The Future of AI Liability in the EU

Protecting Consumers
Without Stifling Innovation

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Executive Summary

The European Union (EU) recognizes the potential of artificial intelligence (AI) to be a powerful force for good, with applications in improving healthcare and the safety of products, anticipating cybersecurity threats, fighting climate change, increasing the security of Europeans, and improving the efficiency of production systems and transport.

To fully unlock this potential, the EU must walk a path that addresses legitimate safety concerns while preserving and advancing innovation.

Machine learning and autonomous decision-making reduce human control by definition and, for that reason, create a myriad of ethical, legal, and practical concerns.

As the EU comes to terms with these concerns, it is rightly asking: what role should the EU play in encouraging, or limiting, the ways in which AI may develop? Does the EU intend to lead or follow? How should a desire to promote bold innovation be balanced against the need to protect consumers? And how well-suited are traditional concepts of liability when machines, not people, will make decisions?

To grapple with these and other questions, on February 19, 2020, the European Commission presented a number of documents, including:

- A long-awaited proposal for an EU regulatory framework for AI—the 'White Paper on Artificial Intelligence—A European approach to excellence and trust' (White Paper);[1]

- a 'European Strategy for Data';[2] and

- a 'Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and Robotics' (Report on Safety and Liability).[3]

The White Paper and accompanying documents build on a number of prior communications[4] and expert reports,[5] which have indicated the need to address the liability implications of emerging technologies such as AI.[6] The documents form part of the Commission's ambition to promote 'a Europe fit for the digital age' and are the first step to start the legislative process aimed at consolidating an EU approach to AI, which was announced by Commission President Ursula von der Leyen at the beginning of her presidency.[7]

The Commission has invited comments on its findings[8] and is expected to present legislative proposals before the end of 2020, or early 2021 at the latest.[9] These could include the amendment of existing legal frameworks as well as the adoption of new legislation. In addition, by the end of 2020, the Commission intends to propose a revision of the 2018 Coordinated Plan on AI, which includes 70 joint actions for closer cooperation between the Commission and EU Member States in areas such as research, investment, and data.

The impact of any EU legislation on AI is potentially vast. Any legislative measures will likely affect broad swathes of consumers and industry, including any businesses active in the AI space that sell their products or services to EU customers. In fact, the Commission says that its affirmative goal is to lead the way and set a new regulatory standard for the world,[10] in a similar vein to its approach when adopting the General Data Protection Regulation (GDPR).[11]

This paper focuses specifically on the proposed approach to AI liability issues, as this is the first time this topic has been comprehensively addressed by the Commission. This paper also identifies and recommends some guiding principles to be kept in mind when enacting, or making amendments to, any legislation in this area.

Overall, while the authors fully recognize that creating a liability regime that is suitable for the digital age is important, we consider that in doing so the Commission must strike the right balance between ensuring adequate protection from harm for consumers on the one hand, and incentivizing companies to develop new technologies on the other. In striking an appropriate balance, the Commission should also seek to coordinate broadly with other stakeholders, including the private sector and non-EU governments, to avoid creating a patchwork of policies. At least some of the Commission's proposed adjustments to the EU's liability regime indicate that this balance is off, thereby increasing the risk that future EU policy could hinder the potential of AI as a powerful force for good.

This paper identifies some areas where the Commission should focus and reconsider, so that the true potential of AI may be unleashed.

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Bigger Policy Picture

The European Union is on a quest for 'digital and technological sovereignty'. As part of its broader digital strategy, the Commission is working on adopting new legislative frameworks.

These frameworks will inform the governance of: (i) common European data spaces in strategic sectors and areas of public interest; (ii) digital services in the EU (i.e., a Digital Services Act); and (iii) cyber security.[12] One of the key drivers behind these various legislative initiatives is to upgrade liability and safety rules for digital platforms, services, and products.

The Commission's approach to addressing AI liability issues falls squarely in line with this general trend of increasing the burden of proof for companies and, in turn, relaxing

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the procedural requirements that should be met by relevant European authorities.

By setting aside well-established procedural guarantees and imposing heavy burdens on companies, the Commission would undermine legal certainty and incentives to innovate. Through the Coordinated Plan on Artificial Intelligence, the Commission plans to encourage investments in AI of €20 billion per year over the next decade.[13] An overzealous approach regarding liability could hamper the Commission's ability to spur such investment and risk frustrating other efforts to foster innovation.

This is precisely why the U.S. government—whilst acknowledging the need to protect civil liberties and privacy—advocates a more hands-off approach to regulation of AI.[14] In the 'Guidance for Regulation of Artificial Intelligence Applications' published in January 2020, the U.S. government stressed that innovation and growth of AI should be fostered 'through forbearing from new regulations', and urged relevant agencies to 'avoid a precautionary approach that holds AI systems to such an impossibly high standard that society cannot enjoy their

benefits'.[15] Indeed, it was found that 'over-regulation will impede AI innovation' and 'when expected product liability payouts are high, firms pull back on commercializing innovation'.[16] Therefore, the Guidance advises that '[w]here AI entails risk, agencies should consider the potential benefits and costs of employing AI, when compared to the systems AI has been designed to complement or replace'.[17] The Financial Industry Regulatory Authority (FINRA) is currently consulting on whether guidance or modifications to its rules may be 'desired to support adoption of AI applications while maintaining investor protection and market integrity'.[18]

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Adapting Liability Frameworks in the EU

Before examining the Commission's proposed revisions to EU liability frameworks, it is necessary first to describe the current regime's main components, which rely on the parallel application of the EU's 1985 Product Liability Directive and non-harmonised national liability regimes.[19]

The Product Liability Directive harmonised a system of liability for entities that have put defective products into circulation in the EU (whether as a producer or importer) and introduced a system of strict liability for damage caused by a defect in such products. For physical or material damage suffered, the injured party is entitled to be compensated if he or she proves the damage, the defect in the product, and the causal link between them.

