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**Liability for damages caused by
artificial intelligence systems
– main challenges to be addressed
by the European Union
conflict-of-laws regulations**
*Odpowiedzialność za szkody
wyrządzone przez systemy sztucznej inteligencji
– główne wyzwania, którym muszą sprostać
przepisy kolizyjne Unii Europejskiej*

Abstract

This article discusses the main challenges related to the liability for damages caused by artificial intelligence (AI) systems that need to be properly addressed by the European Union (EU) conflict-of-laws regime. In the first part of the paper authors point out three main challenges, namely: 1) determination of responsible persons, 2) optimal liability regime for AI torts, and 3) determination of high – risk AI systems. In the second part of the paper the authors assess the application of the conflict-of-law provisions of the Rome II Regulation from this perspective. This article argues that a harmonised legal framework at EU level is necessary to avoid the risk of legal fragmentation in filling the gaps created by unprecedented technological advances caused by AI. This objective should also be pursued by the conflict-of-laws rules of private international law.

Keywords: *liability, AI, torts, conflict of laws*

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The manuscript was submitted by the authors on: 30 June 2022; the manuscript was accepted for publication by the editorial board on: 29 July 2022.

Streszczenie

W niniejszym artykule omówiono główne wyzwania związane z odpowiedzialnością za szkody wyrządzone przez systemy sztucznej inteligencji (AI), które należy odpowiednio uwzględnić w systemie kolizyjnym Unii Europejskiej. W pierwszej części artykułu autorzy wskazują na trzy główne wyzwania, a mianowicie: 1) określenie osób odpowiedzialnych, 2) optymalny reżim odpowiedzialności za delikty AI oraz 3) określenie systemów AI wysokiego ryzyka. W drugiej części artykułu autorzy dokonują oceny stosowania przepisów kolizyjnych rozporządzenia Rzym II z tej perspektywy. Argumentują, że zharmonizowane ramy prawne na szczeblu UE są niezbędne, aby uniknąć ryzyka rozdrobnienia prawnego w wypełnianiu luk powstałych w wyniku bezprecedensowego postępu technologicznego spowodowanego przez sztuczną inteligencję. Temu celowi powinny służyć również normy kolizyjne prawa prywatnego międzynarodowego.

Słowa kluczowe: odpowiedzialność, AI, delikty, przepisy kolizyjne

1. Introductory remarks

The development and increasing use of artificial intelligence (hereinafter: “AI”) based technologies brings unprecedented benefits to humans, the economy and society. But there are risks associated with their use, which is due to the characteristics of these technologies. This has far-fetching implications for civil law¹. The issue of liability for damage caused by the use of artificial intelligence systems comes to the fore. Artificial intelligence is now the subject of regulations designed by European Union (hereinafter: the “EU”)² – along with ethical considerations³. Fundamental questions are raised about the optimal regime of liability for harm caused by AI systems and responsible persons⁴.

One should agree that optimal liability regulations should be balanced and should also take into account the legitimate interests of the person to whom liability is attributed. This argument becomes particularly important where the likelihood of bearing liability constitutes, in a way, a price for the introduced innovativeness of the technological solutions⁵. Placing the risk of changes solely on the company that makes them could discourage innovation, which is clearly not in the public interest⁶. On the other hand, determination of the liability in an incident that involves use of AI systems can be troublesome, expensive, and time-consuming. It can be difficult to identify the exact cause of an incident, provide evidence of that cause, and ultimately decide against whom to make a claim⁷. Injured parties may encounter difficulties in accessing

¹ L. Bosek, *Perspektywy rozwoju odpowiedzialności cywilnej za inteligentne roboty* [Prospects for the development of civil liability for intelligent robots], “Forum Prawnicze” 2019, No. 2(52), p. 4, <https://doi.org/10.32082/fp.v2i52.200>.

² European Commission, *Commission Staff Working Document, Liability for emerging digital technologies COM(2018) 237 final*, Brussels, 24 April 2018, available at: <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A52018SC0137> [accessed on: 11 May 2022]; Expert Group on Liability and New Technologies – New Technologies Formation, *Liability for Artificial Intelligence and Other Emerging Digital Technologies*, European Union 2019; European Commission, *Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics*, Brussels, 19 February 2020, COM (2020) 64 final, available at: https://ec.europa.eu/info/sites/info/files/report-safety-liability-artificial-intelligence_feb2020_en_1.pdf [accessed on: 11 January 2023].

³ EC Joint Research Centre, *Artificial Intelligence. A European Perspective*, Luxembourg 2018, pp. 120–121, available at: <https://publications.jrc.ec.europa.eu/repository/bitstream/JRC113826/ai-flagship-report-online.pdf> [accessed on: 11 January 2023]; EC High-Level Expert Group on AI, 8 April 2019, *Ethics Guidelines for Trustworthy AI*, <https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai> [accessed on: 11 January 2023].

