

SOME REMARKS ON THE CHANGING PRODUCT LIABILITY RULES IN LIGHT OF ARTIFICIAL INTELLIGENCE*

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Abstract


In recent years, there has been a significant increase in the number of AI-based products and services. Despite the highly advanced technologies, developers still find it challenging to understand the operation of AI systems. Therefore, it is crucial to regulate this technology properly to ensure its safe and ethical use. This study examines the revised EU Product Liability Directive's evolving rules relating to AI systems, specifically the concepts of damage and defectiveness, as well as the persons who may be held liable for the damages. By gaining a better understanding of these issues, we can work towards creating a more responsible and accountable approach to developing and deploying AI-based products and services.

Keywords: artificial intelligence, product liability, damage, defectiveness

Absztrakt

Az utóbbi években számos MI-alapú termék és szolgáltatás jelent meg. A rendkívül fejlett technológiák ellenére a fejlesztők még mindig nehezen tárják fel az MI-rendszerek működését, ezért kulcsfontosságú a technológia megfelelő szabályozása. Jelen tanulmány az uniós felülvizsgált termékfelelősségi irányelv mesterséges intelligencia rendszerekkel kapcsolatos változó szabályait vizsgálja, különös tekintettel a kár és a termékhiba fogalmára, illetve a felelősségre vonható személyek körére.

Kulcsszavak: mesterséges intelligencia, termékfelelősség, kár, termékhiba

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1. Introductory thoughts

Artificial intelligence systems (hereinafter referred to as ‘AI’ or ‘AI system’) are increasingly integrated into our daily lives, from messaging systems¹ and smart devices² to crucial fields such as education³, healthcare⁴, finance⁵, and transportation⁶. However, the use of this technology can be confusing and raise numerous questions for users, legislators, and enforcers. Even with advanced technologies, developers often struggle to fully comprehend how AI systems operate, making it difficult for users to do so. To tackle this issue, various international organisations have recognised the need for proper regulation and have established working groups to study the technology and produce policies.⁷ Over the past decade, the European Union has produced several studies, guidelines, and proposals to create a common regulatory framework due to the cross-border nature of AI technology. These documents highlighted the deficiencies of the Product Liability Directive and urged its revision.⁸

Recently, the legislative process regarding AI has accelerated, leading to a new era of technology regulation.⁹ Therefore, this study analyses the changing product liability rules of the

¹ Zac AMOS: AI and Spam: How Artificial Intelligence Protects Your Inbox. <https://www.unite.ai/ai-and-spam/> (Date of download: 02.07.2023.).

² Ibolya STEFÁN: Az okoseszközökkel kapcsolatos adatvédelmi kérdések, különös tekintettel a biometrikus adatokra, *Studia Iurisprudentiae Doctorandorum Miskolciensium* 2021/2, 222–223. <https://doi.org/10.46942/SIDM.2021.2.217-232>.

³ Cf. Lijia CHEN – Pingping CHEN – Zhijian LIN: Artificial Intelligence in Education: A Review, *IEEE Access* 2020/8, 75264–75278. <https://doi.org/10.1109/ACCESS.2020.2988510>.

⁴ See Thomas DAVENPORT – Ravi KALAKOTA: The potential for artificial intelligence in healthcare, *Future Healthcare Journal* 2019/2, 94–98. <https://doi.org/10.7861/futurehosp.6-2-94>.

⁵ Cf. OECD: Artificial Intelligence, Machine Learning and Big Data in Finance: Opportunities, Challenges, and Implications for Policy Makers. <https://www.oecd.org/finance/financial-markets/Artificial-intelligence-machine-learning-big-data-in-finance.pdf> (Date of download: 02.07.2023.).

⁶ See Lakshmi Shankar IYER: AI enabled applications towards intelligent transportation, *Transportation Engineering* 2021/5, 1–11. <https://doi.org/10.1016/j.treng.2021.100083>.

⁷ For more, see the documents of the ad hoc Committee on Artificial Intelligence (CAHAI); Committee on Artificial Intelligence (CAI) of the Council of Europe and the Working Group on Artificial Intelligence of OECD. In the legal literature see more: Woodrow BARFIELD: Towards a law of artificial intelligence, in: *Research Handbook on the Law of Artificial Intelligence* (eds.: Woodrow Barfield – Ugo Pagallo), Edward Elgar Publishing, 2018, 2–39. <https://doi.org/10.4337/9781786439055.00011>; Tiago Sérgio CABRAL: Liability and artificial intelligence in the EU: Assessing the adequacy of the current Product Liability Directive, *Maastricht Journal of European and Comparative Law* 2020/5, 615–635. <https://doi.org/10.1177/1023263X20948689>.