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When it comes to individual Member States, non-harmonised national liability regimes typically provide fault-based liability rules, according to which victims of damage normally need to prove the fault of the liable person, the damage, and causation between the fault and the damage. Strict liability can also apply in some Member States where national legislators have attributed liability for a risk to a specific person.

Although the Report on Safety and Liability found that existing EU and national liability frameworks are robust and reliable, it noted that the characteristics of emerging digital technologies like AI, Internet of Things (IoT), and robotics could reduce their effectiveness. The White Paper notes that the victims will likely 'have less effective redress possibilities compared to situations where the damage is caused by traditional technologies.' This means that liability claims based on national fault-based laws

may be difficult or overly costly to prove and consequently victims may not be adequately compensated.[20] In particular, the Commission suggests that given the complexity and multitude of parties involved in the design, functioning, and operation of AI systems, victims might find it hard to trace the damage back to relevant human behaviour.

To address these risks, the Commission has enumerated certain minimum principles that future liability frameworks should reflect: an acceptable level of protection, the provision of legal certainty, and consistency of application throughout the EU.

An Acceptable Level of Protection

COMMISSION POSITION

The Commission wants liability frameworks to afford an acceptable level of protection to victims of accidents involving new technologies like AI. The Commission has identified the inherent characteristics of AI technologies (such as their complexity, autonomy, and opacity) as a potential problem for liability claims based on fault-based national tort laws, and is concerned that those systems may not be sufficiently adaptable.

ANALYSIS

The Commission must be careful to strike the right balance between protecting citizens from harm while enabling businesses to innovate. Sustained engagement with the business community—including through formal public consultations, roundtables, and other forums—is essential.

Legal Certainty

COMMISSION POSITION

The Commission has also prioritised giving companies legal certainty as to how existing laws would apply. The Report on Safety and Liability says that '[i]t is important that companies know their liability risks throughout the value chain and can reduce or prevent them and insure themselves effectively against these risks'.[21] For instance, the Commission has highlighted that AI applications are often integrated into complex IoT environments where many different connected devices and services interact, which can make it difficult to assess where any damage originates and who is liable.

ANALYSIS

It is indeed important for companies to have legal certainty as to how existing laws apply. However, considerably broadening the scope of liability would not increase legal certainty. Instead, it would likely expose undertakings to the constant threat of frivolous, excessive, and expensive litigation. This concern is shared by BusinessEurope, which notes that '[n]ew technologies such as AI need legally certain frameworks to exist within' and that the current liability frameworks 'offer legal stability for [AI] technologies to be delivered', while providing the consumer with recourse when something goes wrong.[22]

Consistency

COMMISSION POSITION

The Commission also seeks consistency throughout the EU. In particular, the Commission is concerned that Member States may not apply consistent standards in relation to the conditions of liability and the burden of proof, leading to disparate national rules that create obstacles for companies operating or selling AI solutions within the EU. In the Commission's view, a common European framework for AI is necessary to support the competitiveness of the sector.

ANALYSIS

Avoiding fragmentation of rules across the EU single market is important. In addition, the Commission should: (i) seek to work with governments outside the EU to advance sound and interoperable practices for AI; and (ii) support the development of international industry-led and consensus-based standards that can help to address the challenges posed by AI. Conversely, significant international divergence could act as a barrier to the development of AI.

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The Pros and Cons of The Commission's Key Liability-Related Recommendations

In order to meet the goals outlined above, the Commission considers that certain adjustments should be made to EU and national liability regimes.

In particular, the Commission is considering specific amendments to: (i) the definition of a 'product' in the Product Liability Directive; (ii) the allocation of the burden of proof; and (iii) the notion of 'putting into circulation' currently used in the Product Liability Directive. Each is discussed in turn below.

Definition of 'Product'

COMMISSION POSITION

The Product Liability Directive defines a 'product' as any movable good. This definition has been interpreted broadly and has applied to a wide range of products over the years, including medical devices such as pacemakers and implantable cardioverter defibrillators,[23] nuclear reactors, chemicals, electrical machinery, vehicles, and components used as raw materials for final products.[24]

The Commission is now exploring whether the scope of the 'product' definition should be further clarified to 'better reflect the complexity of emerging technologies and ensure that compensation is always available for damage caused by products that are defective because of software or other digital features'.[25] In particular, the Commission wants to ensure that this definition also covers software that is embedded in or downloaded onto a physical product; it notes that the distinction between products and services is becoming increasingly blurred and it is not always straightforward to classify software as a service or a product.

ANALYSIS

The Commission should not apply an overly broad approach to the 'product' definition, as this may make it difficult to differentiate between AI and less complex algorithms. Indeed, several algorithms—which do not amount to 'AI systems'—have been in safe use for decades and are commonly used by the general public.

