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TOWARDS A EUROPEAN AI LIABILITY SYSTEM

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Abstract
This essay deals with certain civil liability implications of artificial intelligent systems in the light of the recent steps taken by the European Union. In order to create not only an ethical but also a lawful AI, the EU strives to lay down the framework of the future common liability rules for damages and harms caused by any application of AI technology. The Commission's new Proposal (Artificial Intelligence Act, AIA) reflects on an innovative approach to the regulation which can tackle with the special features of the AI systems, lays down rules according to the risk management approach and the class-of-application-by-class-of-application approach. In this essay, the strict-based liability for high-risk AI systems and the concept of the frontend and backend operators are in the focal point.

Keywords: *Artificial Intelligence Act, concept of frontend and backend operator, strict liability, assessment of high-risk AI systems*

1. Towards a common civil liability regime for AI technology: a brief overview

The European Parliament (EP) resolution of 16 February 2017 on Civil Law Rules on Robotics briefly touched upon the civil liability implications and the compensation issues relating to the use of artificial intelligent systems (henceforth AI systems). It is laid down as principle that the future legal solution should not limit the forms of compensation which may be offered to the aggrieved party on the sole grounds that the damage is caused by a nonhuman agent (i.e., robot). Among the plentiful notions for the manifold types and application forms of AI systems, we use here a recently adapted approach. According to Parliament Resolution titled "Civil liability regime for artificial intelligence" (P9_TA(2020)0276), Article 3 Point (a) states that the 'AI-system' means a system that is either software-based or embedded in hardware devices, and that displays behaviour simulating intelligence by, inter alia, collecting and processing data, analysing and interpreting its environment, and by taking action, with some degree of autonomy, to achieve specific goals.

This document was followed by the Commission's Communication on Artificial Intelligence for Europe (COM (2018)237 final). Attached to this, the Commission Staff Working Document (SWD(2018) 137 final) shortly reviewed the fault-based and the risk-based (or strict) liability questions. In addition, it mentioned the possibility to establish no-fault compensatory systems or special compensation funds, alongside new or modified compulsory liability insurance schemes to tackle the unpredictable harms and losses caused by the emerging (digital) technologies. In March 2018, the Commission set up an expert group (Expert Group on Liability and New Technologies) in order to explore the existing liability rules at both European and the Member States level whether they could provide an appropriate protection against harmful exploitation of AI technologies, or to amend them, moreover, to insert new elements into the civil liability or into the compensation system, where it is necessary.

The expert group consists of two subgroups. The subgroup called "New Technologies Formation" published its report in December 2019, namely "Liability for Artificial Intelligence and Other Emerging

Digital Technologies". This report not only laid down the principles and the rationales but also elaborated a detailed proposal for provisions to be created or amended, developing a new multi-layered liability and compensation system from the existing Union and national rules. It rejected both the one-size-fits-all solution and the necessity of legal personality for AI. It focused on the new types and special natures of the risks created by the emerging technologies. However, it also considered the high diversity of applications of AI technologies, which factor should be reflected in various and flexible liability rules to be adapted. According to this report, in a multi-layered system, the overlapping scopes of different liability rules -- especially between the strict liability of the operator, the strict liability of the producer for defective products, and the general rule based on fault -- serve the victim's interest, helping him or her to seek compensation against more than one person. Based on the traditional civil liability systems of the Member States, the report stated that the strict liability of operators is an appropriate response to the risks posed by emerging digital technologies. In addition, reflecting the challenges of these new technologies, the report proposed a doubled capacity of operator, the concepts of the backend and the frontend operators. The question which person will be held liable depends on who has actually more control over the risks of the operation. The producers may incidentally also act as operators (e.g., by maintaining the network or granting backend support), however, they will be held liable on the base of product liability, as well. According to this new system, in special cases the burden of proving causation may be alleviated, just to mention the example of informational asymmetry in which case the judicial practice has also found way to this solution. A reversal of the burden of proving fault is also attached to these new rules, when the victim has successfully proven that an emerging digital technology caused the damage or harm.