⁸ In the legal literature see more: Bernhard KOCH: Product Liability 2.0 – Mere Update or New Version?, in: *Liability for Artificial Intelligence and the Internet of Things. Münster Colloquia on EU Law and the Digital Economy IV.* (eds.: Sebastian Lohsse – Reiner Schulze – Dirk Staudenmayer), Bloomsbury Publishing, London, 2019, 97–116. <https://doi.org/10.5771/9783845294797-97>. Cf. George BORGES: AI systems and product liability, in: *ICAAIL ‘21: Proceedings of the Eighteenth International Conference on Artificial Intelligence and Law, 2021*, 32–39. <https://doi.org/10.1145/3462757.3466099>; Charlotte DE MEEUS: The Product Liability Directive at the Age of the Digital Industrial Revolution: Fit for Innovation?, *Journal of European Consumer and Market Law* 2019/4, 149–154.

⁹ Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Act. Brussels, 21.4.2021. COM(2021) 206 final. (hereinafter referred to as ‘AI Act’). https://eur-lex.europa.eu/resource.html?uri=cellar:e0649735-a372-11eb-9585-01aa75ed71a1.0001.02/DOC_1&format=PDF (Date of download: 02.07.2023.).

Proposal for a Directive of the European Parliament and of the Council on adapting non-contractual civil liability rules to artificial intelligence (AI Liability Directive). Brussels, 28.9.2022. COM(2022) 496 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022PC0496> (Date of download: 02.07.2023.).

revised EU Product Liability Directive, especially the concept of damage, defectiveness and persons liable for damages caused by AI systems.¹⁰

2. Liable persons under the revised Product Liability Directive

It is important that liability for AI systems consists of extra-contractual liability ‘in general’ and product liability, the two areas complement each other. In this regard we should underline the ‘European Parliament resolution of 20 October 2020 with recommendations to the Commission on a civil liability regime for artificial intelligence’ (hereinafter referred to as ‘Recommendations on Civil Liability for Artificial Intelligence’) and the ‘AI Liability Directive’. The Recommendations on Civil Liability for Artificial Intelligence distinguishes backend and frontend operators. The former “*means any natural or legal person who, on a continuous basis, defines the features of the technology and provides data and an essential backend support service and therefore also exercises a degree of control over the risk connected with the operation and functioning of the AI-system.*”¹¹ Therefore, backend operators can define the AI system's technological conditions, such as upgrades and updates. This means that the back-end operator has in-depth knowledge of the technology and how it operates. While “*frontend operator means any natural or legal person who exercises a degree of control over a risk connected with the operation and functioning of the AI-system and benefits from its operation.*”¹² Therefore, the frontend operator can control the system, and reduce its risks if it is necessary. The document also highlights that the rules of the Product Liability Directive should be applied when the backend operator is a manufacturer and is under the scope of the Directive.¹³ Comparing the definitions of manufacturers and backend-frontend operators, it can be seen that the documents has different perspectives, which complements each other to protect users and promote legal certainty if damages occurs from the operation of AI system. Although the Recommendations on Civil Liability for Artificial Intelligence has detailed rules on liability for AI systems, it has not been accepted.

The Product Liability Directive in force relies on a linear distribution system that follows a chain of contracts, which is not always applicable to digital goods, software and AI systems, especially those accompanied by physical items.¹⁴ Furthermore, the new technologies may follow a different distribution path, as they often require updates or involve a two-way flow of data between the consumer and producer or operator. As the digital age transforms the way products are created and delivered, it is necessary to address the challenges, re-evaluate and

¹⁰ Proposal for a Directive of the European Parliament and of the Council on liability for defective products. Brussels, 28.9.2022. COM(2022) 495 final. https://eur-lex.europa.eu/resource.html?uri=cellar:b9a6a6fe-3ff4-11ed-92ed-01aa75ed71a1.0001.02/DOC_1&format=PDF (Date of download: 02.07.2023.) (hereinafter referred to as ‘Proposal for Product Liability Directive’). In this study we do not exam the notion of product, however it should be noted that the revised Product Liability Directive has extended the definition of product to software as well; therefore AI systems will be also covered by product liability. Cf. Ibolya STEFÁN: The Examination of Artificial Intelligence Systems in light of the Concept of Product and Service, *Studia Iurisprudentiae Doctorandorum Miskolciensium* 2023/1, 135–150. <https://doi.org/10.46942/SIDM.2023.1.135-150>.