Reversing the Burden of Proof

Due to the complexity of new digital technologies, the Commission believes it may be difficult to assess where potential damage originates and which person is liable for it. As a result, the Commission is

seeking views on whether, and to what extent, it may be necessary to alleviate or even reverse the burden of proof required by national liability rules for damage caused by the operation of AI applications. In particular, the Commission is considering three areas: the imposition of strict liability; the information asymmetry between producers and end-users; and the notion of compulsory insurance.

Imposition of Strict Liability

COMMISSION POSITION

The Commission is assessing whether strict liability may be needed (and, if so, to what extent) to achieve effective compensation of possible victims in relation to the operation of AI applications with a specific risk profile. It is currently envisaged that any such framework of strict liability would apply where the use of AI 'may cause significant harm'.[26] As for the allocation of responsibility, the Commission believes that strict liability should lie with the person who is most in control of the risk connected with the operation of AI and who benefits economically from its operation—'[i]f there are two or more

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operators, in particular the person primarily deciding on and benefitting from the use of the relevant technology (frontend operator) and the person continuously defining the features of the relevant technology and providing essential and ongoing backend support (backend operator), strict liability should lie with the one who has more control over the risks of the operation.'[27]

ANALYSIS

Imposing strict liability in the AI sector has several downsides, including the potential to significantly reduce incentives to innovate and to hamper economic growth:[28]

* Strict liability rests on the assumption that the actor best placed to assess the risk-benefit of a product should be held accountable for that assessment (regardless of the fault involved in causing the harm). Although the industry is working hard to mitigate the 'black box' problem of AI, which would alleviate liability-related risks associated with AI products and services, the solutions an AI may develop or the effects it may have cannot always be foreseen by the producers. This is mainly due to the issues around foreseeability and the intrinsic purpose of AI—i.e., autonomous decision-making. As a result, the conduct that strict liability is designed to incentivize, such as taking necessary precautions or calibrating the level of tolerable financial risk, cannot arise. In such circumstances a key purpose of strict liability would not be achieved, and a producer may simply be penalized for matters genuinely outside its control.

> **"***If strict liability is imposed on the use of AI applications, it should be limited to very exceptional high risk circumstances (in particular where there is a high risk of harm to individuals), which should be clearly defined to provide certainty for businesses and avoid issues of overly broad private rights of action.***"**

- The Commission's suggested alterations to liability burdens might lead businesses to have to account for and accept a greater risk of liability in circumstances where they themselves may be unable to determine where responsibility should rest. This issue is particularly relevant in relation to fully automated devices that are expected to make decisions on their own through machine learning. It may be virtually impossible for those involved in producing such devices to foresee AI decisions. As emphasised by the Centre for European Policy Studies, the EU's legal framework must 'avoid stifling innovation by expanding liability to unchartered territories, beyond what is reasonably foreseeable at the time of AI development and commercialisation'.[29] If liability falls on producers, they will

likely be reluctant to enable autonomous decision-making capability in the first place and will avoid innovations that— though likely to be beneficial—carry significant liability risk.

- The EU should coordinate with governments around the world to advance sound and interoperable practices for AI to avoid creating a patchwork of policies. It should also adopt a flexible risk-based approach when taking any action, as opposed to adopting prescriptive requirements.

- Strict liability would significantly broaden the scope of private rights of action under the Product Liability Directive. Overly broad private rights of action could be particularly harmful in the context of AI as they hinder innovation and consumer choice by threatening companies with frivolous, excessive, and expensive litigation, particularly if those companies are at the forefront of transformative new technologies.

If strict liability is imposed on the use of AI applications, it should be limited to very exceptional high risk circumstances (in particular where there is a high risk of harm to individuals),[30] which should be clearly defined to provide certainty for businesses and avoid issues of overly broad private rights of action. As EDiMA correctly states, '[i]mposing new legal requirements beyond applications that are clearly defined as high-risk threatens to chill innovation and investment in the European market'.[31]

Information Asymmetry Between Producers and End Users

COMMISSION POSITION

The Commission is considering whether the burden of proof concerning causation and fault needs to be adapted for the operation of AI applications that do not have a specific risk profile. In particular, they are considering whether, and to what extent, it may be necessary to alleviate or reverse the burden of proof for damage caused by the operation of AI applications.

- The Commission has suggested that the burden of proof could be linked to compliance with specific cyber-security or other safety obligations set by law— i.e., following non-compliance, a change to the burden of proof as regards fault and causation could apply.

- The 'Report on liability for AI and other emerging technologies'[32] (New Technologies Formation Report) suggests that the burden of proof should be reversed where it has been 'proven that an emerging digital technology has caused harm' and 'there are disproportionate difficulties or costs pertaining to establishing the relevant level of safety or proving that this level of safety has not been met'.[33] It also recommends reversing the burden of proof if producers fail to enable the logging of data capable of confirming faults in the operation of the technology. This would mean that the failure to embed some kind of logging system in AI technologies, enabling identification of the source of the malfunctioning that caused the damage, could 'trigger a rebuttable presumption that the condition of liability to be proven by the missing information is fulfilled'.[34]

ANALYSIS

Further consultation and consideration are needed before adjusting the burden of proof to account for perceived information imbalances between producers and end-users. There is certainly a question to be considered relating to the circumstances in which a potentially liable party has not taken reasonable steps to log the data relevant for assessing liability or is unwilling to share it with an alleged victim when required to do so in a legal proceeding. However, information imbalances are not unique to AI applications. Furthermore, a potentially liable party may simply not have access to the data it requires to rightfully absolve itself of liability. In that sense, the disruption to the usual legal process could be due to a lack of information altogether, as opposed to an information imbalance.