⁴ P. Książak, S. Wojtczak, *Prawa Asimova, czyli science fiction jako fundament nowego prawa cywilnego* [Asimov’s laws – science fiction as the foundation of a new civil law], “Forum Prawnicze” 2020, No. 4(60), p. 58, [https://doi.org/10.32082/fp.v0i4\(60\).378](https://doi.org/10.32082/fp.v0i4(60).378). See: A. Ponce del Castillo, *A law on robotics and artificial intelligence in the EU?*, ETUI Research Paper – Foresight Brief, September 2017, pp. 7–8, available at: <http://doi.org/10.2139/ssrn.3180004> [accessed on: 11 January 2023].

⁵ B. Bożek, M. Jakubiec, *On the legal responsibility of autonomous machines*, “Artificial Intelligence and Law” 2017, Vol. 25.

⁶ M. Świerczyński, Ł. Żarnowiec, *Prawo właściwe dla odpowiedzialności za szkodę spowodowaną przez wypadki drogowe z udziałem autonomicznych pojazdów* [Proper law for liability for damages resulting from accidents involving autonomous vehicles], “Zeszyty Prawnicze” 2019, Vol. 19, No. 2, p. 106, <https://doi.org/10.21697/zp.2019.19.2.03>.

⁷ M. Świerczyński, Ł. Żarnowiec, *Pravo...*

the evidence, which significantly reduces the chance of obtaining compensation. In order to determine who is liable, it is necessary to consider the technology used in terms of the degree of autonomy of its decisions and its impact on the occurrence of the incident⁸.

These specific characteristics of AI-based technologies and their applications, including their complexity, ability to be modified through upgrades or machine learning, limited predictability, and vulnerability to cyber-attacks, make it difficult for victims to pursue claims for damages. Without adapting the liability system to address these challenges, including conflict-of-law regime, it will prove unfair or ineffective. Therefore, changes to liability regimes existing in the member states need to be made⁹. This leads to the following question: What implications does this have for the European conflict-of-law regime concerning liability for damages (torts), namely Rome II Regulation? In this paper we will first indicate main challenges from the perspective of the substantive law and then present recommendations regarding the optimal conflict-of-law regulations to address these challenges.

The model proposed recently by the EU for civil liability for damages caused by artificial intelligence¹⁰ certainly needs further discussion¹¹. However, despite the doubts and the sometimes critical stance, it is a good thing that there is a specific legislative proposal that can hopefully be improved in the next stages of the procedure. Certainly one area that requires urgent review is the relationship between the proposed legal framework and the conflict of laws rules set forth in the Rome II Regulation.

2. Main challenges

2.1. Who is responsible for AI harm?

The primary challenge for the victim is to identify the person responsible. Unlike other technologies in which a human being will be actively involved in the operation,

⁸ C. Boscarato, *Who is responsible for a robot's actions?*, [in:] *Technologies on the stand: legal and ethical questions in neuroscience and robotics*, B. van der Berg, L. Klaming (eds.), Nijmegen 2011; M. Świerczyński, Ł. Żarnowiec, *Prawo...*, p. 102.

⁹ Expert Group on Liability and New Technologies Formation, *Liability for Artificial Intelligence and other emerging digital technologies. Report*, 2019, p. 3.

¹⁰ Proposal for a Directive on adapting non contractual civil liability rules to artificial intelligence – Artificial Intelligence Liability Directive, available at: https://commission.europa.eu/business-economy-euro/doing-business-eu/contract-rules/digital-contracts/liability-rules-artificial-intelligence_en [accessed on: 10 January 2023].

¹¹ Similar to those that were held following the publication of the European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics [2015/2103(INL)]. The resolution proposed, among other things, the establishment of a special legal regime for robots. The resolution uses the phrase “electronic person” (“e-person”). However, the European Parliament’s proposal was met with criticism. To date, more than 280 experts in AI, robotics, law, business, and ethics from over ten countries have signed an open letter opposing the plans to give robots the attribute of legal personality, considering it inappropriate and incompatible with, among other things, the principles of the EU Charter of Fundamental Rights and the European Convention for the Protection of Human Rights and Fundamental Freedoms; see: *Open Letter to the European Commission. Artificial Intelligence and Robotics*, available at: <http://www.robotics-openletter.eu/> [accessed on: 10 February 2023].

whose behaviour will affect the use of the technology as such, artificial intelligence is being used to completely or at least significantly replace the human factor in the operation, the best example being autonomous cars (as indicated by their name). Artificial intelligence systems increasingly perform tasks without human supervision (“human out of the loop”). The level of autonomy of systems varies from fully supervised and controlled systems to more autonomous systems that combine feedback with analysis of their current situation and can perform tasks without direct human intervention, even operating in complex environments. It should be emphasised that a greater degree of system autonomy is a key property of AI systems sought by users.

What the opinions of international organisations have in common is the belief in the crucial and still superior role of humans in the application of artificial intelligence systems. Consequently, it is the human, not the machine, that should be held fully responsible in the event of damage. Moreover, attributing liability solely to AI would be a straightforward way to prevent humans (violators) from being penalised for the consequences for their own acts and omissions¹², and at the same time, could result in difficulties for victims in obtaining due compensation. With regard to liability in the event of a damage caused by AI, the UNESCO Recommendation on the Ethics of Artificial Intelligence¹³ has consistently supported the position that ethical and legal liability can only be attributed to natural or legal persons. Artificial intelligence systems should not be given the attribute of legal personality¹⁴ and assume responsibility instead of humans.

