil and common law systems seem not to be a hurdle for a legal transplant of core principles.⁹¹

⁸¹ See also Kop, *supra* note 2.

⁸² See also Kop, *supra* note 22.

⁸³ For further reading on international copyright and trade law policies, see: Silke von Lewinsky, *International Copyright Law and Policy*, Oxford University Press, 28 February 2008.

⁸⁴ See also Odlum, *supra* note 77.

⁸⁵ See also World Economic Forum White Paper, *supra* note 18.

⁸⁶ See also Hoffmann-Riem, *supra* note 36.

⁸⁷ See also World Economic Forum White Paper, *supra* note 18.

⁸⁸ See also: Leif Lewin, *Ideology and Strategy - A Century of Swedish Politics* (Cambridge University Press 1989) <https://doi.org/10.1017/CBO9780511528095.012>.

⁸⁹ See also: Kathleen Walch, *AI Laws Are Coming*, February 20, 2020

<https://www.forbes.com/sites/cognitiveworld/2020/02/20/ai-laws-are-coming/#402d2079a2b4>.

⁹⁰ 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.

⁹¹ Legal transplants are 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

AI legislation for European companies also stimulates other parties, such as American companies to follow these rules.⁹² Firms serving EU customers appear to use higher levels of data protection.⁹³ 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.⁹⁴ How can norms, standards, principles and values be effectively exported from the EU to the US within the 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;⁹⁵
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 responsible tech.⁹⁶ Technology that is *legal*⁹⁷, ethical and technically robust. Technology that fosters democracy.⁹⁸ Cyberspace must not remain unregulated.

between common and civil law traditions, see: Paul Goldstein & Bernt Hugenholtz, *International Copyright: Principles, Law, and Practice* (4rd edn, OUP 2019).

⁹² 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.

⁹³ Bessen, James E. and Impink, Stephen and Reichensperger, Lydia and Seamans, Robert, *The Business of AI Startups* (November 29, 2018). Boston Univ. School of Law, Law and Economics Research Paper No. 18-28, Available at SSRN: <https://ssrn.com/abstract=3293275>.

⁹⁴ Kop, *supra* note 2.

⁹⁵ Exporting norms is also happening when multinationals such as Google and Facebook spread the concept of US fair use to other jurisdictions through their terms and conditions, which must be accepted before using their products & services. See in this vein: Elkin-Koren, Niva and Netanel, Neil Weinstock, *Transplanting Fair Use across the Globe: A Case Study Testing the Credibility of U.S. Opposition* (May 11, 2020). *Hastings Law Journal*, Forthcoming, UCLA School of Law, Public Law Research Paper No. 20-15, Available at SSRN: <https://ssrn.com/abstract=3598160>, and Samuelson, Pamela and Hashimoto, Kathryn, *Is the U.S. Fair Use Doctrine Compatible with Berne and TRIPS Obligations?* (August 7, 2018), in Tatiana Synodinou (ed.), *Universalism or Pluralism in International Copyright Law* (Kluwer Law International, Information Law Series), UC Berkeley Public Law Research Paper, Available at SSRN: <https://ssrn.com/abstract=3228052>.

⁹⁶ NYU Guide to Responsible Tech: How to Get Involved & Build a Better Tech Future, <https://www.scribd.com/document/476272088/Guide-to-Responsible-Tech-How-to-Get-Involved-Build-a-Better-Tech-Future>

⁹⁷ 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*, <https://yjolt.org/blog/legality-artificial-intelligence-contact-tracing-stop-coronavirus-us>.

⁹⁸ 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), <https://press.uchicago.edu/ucp/books/book/chicago/P/bo58173644.html>.

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.⁹⁹ 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.¹⁰⁰ If the goal is maintain global leadership in AI, there is a key role for federal funding of AI education and research.¹⁰¹ 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.¹⁰²

A fragmented patchwork of state level rules must be avoided.¹⁰³ 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.¹⁰⁴ Given the global nature of the interdisciplinary challenges to be addressed, progression-oriented comparative legal scholarship can play a central role.¹⁰⁵ 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”.¹⁰⁶ Transplanting laws and -on a larger scale- reception of legal systems leads to convergence and diffusion of law.¹⁰⁷

⁹⁹ NYU, *supra* note 96.