One alternative solution would be to modify intent and causation tests with a sliding scale based on the level of AI transparency and human supervision. Specifically, when AI merely serves as part of a human-driven decision-making process, current notions of

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intent and causation could, to some extent, continue to function appropriately. However, when AI behaves autonomously, liability should turn on the degree of the AI's transparency, the constraints its creators or users placed on it, and the vigilance used to monitor its conduct.

Moreover, Digital Europe has rightly pointed out that consideration should also be given to how the implementation of other regulatory changes envisaged in the White Paper could remove some of the concerns with AI and reduce the need for amendments to the product liability framework.[35] For example, additional requirements that have been proposed for safety legislation requiring risk assessments and certifications for certain AI software, or requirements for transparency of algorithms, could reduce or potentially even remove the necessity for amendments to the burden of proof in the product liability rules.

Compulsory Insurance

COMMISSION POSITION
The Commission has suggested that strict liability should be coupled with a possible obligation to hold insurance to ensure compensation irrespective of the liable entity's solvency and to help reduce the costs of damage. A similar approach was applied in relation to motor vehicles: a victim involved in a car accident typically has a strict-liability claim against the owner of the car, who is compensated via obligatory insurance.[36] Also, the proposed Digital Services Act may include a provision that will absolve online platforms from liability when they proactively adopt preventive measures.[37]

ANALYSIS
Imposing a compulsory no-fault user insurance scheme could result in higher insurance premiums (which will most likely be passed on to consumers) and reduced availability of insurance in markets with emerging technological risks. As noted by Insurance Europe, this would 'negatively impact consumers and hamper innovation'.[38] Insurance Europe also rightly noted that 'compulsory insurance can make it more difficult for small and specialised insurance markets to develop. It can also discourage an insurance market for risks that are difficult to quantify or where the current market capacity is insufficient to sustain large demand'.[39] Compulsory

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insurance can only work in specific cases and when certain market pre-conditions are met, including: the availability of sufficient claims data, a high level of standardization, and sufficient insurance capacity to manage risks and cover claims.[40]

Allocation of Liability Throughout a Product's Lifecycle

COMMISSION POSITION

The Commission considers that current product liability laws were designed for relatively simple products that did not change much from the moment they entered the market. This is no longer the case for many products, which are often a complex combination of hardware, software, and services, some of which can even evolve without human input. This creates a challenge to the effective enforcement of liability claims. In particular, the Commission wants to clarify who is liable for any changes that are made to the product once it is released to the market. To that end, it suggests revisiting the notion of 'putting into circulation' (that is currently the trigger point for strict liability under the Product Liability Directive) to 'take into account that products may change and be altered'.[41]

The Report on Safety and Liability does not specify how this notion should be altered, but the New Technologies Formation Report states that, '[t]he producer should be strictly liable for defects in emerging digital technologies even if said defects appear after the product was put into circulation, as long as the producer was still in control of updates to, or upgrades on, the technology'.[42]

In this vein, the Commission also indicated that existing defences and statutory exceptions from strict liability (such as the 'later defect defence' and 'development risk defence') may have to be reconsidered to account for the use of AI. The New Technologies Formation Report suggested that the development risk defence should not be made available to producers in cases where 'it was predictable that unforeseen developments might occur'.[43] Furthermore, according to the Report on Safety and Liability, liability could be reduced in a situation where the victim did not proceed with a safety update.

ANALYSIS

The proposal to amend the definition of 'putting into circulation' seems to ignore the very basics of machine learning, which leads to autonomous decision-making, as opposed to decision-making based purely on a pre-determined algorithm. Machine learning allows AI technologies to deal with new situations in new ways.[44] This means, necessarily, that an AI decision may not be foreseeable by the actors involved. In

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addition, in machine learning-based AI, incorrect outputs may be caused by incorrect data supplied by the operator and be due to no fault of the manufacturer. Liability doctrines, including strict liability, are predicated on whether harm is foreseeable, and who could have foreseen it. If current doctrines are crudely adapted to require developers and producers to account for unforeseen (or unforeseeable) circumstances, this may reduce their appetite to allow AI autonomy, which essentially voids its *raison d'être*.

Therefore, a blanket requirement for actors to account for future changes of use, or the response of an autonomous system to these changes, would vitiate many of the benefits of having AI capabilities. In fact, it would most likely lead to actors seeking to constrain machine learning capabilities to limit the expansion of their liability to

situations they cannot foresee. This would have a chilling effect on innovation—by removing incentives for companies to invest in autonomous AI—and the economy as a whole.

Further, the Report's proposal risks undermining the private autonomy of companies to freely negotiate their contractual relationships and partnerships. The Commission should be mindful of existing contractual liability regimes and should avoid overly broadening the scope of liability to hold technology providers responsible or liable, in their business-to-business dealings, for uses of technology that were not agreed between parties to a contract, or which may have been expressly excluded. This concern has also been raised by both Digital Europe[45] and AmCham EU.[46]

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Guiding Principles for Addressing the Liability Implications of AI

AI is a key driver of economic development, bringing huge potential benefits to European citizens, businesses, researchers, and governments. Therefore, any legislative adjustments must strike the right balance 'between protecting citizens from harm while enabling businesses to innovate',[47] so that they do not hinder progress and innovation.