¹¹ Recommendations on Civil Liability for Artificial Intelligence, Article 3 (f).

¹² Recommendations on Civil Liability for Artificial Intelligence, Article 3 (e).

¹³ Recommendations on Civil Liability for Artificial Intelligence, Article 11.

¹⁴ Duncan FAIRGRIEVE – Geraint HOWELLS – Hansen Peter MØGELVANG – Gert STRAETMANS – Dimitri VERHOEVEN – Piotr MACHNIKOWSKI – André JANSSEN – Reiner SCHULZE: Product Liability Directive, in: *European Product Liability. An Analysis of the State of the Art in the Era of New Technologies* (ed.: Piotr Machnikowski), Intersentia, Cambridge, 2016, 61–72.

update the notion of ‘producer’ to reflect the technological changes.¹⁵ As a result, the revised PLD introduces the term ‘manufacturer’ – instead of ‘producer’ – and extends it significantly, as follows: “*manufacturer means any natural or legal person who develops, manufactures or produces a product or has a product designed or manufactured, or who markets that product under its name or trademark or who develops, manufactures or produces a product for its own use.*”¹⁶ This means developers who are not engaged in commercial activity (e.g. open-source software developers) cannot be liable under the revised PLD. The new wording of the definition of manufacturer also reflects the jurisprudence of the European Court of Justice (hereinafter referred to as ‘ECJ’). “*As interpreted by the ECJ, the latter suggests that any person putting its name or trademark on the product could be regarded as the producer, even if it is obvious that the person was not attempting to market the product (like an airline putting its name on a plane, for example), whereas the draft PL-D makes it clear that the liability can only attach to those who effectively market the product. The draft also confirms the solution in the Veedfald case, whereby the person producing a product for its own use is manufacturer/producer and can thus be made liable under the Directive – provided the product has been put on the market.*”¹⁷

According to the results of the preliminary assessment of the revised PLD, hardware and finished product manufacturers argued that it is unfair to hold only hardware manufacturers liable for any faults in the products. They claimed that products in the market operate in an ecosystem of software, hardware, and ancillary services that are difficult to distinguish. Furthermore, they cannot control third-party software updates or downloads. Manufacturers highlighted that the key principle of product liability is to impose liability on the party who is more likely to minimise safety risks. Legal experts underlined that it is inappropriate to exclude software providers from no-fault liability, especially in case the digital component has more significance regarding the overall functioning of the product than the physical part,¹⁸ as their exclusion would result in the narrowing of the scope of PLD.¹⁹ The software industry contends that software producers should not be held strictly liable for any damage caused by their software, as they have no control over its usage. They further argue that if the software is responsible for any damage, the hardware manufacturer can seek compensation from the software manufacturer through contractual settlements. However, hardware manufacturers have highlighted that software manufacturers can impose contractual exclusions of liability and make it challenging to pursue claims under contract law.²⁰ Another Joint and several liability occurs when two or more economic operators are liable for the same damage.²¹

¹⁵ Christian TWIGG-FLESNER: Guiding Principles for Updating the Product Liability Directive for the Digital Age-ELI Innovation Paper Series, European Law Institute, Vienna, 2021, 6–7.

¹⁶ Proposal for Product Liability Directive, Article 4, (11).

¹⁷ Jean-Sébastien BORGHETTI: Adapting Product Liability to Digitalization: Trying Not to Put New Wine Into Old Wineskins, in: Liability for AI. Münster Colloquia on EU Law and the Digital Economy VII. (eds.: Sebastian Lohsse – Reiner Schulze – Dirk Staudenmayer), Nomos, Baden-Baden, 2023, 144. <https://doi.org/10.5771/9783748942030-129>.

¹⁸ For example, in IoT ecosystems, smart homes, software and digital services has greater significance than hardware components.

¹⁹ Commission Staff Working Document Impact Assessment Report. Accompanying the document. Proposal for a Directive of the European Parliament and of the Council on liability for defective products. SWD(2022) 316 final. Brussels, 28.9.2022., 15–16. <https://data.consilium.europa.eu/doc/document/ST-13134-2022-ADD-2/en/pdf> (Date of download: 03.07.2023.) (hereinafter referred to as ‘Impact Assessment of the Proposal for Product Liability Directive’).