On the 19th of February 2020, the Commission adopted a White Paper on Artificial Intelligence (COM(2020) 65 final), which laid down a concrete regulatory plan relating to the emerging technologies. From this viewpoint, the aim of most importance was to create an ecosystem of trust, where the main and already existing pillar of the AI regulation is the strict legal framework, the EU already had in place to ensure consumer protection, to tackle unfair commercial practices and to protect personal data and privacy, just to mention the most important policies. What is more, this framework is complemented by special sectoral regulations such as healthcare and transport.

Underpinned by the conclusions of the Report on the safety and liability framework (COM(2020)0064) accompanying the White Paper, the Commission promoted a risk-based approach, as a functional approach in order to ensure a proportionate regulatory intervention. This risk-proportionate approach is the central issue of the upcoming EU regulatory measures, intertwined now with the class-of-application-by-class-of-application approach (Bertolini, 2020) and the sector-by-sector approach replacing the former "one-size-fits-for-all", a kind of technologically neutral approach. In particular, the specificities become of relevance, whether they are technological aspects or other specialities such as the nature of the product, the size of the relevant market, the economic relevance of potential claims, the relevant insurance schemes, the classification of the involved persons (consumers or professionals) etc.

Therefore, at the first stage, in its Proposal for the regulation laying down harmonised rules on artificial intelligence (henceforth the Proposal or Artificial Intelligence Act, i.e., AIA) published on the 21st of April 2021, the Commission strived to elaborate a system consisting of ex ante measures and did not intend to address the legislation issues relating to ex post measures such as liability rules. Thus, the Commission proposal followed this above-mentioned risk management approach, and designed a complex system to tackle the risks and threats *ex ante*, such as listing the prohibited uses of AI technology, creating special criteria and methodology for risk assessment, along with a non-exhaustive list of high-

risk AI systems whose risks have already materialised or will probably materialise in the near future, imposes obligations for producers, users, and all participants involved in any stage of the life-cycle of the product, before and/or after the time when the product placed on the market. The Commission underlined the necessity of the conformity assessment, mainly through internal checks and/or with the assistance of notified bodies, i.e., independent conformity assessment bodies. After that, stand-alone high-risk AI systems should be registered. Based on the conformity assessment, the product shall be marked by a CE marking of conformity. It means that this special AI conformity assessment will be integrated into the structure of the general conformity assessment process.

Before the AIA, in October 2020, the European Parliament (EP) adopted its Resolution relevant to a civil liability regime for artificial intelligence (P9_TA(2020)0276, henceforth Resolution). In the light of this document, the Commission's Proposal did not or not entirely seem to reflect the EP's recommendations. The EP called on the Commission to elaborate special strict liability rules according to the system drafted in that document based on the above-mentioned report of the New Technologies Formation. However, the Commission has not yet fulfilled that request. It could be assumed that the European product liability regime should be revised at first in order to ensure a well-balanced interplay between the strict liability rule for operating high-risk AI systems and the strict liability of the producer for AI systems as 'defective' products.

Considering that the future AI liability regime at the European Union level has not been drafted yet in any Commission regulation, we could examine only the system recommended by the European Parliament. In the following, the most important provisions drafted in the Resolution will be touched upon and assessed parallel with the relevant provisions of the AIA.

2. The notion of operator: Defining the liable person and bypassing the problematic features of AI technology

According to the EP, there is no need for a complete revision of the existing liability system, neither at the level of EU, nor at the level of Member States. However, new factors and features of the AI systems should be considered in establishing and adjusting the liability system, such as the complexity, connectivity, opacity, vulnerability, the capacity of being modified through updates, the capacity for self-learning and the potential autonomy of the AI. The multitude of actors involved in operating an AI system is also important in determining who will be held liable for damage and harm (P9_TA(2020)0276).

Considering these problems, the EP recommended a common focal point for the liable person, the operator. The operator's liability should cover all operations of AI systems, that is, both the strict liability for the use of high-risk AI systems and fault-based liability for the use of other AI applications.