The Commission should keep in mind the guiding principles[48] detailed below when enacting any reforms in this area, to help ensure the right balance is found and legal certainty is preserved.

Make Use of and Adapt Existing Liability Frameworks

While existing EU and national liability regimes might require adjustments to adapt to the specific risks created by AI systems, they still remain fully applicable to new technologies.[49] Policymakers should be mindful that activities performed and decisions aided by AI are often already accountable under existing laws. As the Law Society of England and Wales found, 'there is no obvious reason why the growth of AI and the use of data would require further legislation or regulation'[50] because 'most AI is embedded in products and systems, which are already largely regulated and subject to liability legislation'.[51]

In addition, as mentioned above, the Product Liability Directive has been applied to a wide range of products over the years, many of which did not exist when the Directive came into force in 1985. Therefore, the

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> **" [G]iven the rapid evolution of new technologies, building ex novo *legislative frameworks to regulate nascent technologies carries a significant risk of error.* "**

Commission should seek to make use of, and adapt where required, the existing liability frameworks, which adequately address most claims that arise from AI and other emerging technologies. Sensible adaptation would avoid the introduction of unnecessary legislation that could overly broaden legal standards for product liability and undercut legal certainty.

Take Stock of Existing EU Measures and Industry Best Practices

The Commission should undertake a thorough and comprehensive review of EU and Member State laws and regulations that already provide a governance framework for AI across different sectors. In addition to EU liability legislation, AI is currently subject to aspects of existing regulations including fundamental rights, data protection law, consumer law, and competition law. For example, the GDPR regulates the processing of personal data and contains a number of obligations related to automated decision-making.

Similarly, under EU consumer law, AI producers need to comply with applicable consumer product safety and liability rules. Failure to appropriately account for these rules before instituting a new governance framework may lead to overlapping and contradictory obligations in areas as diverse as financial services, healthcare, transportation, and data protection. In the case of automated vehicle (AV) technology, AI regulations would potentially conflict with, or duplicate, the rules set out under the revised General Safety Directive 2019/2144 and the AV standards developed by the United Nations Economic Commission for Europe. Likewise, AVs are fully covered by existing European and Member State liability regimes, offering no basis for future reforms for this AI application.

A review of all existing European laws, regulations, and frameworks relating to AI would be consistent with recommendations adopted by the Commission and Member States at the OECD (Organisation for Economic Cooperation and Development) and G20. Importantly, this exercise would also enable the Commission to focus on areas where existing laws may need to be modified or removed to enable the development, deployment, and use of AI in the EU single market.

Favour Soft Measures, Not Overzealous Regulation

The Commission should be careful not to intervene too hastily in nascent markets, as it is difficult to anticipate their evolution. As indicated by Judge Frank H. Easterbrook of the United States Court of Appeals for the Seventh Circuit, given the rapid evolution of new technologies, building *ex novo* legislative

frameworks to regulate nascent technologies carries a significant risk of error.[52]

The Commission's proposal should also recognize the importance of non-regulatory approaches to governing 'high-risk' AI. Non-regulatory approaches often achieve the same policy objectives and offer the same level of protections as regulatory approaches, but without many of the burdens and unintended consequences. For example, the development of voluntary consensus standards on the national and international level is a highly effective means of addressing the challenges and opportunities presented by emerging technologies such as AI. Similarly, multi-stakeholder initiatives have the greatest capacity to identify gaps in AI outcomes and to mobilize AI actors to address them, including through the development of tools such as algorithmic impact assessments. Voluntary codes of conduct can also be used as accountability tools in the AI lifecycle.

Given the novelty of the issues involved with and the legal uncertainty surrounding AI, developing these kinds of 'soft measures' is more appropriate than the introduction of new hard measures, or any immediate changes to existing hard measures. This appears to be the preferred approach of the U.S. government, which emphasised that 'unnecessarily

precautionary approaches to regulation that could unjustifiably inhibit innovation' should be avoided.[53] Such soft measures: (i) should be voluntary, practicable, and preceded by inclusive, evidence-based, and industry-wide consultations; and (ii) could be focused on increasing the extent to which companies are able to foresee potential harm or to better control the manner (without overly restricting the extent) of a technology's self-learning. Soft measures have proven successful in other sectors. For example, in relation to standard essential patents (SEPs), the Commission has refrained from overzealous regulation. Instead, it has issued recommendations 'sett[ing] out key principles that foster a balanced and predictable framework' for SEPs[54] and appointed a group of experts to 'deepen the expertise on evolving industry practices' relating to licensing of SEPs.[55]

Consult With Stakeholders or Adopt a Participative Regulatory Approach

When legislation is warranted, it should be developed in collaboration with stakeholders who fully understand how relevant AI systems work. The Commission should consult with relevant stakeholders and take into account various industry efforts to design and implement AI ethical and governance standards.

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The Commission should also consider implementing 'regulatory sandboxes', whereby innovators and regulators work closely together to bring new products to market. Such a collaborative process is more likely to result in sound policies, facilitate growth of AI technologies, and bolster consumer confidence. This kind of 'participative' regulatory approach—whereby authorities closely collaborate with the industry and avoid 'casting the rules in stone'[56]—has been endorsed by Nobel-winning economist Jean Tirole in relation to online platforms. Such an inclusive consultation process is equally important in nascent industry sectors, such as AI, which are often misunderstood and sensationalised.