Importantly, the EU recommends that the central figure in the system of civil liability for damages caused by AI should be the mainly its operator, as it is the operator who controls the risks associated with the use of AI in a manner comparable to a motor vehicle user. A possible problem is the use of AI algorithms in the public space, where potential victims are often unaware of how the system works and, in the event of damage, may not even know against whom they could make a claim¹⁵. To conclude, the law should support victims in identification of responsible persons.

¹² Similarly, M. Wałachowska: “Another argument in favour of denying legal subjectivity to AI systems is the fact that doing so would relieve equipment designers and programmers of civil liability for damages caused in connection with the use of artificial intelligence. It would also be difficult to argue that AI possesses property that would allow it to be liable for the damage caused”; M. Wałachowska, *Sztuczna inteligencja a zasady odpowiedzialności cywilnej* [Artificial intelligence and the principles of civil liability], [in:] *Prawo sztucznej inteligencji* [Artificial intelligence law], L. Lai, M. Świerczyński (eds.), Warszawa 2020, p. 68.

¹³ On 24 November 2021, the Recommendation on the Ethics of Artificial Intelligence was adopted by UNESCO’s General Conference at its 41st session. See: <https://en.unesco.org/artificial-intelligence/ethics> [accessed on: 28 February 2023].

¹⁴ “It is worth adding that granting subjectivity to AI does not in any way solve the problem of liability. This is because a legal person is endowed with, among other things, legal capacity and has its own separate property. A robot, let alone a computer program, has no similar characteristics. Liability rules generally have two purposes: to remedy the damage done and to prevent damage. It seems that granting legal personality to AI would not enable the achievement of any of these purposes” – M. Hulicki, *Wybrane zagadnienia odpowiedzialności cywilnoprawnej w kontekście zastosowań sztucznej inteligencji*, “Kwartalnik Prawa Prywatnego” 2019, Vol. 28, Issue 4, pp. 897–898.

¹⁵ See: F.Y. Chee, *EU civil rights groups want ban on biometric surveillance ahead of new laws*, February 2021, available at: <https://www.reuters.com/article/us-eu-tech-petition-idU-SKBN2AH0N2> [accessed on: 20 December 2022].

2.2. What liability regime for AI should be adopted in the EU?

Civil liability issues are now an important object of legislative work in the EU. Over the past few years, there have been many resolutions, communiqués, and conclusions relating directly to this issue. The breakthrough, however, was achieved by the European Parliament when passing, on 20 October 2020, a resolution with recommendations to the European Commission concerning civil liability for artificial intelligence. As a result of these considerations the EU finally presented two draft directives in 2022¹⁶.

The proposal for a directive on non-contractual liability in relation to artificial intelligence (“AI Liability Directive”) builds upon the Commission’s 2020 White Paper on AI, its simultaneous report on safety and liability in the field of AI, and the 2021 AI Act proposal which focuses on prevention and safety. It is linked with the review of the 1985 Product Liability Directive¹⁷ (“revised Product Liability Directive”), which was presented on the same date as the AI Liability Directive. In short, under these drafts, the EU points out that the advent of artificial intelligence systems does not require an overhaul of the existing model of liability. The creation of a separate liability system for damages caused by AI is not justified¹⁸.

In this new piece of legislation, the EU rightly underlines the need first to review 1985 Product Liability Directive in terms of possible adaptation of definitions of terms such as “damage”, “defect”, and “burden of proof” when the causes of harm to a consumer result from autonomous decision-making processes. There are legitimate concerns that the provisions of the existing directive¹⁹ do not fully protect consumers of products based on artificial intelligence systems²⁰. It is difficult to prove the defectiveness of a product, the damage caused, and the causal relationship between the two. It also seems necessary to make the definition of a defective product more specific, so that compensation for damages caused by products defective due to software or other digital functions can be claimed in all cases. Currently, the assessment

¹⁶ European Commission, Proposal for a Directive of the European Parliament and of the Council on Liability for Defective Products (2022) [PLD Proposal], COM/2022/495 final, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0495> [accessed on: 2 January 2023]; European Commission, Proposal for a Directive of the European Parliament and of the Council on adapting non-contractual civil liability rules to artificial intelligence (2022) [AILD Proposal], COM/2022/496 final, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0496> [accessed on: 2 January 2023].

¹⁷ 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 (OJ L 210, 7 August 1985, p. 29).

¹⁸ *Ensure that robots are and will remain in the service of humans*, European Parliament, Press Release: *Robots: Legal Affairs Committee calls for EU-wide rules*, published on 12 January 2017, 2017(b).

¹⁹ *Ensure that robots are and will remain in the service of humans*, European Parliament, Press Release: *Robots: Legal Affairs Committee calls for EU-wide rules*, published on 12 January 2017, 2017(b).