²⁰ Impact Assessment of the Proposal for Product Liability Directive, 17–18.

²¹ Proposal for Product Liability Directive, Art. 4 (11).

Furthermore, the proposal establishes the definition of economic operator, which means “the manufacturer of a product or component, the provider of a related service, the authorised representative, the importer, the fulfilment service provider or the distributor”.²²

Article 7 outlines a cascading system for holding economic operators liable for manufacturing, developing or making the product available on the market. It is similar to Article 3 of the 1985 Product Liability Directive, but has been updated to reflect the current structure of distribution models and market practices.²³ As Borghetti highlights Article 7 “intended to combine two objectives: 1) liability for damage caused by a defective product should ultimately lie on the producer, which the draft PL-D prefers to call “manufacturer”; and 2) claimants should always be able to sue a defendant that is not too difficult to identify and to reach, and that should ideally be located in the EU.”²⁴ In accordance with the revised rules, to protect consumers, each producer involved in the production process can be held responsible if their product or a component they supplied is defective. If a producer uses a defective component made by another producer, the injured party may seek compensation from the producer of the product or component. In addition, if a manufacturer is located outside of the Union, it should be possible to hold the product importer and the manufacturer’s authorised representative liable for compensating injured persons. The revised Product Liability Directive also regulates those cases when a product – already placed on the market or put into service – is modified by a natural or legal person. If this modification is significant under relevant EU or national product safety legislation and is conducted outside the control of the original manufacturer, the natural or legal should be considered the manufacturer of the product; therefore, be liable for the damage caused by defective product.²⁵

3. Defectiveness regarding AI systems

3.1. Categories of defects

3.1.1. Manufacturing defects

Regarding defects, three categories are distinguished in the literature.

In the case of a manufacturing defect, the defect in a product is caused by a mistake in the manufacturing process, resulting in a defective product, i.e. some products may be defective. Manufacturing defects occur when design features have not been taken into account, incorrect software has been installed, or viruses cause damage. To determine whether a product has a manufacturing defect, it is compared to other products from the same series. Whether the product is different from other copies of the same series is irrelevant. The manufacturer is responsible for the standard of conduct applied in the manufacture and marketing of the product. However, if the defect could not have been discovered based on the scientific and technical

²² Proposal for Product Liability Directive, Article 4, (16).

²³ European Law Institute: ELI Draft of a Revised Product Liability Directive. Draft Legislative Proposal of the European Law Institute, European Law Institute, Vienna, 2022, 20–21. https://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Draft_of_a_Revised_Product_Liability_Directive.pdf (Date of download: 03.07.2023.).

²⁴ BORGHETTI: *ibid.* 143.

²⁵ Proposal for Product Liability Directive, Article 7.

knowledge available at the time the product was placed on the market, the manufacturer may not be held responsible.²⁶

3.1.2. Design defects

Regarding design defects, the design of the product inherently contain defect, resulting in all products in that series being defective. Consequently, the designer shall be liable for the defect, unless she/he can demonstrate that no other reasonable design existed at the time to prevent the damage.²⁷

3.1.3. Information defects

Includes damages resulting from an inadequate notice or information. The use of emerging technologies requires manufacturers to provide more accurate information and instructions to consumers. The complexity of the technology requires more information, which also means more technical information for users, and the use of the technology may even require some specialised knowledge. Therefore, instructional defect is likely to become more common in emerging technologies than manufacturing or design defects. The obligation to provide instructions is breached if the manufacturer does not inform the consumer at all or only incompletely about the safety-relevant features of the product, in particular the proper use of it. The obligation to give instructions does not only apply to the proper use of the product, but also to foreseeable misuse.²⁸

3.2. AI-related defectiveness and the revised Product Liability Directive

According to the Product Liability Directive in force “*A product is defective when it does not provide the safety which a person is entitled to expect, taking all circumstances into account, including: (a) the presentation of the product; (b) the use to which it could reasonably be expected that the product would be put; (c) the time when the product was put into circulation.*”²⁹ However, this wording has been exceeded by technological development. In the case of digital-based, or entirely digital products, software and AI systems, frequent updates are necessary to enhance functionality, fix errors, and guarantee security due to their nature. The notion of defect needed to be clarified and updated so the legislation can keep up with the emerging digital technologies.³⁰ Therefore, the Proposal for Product Liability Directive revised the list of circumstances must be taken into account when determining the defectiveness of a

²⁶ Susana NAVAS: Producer Liability for AI-Based Technologies in the European Union, *International Law Research* 2020/1, 80–81. <https://doi.org/10.5539/ilr.v9n1p77>.