Coordinate with Other Institutions and Governments

The Commission should coordinate with other institutions and non-governmental organisations to advance sound and interoperable practices for AI, to avoid creating a patchwork of different local rules that impose obstacles for companies to operate or sell AI solutions internationally. For example, the OECD is developing workable standards for AI. [57]

Promote Evidence- and Risk-Based Regulations

Any regulatory initiatives should be specific, narrowly tailored to appropriate use cases, focused on addressing those AI applications which present the greatest risk, and weighed against the economic and social benefits forfeited by their enactment. In accordance with the EU's 'better regulation' principles,[58] the Commission should engage in thorough fact-finding exercises and evidence-based risk-assessments rather than reflexively responding to concerns by imposing unnecessary bans, moratoriums, or unduly burdensome regulatory requirements. Regulations based on limited and patchy data, rather than a risk-based approach, could stifle companies' ability to offer innovative products and services.

Adopt Reasonable Constraints on Liability

Where liability exposure threatens AI's viability, the Commission should adopt reasonable constraints on liability (e.g., provide for relevant exceptions to strict liability regimes). Any regulatory framework should be based on actual risk and should be sufficiently adaptable and flexible so as to avoid barriers to innovation and economic growth. As explained above starting on page 8, regarding the Commission's proposal for a reversal of the burden of proof, the Commission should adopt a risk-based approach rather than imposing a blanket strict liability approach with respect to all AI. This approach could utilise a sliding scale where liability for higher risk products would turn on the degree of the AI's transparency, the constraints its creators or users placed on it, and the vigilance used to monitor its conduct.

The Commission should account for distinctions between the types of risk presented by different AI applications and tailor the rules on a case-by-case basis. This would enable companies that develop and deploy AI to implement risk management practices in ways that are best fitted to the use case and risk profile.

Further, with respect to the proposal to amend the allocation of liability throughout a product's lifecycle, the Commission should be very cautious. A compulsory no-fault insurance system is not recommended. However, if the Commission does adopt that approach, it should work closely with the insurance market to ensure that insurance will be available and that innovation is not deterred.

"The Commission should account for distinctions between the types of risk presented by different AI applications and tailor the rules on a case-by-case basis."

Conclusion

As the Commission has acknowledged, AI has tremendous potential to be a powerful force for good, in finding innovative solutions to meet global challenges in domains such as the environment and health.

According to the McKinsey Global Institute, AI could help Europe narrow the digital gap with the world's leaders, achieve a significant productivity boost, and create new jobs.[59] McKinsey predicts that powerful development of AI could grow European economic activity by nearly 20 percent by 2030.

Therefore, it is crucial that any changes to the existing liability regime do not stifle innovation by unduly widening developer/producer liability. Imposing impossible burdens or presumptive liability in relation to future unknown threats risks penalizing developers and producers for matters genuinely outside their control, and would deter them from developing AI in the first place.

It is also important to consider ramifications of EU policy outside of Europe. The EU's efforts to advance the use and development of AI must not shut it off from the rest of the world, as its future competitiveness depends on the ability of all businesses, regardless of size or sector, to remain connected to and engaged with the global economy. Restrictions on the use of technology developed outside of the EU risk disadvantaging Europe's own AI capacity, as many businesses benefit from partnerships with non-EU organisations, including those providing cloud capabilities and AI-related components, datasets, and software.

The Commission must develop a balanced, flexible and future-oriented AI liability regime, which is founded on actual evidence and a careful cost/benefit analysis. The Commission should be mindful not to intervene too hastily with overzealous regulations. Instead, it should make use of existing measures and engage in an open dialogue with other stakeholders, including businesses, international organisations, and non-EU governments, to develop a sound legal framework.

Endnotes

1 White Paper on 'Artificial Intelligence – A European approach to excellence and trust' COM(2020) 65, European Commission, 19 February 2020, https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf.

2 Communication on 'A European strategy for data' COM(2020) 66, European Commission, 19 February 2020, https://ec.europa.eu/info/files/communication-european-strategy-data_en.

3 Report on 'The safety and liability implications of Artificial Intelligence, the Internet of Things and robotics' COM(2020) 64, European Commission, 19 February 2020, https://ec.europa.eu/info/files/commission-report-safety-and-liability-implications-ai-internet-things-and-robotics_en.

4 The most relevant communications include:

   • Communication on 'Artificial Intelligence for Europe' COM(2018) 237 final, European Commission, 25 April 2018, https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-237-F1-EN-MAIN-PART-1.PDF, where the Commission highlighted that Europe needs to speed up on the development and deployment of AI;

   • Communication on 'Coordinated Plan on Artificial Intelligence' COM(2018) 795 final, European Commission, 7 December 2018, https://ec.europa.eu/knowledge4policy/publication/coordinated-plan-artificial-intelligence-com2018-795-final_en, where the Commission invited all Member States to come up with national strategies on AI that should be coordinated at the EU level; and

   • Communication on 'Building Trust in Human Centric Artificial Intelligence' COM(2019) 168 final, European Commission, 8 April 2019, https://ec.europa.eu/digital-single-market/en/news/communication-building-trust-human-centric-artificial-intelligence, which developed some of the key ideas on the regulatory framework and how AI could be made trustworthy.