²⁰ Differently: The European Consumer Organisation, *Inception impact assessment on civil liability – adaptation liability rules to the digital age and artificial intelligence*, Brussels 2021, available at: <https://www.beuc.eu/publication/position-papers?keys=artificial+intelligence#publication> [accessed on: 4 January 2023].

of whether a specific solution is classified as software or a service is often unclear. It is particularly necessary to modify the existing product liability model²¹.

In its “Report on safety and liability implications of AI, the Internet of Things and Robotics”²², the European Commission concluded that the EU liability framework is working reasonably well. However, the features of artificial intelligence systems may impose some limitations on the determination of whether a damage is the consequence of culpable human action. This may result in limitations on the injured party’s pursuit of claims of liability. Both EU and harmonised national regulations should ensure that artificial intelligence systems do not reduce the level of protection of the victim, as this could result in a reluctance to use systems based on digital technologies. Leaving these issues to member states alone could lead to fragmentation of the market. It is therefore necessary to establish a uniform EU framework.

To summarize, it is a good thing that, with regard to artificial intelligence, the EU is not recommending to create completely new liability solutions. The phenomenon of AI does not justify replacing the existing liability rules, which continue to be valid, with new ones. A damage is a damage, regardless of its cause. According to the general concept of civil liability, whoever creates, maintains, and controls an artificial intelligence system should be liable for any damages.

2.3. What are high – risk Artificial Intelligence Systems?

Artificial intelligence is a type of technology that allows computers to perform tasks that require human intelligence, such as natural language understanding, learning and prediction. The Council of Europe’s draft 2023 Convention²³ adopts an analogous definition of an artificial intelligence system [Article 2(a)], indicating that it refers to systems that perform functions that are commonly associated with or require human intelligence, and that either assist or replace humans in performing those functions.

The precise definition of AI in the EU law would certainly help increase its level of transparency and thus trust. However, in the obvious situation of ambiguous understanding of AI, it is reasonable to ask about the actual possibility of formulating a single definition. Even in computer science, scholars do not even closely agree on a definition for AI. Would the alternative solution be to define various types of artificial intelligence? It appears that the research on AI conducted to date clearly

²¹ The European Consumer Organisation, *Inception impact assessment on civil liability – adaption liability rules to the digital age and artificial intelligence*, Brussels 2021, p. 5, available at: <https://www.beuc.eu/publication/position-papers?keys=artificial+intelligence#publication> [accessed on 4 January 2023].

²² Report from the Commission to the European Parliament, the Council and the European Economic and Social Committee, 19 February 2020, available at: <https://op.europa.eu/pl/publication-detail/-/publication/4ce205b8-53d2-11ea-aece-01aa75ed71a1> [accessed on: 19 February 2023].

²³ See revised “Zero Draft” [Framework] Convention on Artificial Intelligence, Human Rights, Democracy and the Rule of Law. This document was prepared by the Chair of the Committee on Artificial Intelligence with the support of the Secretariat, available at: <https://www.coe.int/en/web/artificial-intelligence/cai> [accessed on: 12 February 2023].

confirms that there are many types of artificial intelligence systems²⁴ and, consequently, no single, precise definition seems to be possible at all. From the perspective of the proposed liability regime it seems more important to identify high risk AI systems that directly and substantially affect rights of the people.

The way liability is enforced should depend on the type of risk the AI system in question poses (the higher the risk, the more stringent the liability mechanism²⁵). In a high-risk system, the threat occurs randomly and is much more dangerous than when the risk is minimal. Also, identifying clear criteria and an appropriate definition of high risk is essential. In principle, one can agree with the EU's position that an artificial intelligence system poses a serious risk when its autonomous operation involves the possibility of causing a damage to one or many persons in a random manner and beyond what could be expected. The probability of a damage should be determined on the basis of algorithmic calculations in the decision-making process, the complexity of the decision, and the reversibility of its consequences. When determining a high level of risk for a given artificial intelligence system, one should consider the type of sector and business, and an assessment of whether the consequences of operation of the system could have been avoided with reasonable measures. Due to the heterogeneous nature of artificial intelligence systems, making the type of liability dependent on the level of risk that a given artificial intelligence system involves should be fully accepted, of course with the assumption of a properly functioning verification mechanism for the different types of artificial intelligence.

3. How these main challenges are addressed by conflict-of-law rules?

3.1. Functions of the conflict-of-law regime

The goal of contemporary conflict-of-law rules is to tailor the model of conflict-of-law determination to the specific characteristics of a particular life situation, as opposed

²⁴ "AI technologies underlie many Internet services. Software polices the world's email traffic, and despite continual adaptation by spammers to circumvent the countermeasures being brought against them, Bayesian spam filters have largely managed to hold the spam tide at bay. Software using AI components is responsible for automatically approving or declining credit card transactions, and constantly monitors account activity for signs of fraudulent use [...]. Now, it must be stressed that the demarcation between artificial intelligence and software in general is not sharp. [...] A more relevant distinction for our purposes is that between systems that have a narrow range of cognitive capability (whether they be called «AI» or not) and systems that have a more generally applicable problem-solving capacities"; N. Bostrom, *Superinteligencja. Scenariusze, strategie, zagrożenia* [*Superintelligence: Paths, Dangers, Strategies*], Warszawa 2016, p. 37.