²⁷ NAVAS: *ibid.* 81.

²⁸ NAVAS: *ibid.* 81–82.

²⁹ 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, Article 6 (1).

³⁰ TWIGG-FLESNER: *ibid.*, 8. See more: Cristina, AMATO: Product Liability and Product Security: Present and Future, in: *Liability for Artificial Intelligence and the Internet of Things. Münster Colloquia on EU Law and the Digital Economy IV.* (eds.: Sebastian Lohsse – Reiner Schulze – Dirk Staudenmayer), Bloomsbury Publishing, London, 2019, 77–95. <https://doi.org/10.5771/9783845294797-77>; Jean-Sébastien BORGHETTI: How Can Artificial Intelligence Be Defective?, in: *Liability for Artificial Intelligence and the Internet of Things. Münster Colloquia on EU Law and the Digital Economy IV.* (eds.: Sebastian Lohsse – Reiner Schulze – Dirk Staudenmayer), Bloomsbury Publishing, London, 2019, 63–76. <https://doi.org/10.5771/9783845294797-63>.

product. The great difference between is that the current wording only lists three factors; while the proposal enumerates eight of the; which clearly reflects to emerging technologies, such as AI systems.³¹

Regarding defectiveness in the revised Product Liability Directive, we only aim to examine AI and technology-related criteria, as follows:

3.2.1. Installation and maintenance instructions

In order to determine if a product is defective, one must take into account the instructions for installation, use, and maintenance. It is crucial to ensure that the instructions provided are clear and accurate, as misleading instructions can result in incorrect installation, use, or maintenance, ultimately leading to a defective product. Therefore, it is important to carefully follow the instructions provided by the manufacturer to avoid any potential issues.

3.2.2. Self-learning ability of AI system

When assessing product defects, it is crucial to take into account the self-learning abilities of AI systems. As self-learning process not necessarily result is positive in changes, the technology often complex and unpredictable. It can even generate undesired result, such as the inadequate recommendation of a smart assistant.³²

3.2.3. Interactions between different products

“The interactions between different products, for instance between two smart home devices such as a smart heating system and the app that allows the user to control the system, should be taken into account when assessing whether a product is defective because on the Internet of Things the malfunction of one connected device may easily cause a defect of another connected device.”³³

3.2.4. Cybersecurity requirements

³¹ “A product shall be considered defective when it does not provide the safety which the public at large is entitled to expect, taking all circumstances into account, including the following:

(a) the presentation of the product, including the instructions for installation, use and maintenance;

(b) the reasonably foreseeable use and misuse of the product;

(c) the effect on the product of any ability to continue to learn after deployment;

(d) the effect on the product of other products that can reasonably be expected to be used together with the product;

(e) the moment in time when the product was placed on the market or put into service or, where the manufacturer retains control over the product after that moment, the moment in time when the product left the control of the manufacturer;

(f) product safety requirements, including safety-relevant cybersecurity requirements;

(g) any intervention by a regulatory authority or by an economic operator referred to in Article 7 relating to product safety;

(h) the specific expectations of the end-users for whom the product is intended.” Proposal for Product Liability Directive, Article 6 (1).

³² BEUC: The Revision of the Product Liability Directive, Brussels, 2023, 7–8.
https://www.beuc.eu/sites/default/files/publications/BEUC-X-2023-023_Revision_of_the_product_liability_directive.pdf (Date of download: 03.07.2023.)

³³ BEUC: *ibid.* 8.

It is essential to consider the adherence of a product to safety regulations, including those related to cybersecurity. In the case of digital technologies, taking cybersecurity requirements into account is especially critical. Numerous connected devices have insufficient cybersecurity measures, as evidenced by tests conducted by BEUC's members. The European Consumer Organisation pleased that the proposal recognises that economic operators should not have their liability reduced if damage occurs due to a defect, such as non-compliance with cybersecurity requirements, or the actions of a third party, such as a cyber-criminal exploiting a cybersecurity vulnerability.³⁴

4. The notion of damage

The proposal for Product Liability Directive extends the scope of compensable damage to technology-related provisions.³⁵ Two new types of damage should be highlighted.