5 As a result of the growing significance of AI, in 2018, the Commission appointed a High-Level Expert Group on Artificial Intelligence (which focuses on ethical guidelines for AI as well as policy and investment recommendations) and an Expert Group on Liability and New Technologies (which focuses on assessing the suitability of the current regulatory framework and developing guiding principles for possible adaptations of applicable laws at EU and national levels). In November 2019, the Expert Group on Liability and New Technologies published a 'Report on liability for AI and other emerging technologies', (New Technologies Formation Report) which heavily influenced the findings of the White Paper and accompanying documents. Report on 'Liability for Artificial Intelligence and other emerging technologies', Commission Expert Group on Liability and Emerging Digital Technologies – New Technologies Formation, 21 November 2019, https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupMeetingDoc&docid=36608.

6 Staff Working Document on 'Liability for emerging digital technologies' SWD(2018) 237 final, European Commission, 25 April 2018, https://ec.europa.eu/digital-single-market/en/news/european-commission-staff-working-document-liability-emerging-digital-technologies, accompanying the Communication on 'Artificial Intelligence for Europe' COM(2018) 237 final, European Commission, 25 April 2018, https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-237-F1-EN-MAIN-PART-1.PDF.

7 Political guidelines for the next European Commission 2019-2024: 'A Union that strives for more: My agenda for Europe', Ursula von der Leyen, https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf.

8 The U.S. Chamber previously submitted comments in response to consultations on both the AI White Paper and the Data Strategy, http://image.uschamber.com/lib/

fe3911727164047d731673/m/2/6eee454b-3035-4ff7-ac94-f5febf2f6345.pdf.

9   Communication on 'Commission Work Programme 2020 – A Union that strives for more', COM(2020) 37 final, European Commission, 29 January 2020, https://ec.europa.eu/info/publications/2020-commission-work-programme-key-documents_en.

10 According to Ursula von der Leyen's political guidelines for the next European Commission 2019-2024, page 13, 'We will jointly define standards for this new generation of technologies that will become the global norm. […] In order to release that potential we have to find our European way, balancing the flow and wide use of data while preserving high privacy, security, safety and ethical standards. We already achieved this with the General Data Protection Regulation […]'.

11 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679.

12 Among other initiatives, the Commission intends to put in place:

    • a legislative framework for the governance of common European data spaces by the end of Q4 2020, which aims at reinforcing the necessary structures at both national and EU levels to promote the use of data for innovative business ideas, https://ec.europa.eu/info/sites/info/files/communication-european-strategy-data-19feb2020_en.pdf;

    • a Digital Services Act which will cover digital services, and in particular online platforms, and which will likely lead to the refit of the E-commerce directive and to the creation of new rules on platforms, https://ec.europa.eu/digital-single-market/en/new-eu-rules-e-commerce;

    • a European Democracy Action Plan which aims at improving the resilience of democracies and addressing the threats of external interference in European elections, https://www.europarl.europa.eu/legislative-train/theme-a-new-push-for-european-democracy/file-european-democracy-action-plan; and

    • a Joint Cyber Unit, which will accelerate information sharing, https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf.

13 *See* 'Member States and Commission to work together to boost artificial intelligence "made in Europe"', https://ec.europa.eu/commission/presscorner/detail/en/IP_18_6689.

14 Memorandum for the heads of executive departments and agencies, providing 'Guidance for Regulation of Artificial Intelligence Applications', 7 January 2020, https://www.whitehouse.gov/wp-content/uploads/2020/01/Draft-OMB-Memo-on-Regulation-of-AI-1-7-19.pdf.

15 *Id.*

16 Washington Journal of Law, Technology and arts, 'Blame It on the Machine: A Socio-Legal Analysis of Liability in an AI World', Michael Callier and Harly Callier, 1 October 2018.

17 *Supra*, Note 14.

18 Artificial Intelligence in the Securities Industry, https://www.finra.org/sites/default/files/2020-06/ai-report-061020.pdf.

19 Directive (EEC) No 85/374 of the Council of the European Communities, 25 July 1985, on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:31985L0374.

20 White Paper, page 13. *See generally*, New Technologies Formation Report.

21 Report on Safety and Liability, page 13.

22 BusinessEurope Artificial Intelligence Recommendations, page 7, https://www.businesseurope.eu/sites/buseur/files/media/position_papers/internal_market/2019-07-31_ai_recommendations.pdf.

23 *See* Case C-503/13 *Boston Scientific Medizintechnik GmbH v AOK Sachsen-Anhalt.*

24 *See* Evaluation of Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions

of the Member States concerning liability for defective products, page 12, https://ec.europa.eu/transparency/regdoc/rep/10102/2018/EN/SWD-2018-157-F1-EN-MAIN-PART-1.PDF.

25   Report on Safety and Liability, page 15.

26   According to the New Technologies Formation Report, page 6, 'Strict liability is an appropriate response to the risks posed by emerging digital technologies, if, for example, they operated in non-private environments and may typically cause significant harm'.

27   *Id.*

28   *See* the PricewaterhouseCoopers report on 'The macroeconomic impact of artificial intelligence' of February 2018, https://www.pwc.co.uk/economic-services/assets/macroeconomic-impact-of-ai-technical-report-feb-18.pdf, which estmates that global GDP may increase by up to 14 percent (the equivalent of US$15.7 trillion) by 2030 as a result of the accelerating development and take-up of AI. *See also* the Accenture report on 'Why artificial intelligence is the future of growth', 2018, https://www.accenture.com/t20170524T055435__w__/ca-en/_acnmedia/PDF-52/Accenture-Why-AI-is-the-Future-of-Growth.pdf, which finds that by 2035, AI could double annual global economic growth rates.