²⁵ A similar opinion was expressed by M. Jagielska: "Strict liability is liability for a danger arising from a particular type of activity. The responsibility of the broadly defined «makers» of artificial intelligence should also be based on this principle. Basing liability on other principles, e.g. fault [...], will in fact result in a lack of liability, as producers will usually be able to demonstrate compliance with the required standard of care" – M. Jagielska, *Odpowiedzialność za sztuczną inteligencję* [*Liability for artificial intelligence*], [in:] *Prawo sztucznej inteligencji* [*Artificial intelligence law*], L. Lai, M. Świerczyński (eds.), Warszawa 2020, pp. 76–77.

to establishing a one-size-fits-all and ideal solution²⁶. It is crucial to select the optimal criteria for determining the governing law (connecting factors). The connecting factor is an attempt reaching a compromise between the principle of closest relationship and the principle of predictability of conflict-of-law decisions²⁷. Identification of a law by means of a connecting factor is not only based on the principle of the closest relationship, but also takes into account certain conflict-of-law interests, especially legal certainty, but also protection of the victims²⁸. The choice of a connecting factors in the private international law directly impacts the victim ability to identify responsible persons and the legal basis for the claims.

We believe that simplification of the system for determination of the applicable law to assess the liability arising from AI violations would increase legal certainty and reduce the potential for the adverse problem of “forum shopping”²⁹. “Forum shopping” consists of intentionally taking advantage of the differences in the private international law of various countries so as to obtain, within the possibilities afforded by the norms defining the national jurisdiction, by bringing an action in the chosen one, the application of the expected substantive norms³⁰. The “forum shopping” risk needs to be reduced in case of disputes relating to the use of artificial intelligence systems.

3.2. How to determine responsible person(s)?

Establishing the applicable law to determine the non-contractual liability of producers, distributors, suppliers, vendors, and others for damages caused by AI products placed on the market is not an easy task under the current conflict-of-law rules. The person to whom liability is attributed may conduct operations in a location other than the location where the person claiming damages suffered a damage. An AI-based product can be designed and made in one location and placed on the market and purchased elsewhere. An optimal conflict-of-law rule is needed that, on the one hand, will ensure legal predictability and, on the other hand, will be flexible enough to allow the search for the law that is actually most closely related to the factual situation being evaluated. This will directly significantly improve the determination of responsible person for the damages.

Let's analyse three possible scenarios, first based on the possible application of a law that is “more favourable” to the injured party, second based on using an

²⁶ M. Pilich, *Łączniki personalne osób fizycznych w prawie prywatnym międzynarodowym (zagadnienia wybrane)* [*Personal connecting factors of natural persons in private international law (selected problems)*], “Problemy Prawa Prywatnego Międzynarodowego” 2016, Vol. 19, p. 10.

²⁷ M. Czepelak, *Zasada najściślejszego związku jako reguła kierunkowa prawa prywatnego międzynarodowego* [*The principle of the closest relationship as a guiding rule of private international law*], “Problemy Prawa Prywatnego Międzynarodowego” 2016, Vol. 18, p. 93.

²⁸ M. Czepelak, *Zasada...*

²⁹ M. Świerczyński, Ł. Żarnowiec, *Prawo...*, p. 105.

³⁰ On the risk of “forum shopping” under the Rome II Regulation due to the 1971 and 1973 Hague Conventions being in force in some EU member states; see: J. von Hein, *Of Older Siblings and Distant Cousins: The Contribution of the Rome II Regulation to the Communitarisation of Private International Law*, “*RabelsZ*” 2009, Issue 3, p. 474, <https://doi.org/10.1628/003372509788930691>.

autonomous connecting factor for artificial systems, and the third solution with its gravity centre based on the autonomy of the parties.

The criterion of application of a law that is “more favourable” to the injured party must be rejected in our opinion. It refers to elements of substantive nature and is a vague criterion. It assumes the necessity to compare not only the content of the substantive norms of the indicated laws, but also to assess the consequences of their application. This involves considerable uncertainty as to which of the indicated laws will ultimately be used. This criterion is vague, changes in time, may act unevenly in different directions, and creates uncertainty in legal relations. A significant argument against adopting this criterion is its bias (favouring the injured party). A law that is beneficial to the injured party may result in a clear disadvantage to the person to whom liability is attributed.

A second scenario involves the adoption of a uniform application of a single legal systems based on an autonomous criterion related to the characteristics of the artificial systems. For example such systems, especially robots, could be legally recognised as products or property³¹ as they typically consist of software and hardware. As a first step, one may consider assuming that the applicable law should be the law of the country of the authority registering a given artificial intelligence system. The use of such a criterion would be appropriate if there was an international uniform AI registration principle, the adoption of which is only being planned, whereby the rule would apply only to certain “large” (high-risk) AI systems, i.e., those whose activities have the potential to have the most momentous socioeconomic impacts. This scenario would result in a stable anchoring of AI systems and the consequences of its actions in specific legal systems but its adoption need substantial changes in the existing private international law system.