¹⁰⁰ 20200917_IETC Hearing with Chairman Eric Schmidt: “Interim Review of the National Security Commission on AI” <https://youtu.be/USEKVNsf4oI?t=862>. Furthermore, techies should actively participate in the representative democracy. See also Paul Nemitz & Matthias Pfeffer, *supra* note 59.

¹⁰¹ Schmidt, *supra* note 100.

¹⁰² Schmidt, *supra* note 100. See also: Council on Foreign Relations, James Manyika and William H. McRaven, *Chairs*, Adam Segal, *Project Director, Innovation and National Security Keeping Our Edge, Independent Task Force Report No. 77*. <https://www.cfr.org/report/keeping-our-edge/> The Task Force argues the United States needs to put forward a national security innovation strategy based on 4 pillars. Compare to: Rebecca Arcesati, Chinese tech standards put the screws on European companies, January 29, 2019 (Merics Mercator Institute for China Studies) <https://merics.org/en/analysis/chinese-tech-standards-put-screws-european-companies>, about China’s standardization ambitions “[China Standards 2035](#)”.

¹⁰³ For an analysis of the costs of industry-specific fragmentation through an innovation lens, see: Sachs, Rachel, Integrating Health Innovation Policy (March 30, 2020). Harvard J. L. & Tech. (2020 Forthcoming), Available at SSRN: <https://ssrn.com/abstract=3564354>.

¹⁰⁴ Kop, *supra* note 2.

¹⁰⁵ 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/>. See also: Kop, *supra* note 2; and Annemarie Elizabeth Oderkerk, *De preliminaire fase van het rechtsvergelijkend onderzoek*, Amsterdam Center for International Law (ACIL), (NIJMEGEN: ARS AEQUI LIBRI 1999).

¹⁰⁶ A. Watson, *Legal Transplants: An Approach to Comparative Law*, (EDINBURGH, 1974).

¹⁰⁷ K. Zweigert & H. Kotz, *An Introduction to Comparative Law*, 3rd edn. (Weir T tr.) (CLARENDON, OXFORD 1988); William Twining, *Diffusion and Globalization Discourse*. (47 HARVARD INTERNATIONAL LAW JOURNAL 2, SUMMER 2006) pp. 507–515. <http://www.harvardilj.org/attach.php?id=49>.

Naturally, every society -this applies to both American States and European member states- has a unique mutual relationship of sources of law.¹⁰⁸ 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 efficient in a specific institutional context and in-efficient in another context.¹⁰⁹ 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*¹¹⁰ 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.¹¹¹

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.¹¹² Timing and the degree of intervention is everything.¹¹³ Without legal intervention, these issues continue to cause legal uncertainty and lack of trust, conflict with 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.¹¹⁴ 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.¹¹⁵ The global nature of the identified challenges pertaining to

¹⁰⁸ Sources of law such as the constitution, general laws, treaties, case law, customary law and general principles of law.

¹⁰⁹ 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.

¹¹⁰ Charles *Montesquieu, l'Esprit des Lois*, (1748)

¹¹¹ For this reason, it should be an integral part of new legislation impact assessments.

¹¹² 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>.

¹¹³ 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>

¹¹⁴ See also Kop, *supra* note 2.

¹¹⁵ For further reading about public domain in the context of AI, see: Kop, *supra* note 22.

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.¹¹⁶ An articulated, culturally sensitive global *acquis* creates a level playing field, supports healthy competition and endorses legal certainty and trust.¹¹⁷ 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.

¹¹⁶ See also: Pluralism or Universalism in International Copyright Law, Introduction, Edited by Tatiana Eleni Synodinou. Kluwer, 2019, and Griffiths, Jonathan, Universalism, Pluralism or Isolationism? The Relationship between Authors’ Rights and Creators’ Human Rights (July 28, 2019). Tatiana Eleni Synodinou (ed), Pluralism or Universalism in International Copyright Law (Kluwer Law International), Available at SSRN: <https://ssrn.com/abstract=3427997>.

¹¹⁷ For further reading on integrating regimes into an international *acquis*, see: Graeme Dinwoodie & Rochelle Dreyfuss, ‘An international *acquis*: Integrating regimes and restoring balance’ in Daniel J. Gervais (ed), *International Intellectual Property: A Handbook of Contemporary Research* (Edward Elgar Publishing 2015) 121, and Ginsburg, Jane C., Toward Supranational Copyright Law? The WTO Panel Decision and the ‘Three-Step Test’ for Copyright Exceptions. Available at SSRN: <https://ssrn.com/abstract=253867>.