29   Report of a CEPS Task Force, Artificial Intelligence – Ethics, governance and policy challenges, February 2019, pages 87-88.

30   The Commission proposes a risk-based approach to AI governance. According to the White Paper, in order for an AI application to be considered 'high risk', it needs to meet the following two cumulative criteria:

(i)   first, the AI must be deployed in a high-risk sector – the White Paper states that any future legislation should '*specifically and exhaustively*' list such sectors, and mentions healthcare, transport, energy and parts of the public sector as examples of sectors that are likely to be 'high-risk'; and

(ii) second, the intended use – or the manner in which it is deployed – must be likely to raise significant risks for any individual or company, in particular from the viewpoint of safety, consumer rights and fundamental rights.

The Commission also flagged that certain types or applications of AI could be deemed 'high risk' regardless of the sector in which they are deployed, and specifically calls out the use of AI in the recruitment and broader employment context (which raises a risk of discrimination and bias), and remote biometric identification systems (e.g.*,* surveillance using facial recognition technology), as two examples.

31   EDiMA position paper on Artificial Intelligence, page 3, September 20, 2020, https://doteurope.eu/wp-content/uploads/2020/11/EDiMA-AI-position-paper.pdf.

32   New Technologies Formation Report, *supra*, Note 5.

33   According to the New Technologies Formation Report, page 6, 'If it is proven that an emerging digital technology has caused harm, the burden of proving defect should be reversed if there are disproportionate difficulties or costs pertaining to establishing the relevant level of safety or proving that this level of safety has not been met'.

34   *Id.*

35   Digital Europe comments on the European Commission's AI White Paper (12 June 2020), page 22.

36   Directive (EC) No 2009/103 of the European Parliament and of the Council, 16 September 2009, relating to insurance against civil liability in respect of the use of motor vehicles, and the enforcement of the obligation to insure against such liability, https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32009L0103, states in Article 3 that 'Each Member State shall […] take all appropriate measures to ensure that civil liability in respect of the use of vehicles normally based in its territory is covered by insurance'.

37   A Commission document which was not officially published outlines plans to include in the Digital Services Act, 'a binding "Good Samaritan provision" [which] would encourage and incentivize proactive measures, by clarifying the lack of liability as a result of such measures on the basis of the notions already included in the Illegal Content Communication', https://cdn.netzpolitik.org/wp-upload/2019/07/Digital-Services-Act-note-DG-Connect-June-2019.pdf.

38	Insurance Europe position paper on liability insurance and emerging technologies, https://www.insuranceeurope.eu/sites/default/files/attachments/Position%20paper%20on%20liability%20insurance%20and%20emerging%20technologies_0.pdf.

39	*Id.*

40	*Id.*

41	Report on Safety and Liability, page 16.

42	New Technologies Formation Report, page 6.

43	*Id.*, at 43.

44	Importantly, self-learning is essential for the reduction of risk. Self-learning leads to improvement, and this can be directed to areas where human-based decision making is particularly prone to error and thus entails risk.

45	Digital Europe comments on the European Commission's AI White Paper (12 June 2020).

46	AmCham EU's response to the White Paper on Artificial Intelligence (14 June 2020).

47	Report on Safety and Liability, page 12.

48	These guidelines are in line with the U.S. Chamber's AI Principles, https://www.uschamber.com/press-release/us-chamber-releases-artificial-intelligence-principles.

49	Economic stakeholders remain fully responsible for the compliance of AI to current rules that protect consumers.

50	UK's Parliament 'AI in the UK: ready, willing and able? - Chapter 9: Shaping artificial intelligence (UK)', https://publications.parliament.uk/pa/ld201719/ldselect/ldai/100/10013.htm#_idTextAnchor143.

51	*Id.*

52	F.H. Easterbrook, 'Cyberspace and the Law of the Horse'. U. Chi. Legal F. (1996): 207-216.

53	Memorandum for the heads of executive departments and agencies, providing 'Guidance for Regulation of Artificial Intelligence Applications', 7 January 2020, https://www.whitehouse.gov/wp-content/uploads/2020/01/Draft-OMB-Memo-on-Regulation-of-AI-1-7-19.pdf.

54	Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee, Setting out the EU approach to Standard Essential Patents, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52017DC0712.

55	*See* Group Details - Group of experts on licensing and valuation of standard essential patents (E03600), https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3600.

56	Allison Schrager, A 'Nobel-winning economist's guide to taming tech monopolies', Quartz interview with Jean Tirole, June 27 2018, https://qz.com/1310266/nobel-winning-economist-jean-tirole-on-how-to-regulate-tech-monopolies/.

57	OECD AI Principles are available at https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449.

58	The Better regulation agenda's goal is to ensure that EU policies and laws are prepared in a transparent manner, relying on evidence and backed by involvement of citizens and relevant stakeholders, https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how_en.

59	McKinsey Global Institute, 'Tackling Europe's gap in digital and AI', February 2 2019, https://www.mckinsey.com/featured-insights/artificial-intelligence/tackling-europes-gap-in-digital-and-ai#.