Finally, under third scenario, we consider it advisable to grant the main role to the autonomy of the will of the parties with respect to their legal relations related to artificial intelligence. This subjective connecting factor can help in elimination of the difficulties involved in establishing objective links presented above. Indeed, the choice of the law allows the parties to achieve a significant degree of legal certainty by autonomously identifying the applicable legal system. The connecting factor consisting in the choice of the law resolving issues related to AI is an effective way to resolve conflict-of-law concerns.

We will see below that this third scenario is already permitted under the existing conflict-of-law regime adopted in the Rome II Regulation (see point below).

3.3. Optimal liability regime for AI damages

We support the EU’s general objective to ensure that victims of damage caused with the involvement of AI should have the same effective compensation as victims

³¹ S.M. Solaiman, *Legal personality of robots, corporations, idols and chimpanzees: a quest for legitimacy*, “Artificial Intelligence Law” 2017, Vol. 25, p. 172, <https://doi.org/10.1007/s10506-016-9192-3>.

of damage caused by other technologies. Victims indeed need to be provided with increased means to claim fair compensation when they suffer damages caused by AI applications, which otherwise may be unavailable or complicated and expensive, due to the opacity and complexity of AI applications. Such results could be achieved, however, only under condition that conflict-of-law regime is fully synchronized with the goals of the new EU legislation on AI liability. We fully agree that an important component of trustworthy AI is predictability and this includes predictability of applicable law.

There is no question that the change must begin with a revision of the conflict-of-law rules that apply to product liability, as this seems the most important liability regime in case of AI damages. What remains relevant is recital 20 of the preamble to the Rome II Regulation, which states that, in relation to product liability, the conflict-of-law rules should ensure that the risks inherent in a modern, technologically advanced society are fairly distributed, protect the health of consumers, stimulate innovation, guarantee undistorted competition, and facilitate trade. The adopted solution should at least make it possible to find out *a priori* the proper law to assess possible liability for the damage caused and consequently to assess and calculate the resulting risk.

The current mechanisms for determination of the applicable law in product liability cases are excessively complex³². In addition to the provisions of the Rome II Regulation, the 1973 Hague Convention in some member states may also apply. Both acts provide for many criteria that must be met to determine the applicable law. They do not ensure legal certainty and predictability of the governing law³³. It goes contrary to the current proposals that seek to mitigate the effects of unforeseeability of the applicable law by lowering barriers to compensation, via (supposedly) strict negligence, presumption of fault and causality. In particular AI operators, not the victims, should bear the consequences of using black-box AI models. Hence, the presumptions of fault and defectiveness should apply, respectively, even if evidence cannot be produced by the defendant due to the black-box character of the AI model.

3.4. High-risk AI systems

We find it difficult to accept the EU's proposal to include a list of high-risk systems in an exhaustive annex to the regulation governing civil liability for damages. We believe that creating a list of systems is somewhat of an anachronism and that a better solution would be to certify individual systems on an ongoing basis using, for example, colour coding. Red could indicate a system with the highest risk, orange – one

³² S. Symeonides, *Choice of Law for Products Liability: The 1990s and Beyond*, "Tulane Law Review" 2004, Vol. 7, Issue 4, pp. 1247ff; J. Fawcett, *Products Liability in Private International Law: A European Perspective*, "Rec. des Cours" 1993-I, Vol. 9, pp. 238ff.

³³ Cf.: M. Illmer, *The New European Private International Law of Product Liability – Steering Through Troubled Waters*, "RabelsZ" 2009, Issue 2, pp. 269ff.

with a medium risk, and green – one with the lowest risk. We advocate setting up easily accessible dispute resolution schemes in this respect.

As the development of artificial intelligence systems is dynamic, we recommend simplifying all procedures aimed to analyse specific types of AI in terms of threats they pose. The risk level should be assessed at the same time as product safety in order to prevent the presence on the market of a product or service not covered by compulsory insurance. In the case of new digital technologies, the passage of time negatively affects the chances of market success; therefore, we consider the certification process to be more streamlined than updating the annex, especially since a colour coding scheme would be more understandable to the end users. Adoption of the proposal concerning the annex would require revising it on an ongoing basis. In many cases, it is a quick response to an unmet market need or a need that no one has planned for that is important. Thus, it seems reasonable to propose that action should be taken as needed and in a manner that is as informal as possible.