4.1. *Damage to psychological health*

The proposed amendment provides more clarity regarding the detrimental effects of a faulty product, which extends the scope of damage beyond physical injury and death to include psychological harm that is medically recognised. BEUC welcomes this addition, as it guarantees that psychological harm caused by a defective product is considered a personal injury within the revised Product Liability Directive. Although the Product Liability Directive in force explicitly mentions death or bodily harm, it is uncertain whether psychological health is included. This proposal enhances consumer protection, particularly for individuals who suffer from post-traumatic stress disorder due to accidents resulting from faulty products.³⁶ Moreover, it also covers possible psychological harms resulting from human-robot interactions, especially in the case of companion or social robots. Social robots can be designed with emotional recognition – based on facial expressions, texts and conversations – and emotional support abilities to help their users,³⁷ we believe that the break of emotional connection can result in psychological harm regarding vulnerable groups, specifically in elderly and juvenile people.

4.2. *Damage to data*

³⁴ BEUC: *ibid.* 8.

³⁵ “*damage means material losses resulting from:*

(a) *death or personal injury, including medically recognised harm to psychological health;*

(b) *harm to, or destruction of, any property, except:*

(i) *the defective product itself;*

(ii) *a product damaged by a defective component of that product;*

(iii) *property used exclusively for professional purposes;*

(c) *loss or corruption of data that is not used exclusively for professional purposes”* Proposal for Product Liability Directive, Article 4 (6).

³⁶ BEUC: *ibid.* 9.

³⁷ Yu-Cian HUANG – Edwinn GAMBORINO – Yan-Jia HUANG – Xiaobei QIAN – Li-Chen FU – Su-Ling YEH: *Inferring Stressors from Conversation: Towards an Emotional Support Robot Companion*, *International Journal of Social Robotics* 2022/14, 1657–1671. <https://doi.org/10.1007/s12369-022-00902-0>; Cf. Réka PUSZTAHELYI: *Emotional AI and its challenges in the viewpoint of online marketing*, *Curentul Juridic* 2020/2, 18–20, Réka PUSZTAHELYI – Ibolya STEFÁN: *Household Social Robots – Special Issues Relating to Data Protection*, *Acta Universitatis Sapientiae Legal Studies* 2022/1, 95–118. <https://doi.org/10.47745/AUSLEG.2022.11.1.06>.

The proposal recommends that if a defective product results in the loss or corruption of data, this should be considered compensable damage. The BEUC supports the proposal and believes that data loss and corruption should be recognised as compensable damage. Defective devices can not only cause physical harm but also damage the data stored on them. Therefore, the revised Product Liability Directive should consider data loss and corruption as compensable damage. Additionally, the BEUC suggests that insufficient cybersecurity should be deemed a defect since it could allow malicious third parties to access connected devices and steal sensitive data, which could lead to financial or reputational harm. If only data loss and corruption are recognised as damaging, consumers will still be at risk. Therefore, the theft and unauthorised copying of data should also be considered as relevant damages.³⁸

5. Conclusion

The 21st century has seen a significant rise in technological advancements, which have transformed daily activities through the emergence of new software and programs. Consequently, keeping up with the rapid pace of technological growth has presented regulatory challenges for legal systems, given the many unknown features that constantly change due to numerous updates. To address these concerns, the European Union is proactively seeking efficient solutions and has published several proposals in recent years, including the Artificial Intelligence Act in 2021, the Artificial Intelligence Liability Directive, and the Proposal for the Directive on liability for defective products in 2022.

In this study, we highlighted some of the most important AI-related regulations from the revised Product Liability Directives. As the proposal considers the technology as software, it helps to solve the liability issues of the technology. As emerging technologies are lot more complex than ‘usual’ products, it is more difficult to identify the liable person. Therefore, lawmakers decided to extend the scope of manufacturer, while also establishing the definition of economic operators. Artificial intelligence systems posing challenges regarding defects of products and damages may occur. As a result, the revised Product Liability Directive reflects technological development, including several AI and technology-related criteria e.g. the self-learning ability of the technology, interactions between products and cybersecurity requirements. Considering the notion of damage, the proposal extends the scope of compensable damage to technology-related provisions, as introduces new forms of damages, such as damage to psychological health and damage to data. All in all, we can state that revised Product Liability Directive consists of AI-related rules that help to overcome the challenges of artificial intelligence.

³⁸ BEUC: *ibid.* 9.