To conclude, there is a noticeable rise in the importance of product liability laws in relation to AI technologies³⁴. An example is a damage caused by the use of autonomous vehicles³⁵. We also see an apparent tendency to establish liability regimes that are not based on the premise of fault. An example is environmental protection. The rationale is that it is reasonable to hold liable the entity that benefits from the activity that causes environmental damage³⁶. The same rule should apply to AI-based technologies that involves high-risk of its use. At the same time, however, it is important to bear in mind that there are numerous types of artificial intelligence systems. Depending on the application, AI systems are more or less complex and autonomous. Consequently, the risks associated with their use may also vary. Therefore, it is now recommended to make the type of liability for damages caused by AI dependent on the level of risk inherent in the use of a specific AI system (the higher the risk, the more stringent the liability mechanism)³⁷. Most artificial intelligence systems are used for simple tasks that involve minimal or no risk to humans. In such cases, fault-based liability definitely should still apply.

³⁴ M. Świerczyński, Ł. Żarnowiec, *Law applicable to liability for damage caused by traffic accidents involving autonomous vehicles*, "Masaryk University Journal of Law and Technology" 2020, Vol. 14, No. 2, pp. 177–200, available at: <https://doi.org/10.5817/MUJLT2020-2-2> [accessed on: 1 February 2023]. More information can be found in: O. Shevchenko, *Connected Automated Driving: Civil Liability Regulation in the European Union*, "Teise" 2020, Vol. 114, pp. 85–102, available at: <https://doi.org/10.15388/Teise.2020.114.5> [accessed on: 1 February 2023].

³⁵ According to a recent forecast from HIS Automotive, there will be nearly 21 million autonomous vehicles on the world's roads by 2035. E.A.R. Dahiyat, *From Science Fiction to Reality: How will the Law Adapt to Self-Driving Vehicles?*, "Journal of Arts & Humanities" 2018, Vol. 7, Issue 9, p. 34, available at: <http://doi.org/10.18533/journal.v7i9.1497> [accessed on: 11 January 2023].

³⁶ E.A.R. Dahiyat, *From Science...*, p. 228–229.

³⁷ "The differentiation of the suggested regulatory approaches depending on the use of artificial intelligence we are dealing with is an example of an attempt to reconcile the protection of fundamental rights and the development of innovation" – J. Mazur, *Unia Europejska wobec rozwoju sztucznej inteligencji: proponowane strategie regulacyjne a budowanie jednolitego rynku cyfrowego* [European Union towards the development of artificial intelligence: recommended regulatory strategies and building a uniform digital market], "Europejski Przegląd Sądowy" 2020, No. 9, p. 15.

3.5. Does Rome II Regulation require revision?

For the above reasons, we believe that the general conflict-of-law model provided by the Rome II Regulation, particularly its Articles 4 (general rules) and 14 (autonomy of the will of the parties), should take the leading role in determination of the applicable law to liability arising from the AI damages, including product liability regime. These general rules fully comply with the neutral nature of the conflict-of-law rules of private international law, the primary purpose of which is not to favour any party to a legal relationship. It allows to take into consideration different types of AI systems, including the high-risk systems.

One should bear in mind that the introduction into Article 4(1) of the Rome II Regulation of the connecting factor – location of the damage instead of the more generally formulated connecting factor – location of the tort takes into account the case of multiple locations of the facts related to the violation³⁸. The Rome II Regulation assumes that the location of the damage, understood as the place of the direct infringement of a legal interest of the injured party, is decisive, since it is there that the event determining the liability takes place. However, the place where the injured party suffered a consequential damage resulting from an original damage arising in another state is irrelevant. Recital 17 in the preamble to the Rome II Regulation provides general guidance on how to understand the phrase “direct damage”. It indicated that “the country in which the damage occurs should be the country where the injury was sustained or the property was damaged respectively”. The above assumptions are fully applicable to damages caused by artificial intelligence systems.

Application of direct damage as a connecting factor is a compromise between considering the law of the country where the tort takes place as the proper law and giving the injured party the right to choose either the law of the country where the tort took place or the law of the country where the damage occurred³⁹. The solution adopted in the Rome II Regulation has the effect of making the determination of the proper law somewhat more rigid than the general connecting factor of the place of the tort, which in practice has been subject to flexible interpretation, allowing the law of the place of the act or the law of the place of the damage (the effect of the tort) to be adopted, depending on the circumstances of the particular case⁴⁰. This can cause

³⁸ The problem of multiple locations of torts is widely discussed in the literature, including in Poland. Pioneering studies in this area have been presented by M. Sośniak, *Lex loci delicti commissi w prawie międzynarodowym prywatnym* [*Lex loci delicti commissi in international private law*], “Studia Cywilistyczne” 1963, Vol. 4; M. Sośniak, *Zobowiązania nie wynikające z czynności prawnych w prawie prywatnym międzynarodowym* [*Obligations resulting from the legal transactions in private international law*], Katowice 1971; M. Sośniak, *Prawo prywatne międzynarodowe* [*International private law*], Katowice 1991.

³⁹ Cf.: T. Pajor, *Nowe tendencje w części ogólnej prawa prywatnego międzynarodowego państw europejskich* [*New trends in the general part of private international law of the European countries*], “Problemy Prawne Handlu Zagranicznego” 1995, Vol. 18, pp. 68ff.

⁴⁰ Indeed, the trend in the modern private international law is to make conflict of laws rules more flexible and diverse. Cf.: T. Pajor, *Odpowiedzialność deliktowa w prawie prywatnym międzynarodowym* [*Tort liability in international private law*], Warszawa 1989, pp. 5ff; M. Sośniak, *Zobowiązania...*, pp. 49ff.

difficulties in the case of AI violations. It is therefore worth bearing in mind that this rigidity has been reduced in view of the possibility to apply the corrective rule specified in Article 4(3) of the Rome II Regulation, so that the court may, on the basis of this rule, apply as an exception the law of the place of the causative act (event), e.g. the action of the AI operator⁴¹.

To conclude, we are of opinion that Rome II Regulation does not require immediate changes, but rather the interpretation of its conflict-of-law rules should be more focused on the goals of AI liability regime proposed by the EU (namely ensuring proper compensation for the victims). The overall system should provide a uniform framework for AI liability in the EU which would balance ease of compensation with sufficient legal certainty for AI development and deployment.

3.6. Proposed application of the Rome II Regulation to AI torts

The Rome II Regulation conflict-of-law rules for determination of the applicable law for liability arising from AI infringements could be applied as follows. As noted above the basic conflict-of-law rule under the Rome II Regulation is the principle that the law of the country where the damage was suffered is the proper law, irrespective of the country in which the event causing the damage occurred and in which country or countries the indirect consequences of that event occurred [Article 4(1)]. The application of this rule to AI torts may raise few doubts, but one should take into consideration that Rome II Regulation contains additional and complementary rules. First, the court should check whether the parties have made a valid choice of the applicable law, i.e. have fulfilled the prerequisites of Article 14 of the Rome II Regulation. For AI torts, this may be sometimes problematic due to the fact that there may be more than one potentially responsible party. In the absence of a valid choice of law, it should be examined whether there are grounds for applying the rules on separate types of torts (Articles 5–9 of the Rome II Regulation, e.g. product liability cases). Only if the answer is negative does it become reasonable to apply the general norms specified in Article 4 of the Rome II Regulation, beginning with the norms specified in paragraph 2 (common personal law of the parties). In the absence of a common personal law, the basic rule specified in Article 4(1) providing for determination as the proper law of the law of the country where the direct damage occurred should apply. In both of the above situations, it is advisable for the court to determine whether it is possible to correct the indication of the law under Article 4(3) of the Rome II Regulation. Presented scheme shows a consistent

⁴¹ See: judgment of the Supreme Court of 5 February 2015, V CSK 164/14, LEX nr 2008700. More information on ways to address the problem of multiple locations of the damage can be found in: M. Pazdan, *Prawo prywatne międzynarodowe [Private international law]*, Warszawa 2017, pp. 274–247. It is worth recalling the draft conflict of laws rule recommended by M. Sośniak: “With respect to obligations that do not result from legal transactions, the law of the country where the factor that predominantly determined the emergence of the obligation occurred is the proper law, unless a link to the law of another country is apparent from the circumstances” – M. Sośniak, *Uwagi do projektu polskiego prawa prywatnego międzynarodowego [Comments to the draft of the Polish international private law]*, “Nowe Prawo” 1962, No. 7–8, p. 1019.

model for determination of the applicable law and the lack of fundamental impediment to its application to AI torts, including those that belong to the group of high-risk AI systems.

4. Summary and conclusions

The issue of civil liability for damages caused with the use of AI systems is of key importance. Adoption of an appropriate legal framework applicable to liability is important not only from the standpoint of possible injured parties, but also from the standpoint of businesses that implement artificial intelligence systems. Liability rules that are too restrictive can lead to a limitation of development work, while those that are too liberal can bring about a loss of public confidence in AI. It is therefore necessary to strike the right balance to enable, on the one hand, compensation of possible damages and to prevent, on the other hand, the amounts of compensation from limiting the readiness for development.

One of the most important functions of civil liability laws is to ensure that victims can seek redress. By guaranteeing effective compensation, these provisions help to protect the right to an effective remedy and a fair trial, while at the same time providing an incentive for developers of artificial intelligence systems to prevent harm in order to avoid liability.

We consider the model proposed by the EU in the draft directives on the principles of civil liability for damages caused by AI systems to be appropriate. Artificial intelligence systems are different, so it would be a mistake to adopt uniform liability rules. In order the system to be complete it needs to be fully synchronized with existing conflict-of-law rules, in the Rome II Regulation. We advocate setting up easily accessible dispute resolution schemes in matters involving civil liability in AI applications. EU lawmakers should have the courage to provide one coherent regulation in this respect.

We are of opinion that Rome II Regulation does not require immediate revision, but rather the interpretation of its conflict-of-law rules should be more focused on the goals of AI liability regime proposed by the EU (namely ensuring proper compensation for the victims). It should to provide a uniform framework for AI liability in the EU which would balance ease of compensation with sufficient legal certainty for AI development and deployment. A harmonised legal framework at EU level is necessary to avoid the risk of legal fragmentation in filling the gaps created by these unprecedented technological advances. This objective should also be pursued using the conflict of laws rules of private international law.

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