The operator is obliged to compensate the damage and harm occurred, independently the question whether there was a given human action to which the cause of the damage can be successfully traced back, or, failing that, it can only be proved that the given AI system 'acted' in an autonomous way and this event – 'the behaviour of a machine' – caused damage or harm. According to the EP, this feature reflects the autonomy of AI systems and will become a common speciality of the new liability regime, whether it is the risk-based strict liability or the fault-based liability. As the Resolution states: *„The operator shall not be able to escape liability by arguing that the harm or damage was caused by an autonomous activity, device or process driven by his or her AI-system"* (see Resolution Article 8 Section 2). The difference between the fault-based and the strict liability for AI is that the operator of a high-risk AI system cannot exempt himself from liability only in case of vis maior (force majeure).

The Commission did not follow entirely the concept of operator of EP. In the AIA, it uses the operator concept only as an ″umbrella-concept″ which covers all the involved persons, such as the provider, the user, the authorised representative, the importer, and the distributor (see AIA Article 3 Point 8). However, it provides obligations for each participant, for providers, for users etc. to manage the risks. In our opinion, this concept of operator is too vague to be considered as a legal concept. It means that between the wordings of the Resolution and of the AIA, the gap is greater than appears at first sight, despite that the EP recommended to create a common conceptual framework consisting of especially the concepts of frontend and backend operator, producer, defect and product, for all AI-related legislative instruments of the EU.

According to the Resolution, the concept of operator splits into two groups: the frontend and the backend operators. Under Resolution Art 3 Point (e) 'frontend operators' 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. Under point (f) 'backend operator' 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. These scopes of control and activities could be inseparable; thus, these two persons will be the same one. If there is more than one operator of an AI system, they shall be jointly and severally liable with the possibility to pursue a recourse action. The relations between operator's and producer's liability will be touched upon later. However, it should be noticed that the concept of multiple tortfeasors contradicts another approach which is called as one-stop-shop resolution. *"…identifying ex ante a single, clear and unquestionable, entry point for all litigation, according to a one-stop-shop approach. Therefore, among the possible parties that could benefit from the use of a technology, and who are in the position to identify and control risks, one should be selected, who is held responsible towards the victim on strict – if not absolute – grounds."*(Bertolini, 2020)

It should be also mentioned that there is a strange connection between the level of autonomy of a given AI system and the level of human control over it. In case of high-risk AI systems, on the one hand, the operator is expected to act with a great diligence and to exercise a significant and continuous control over the source of risk generated by the operation of an AI system. On the other hand, the more sophisticated an AI system is, the more autonomous its behaviour and decision-making is. That is, the effective human control falls more and more back to the level where the liable person has got no tools, means to interrupt the sequence leading to damage or harm started by an error in operation. In this situation, it is understandable that the exemptions (defences) should be reviewed how the operator could exempt himself from the liability. The Commission stressed upon the human oversight in its Proposal to tackle this problem: "High-risk AI systems shall be designed and developed in such a way, including with appropriate human-machine interface tools, that they can be effectively overseen by natural persons during the period in which the AI system is in use." (See AIA Art. 14) What is more, among the concrete abilities which can characterise the capacity of the operator, we can find the following: *"be able to decide, in any particular situation, not to use the high-risk AI system or otherwise disregard, override or reverse the output of the high-risk AI system"* (See AIA Art. 14 Section 4 Point (d)) and: *„be able to intervene on the operation of the high-risk AI system or interrupt the system through a "stop" button or a similar procedure."* (See AIA Art. 14 Section 4 Point (e)) which expectations rather seem to be idealistic than realistic in certain cases.

In the light of this problem, in our opinion, the deterrent (i.e., preventive) function of the civil liability for damages does not work in case of high-risk AI system. The strict risk-based liability rule strengthens the victims' position to claim damages and it serves the compensatory aims of tort law.

According to Karner, *"it is often said that fault liability is attributable to corrective/commutative justice (justitia commutativa) and risk-based liability, by contrast, is attributable to distributive justice (justitia distributiva)."* (Karner 2018)

Despite that the Commission set up a list of high-risk AI applications, there is actually no sharp borderline between the high-risk and the low-risk application cases of AI technology. That means, the legal measures should provide for concrete obligations and a high standard of due care with which the operators should comply to the extent that they could have control over the AI system in some way, i.e., they could influence its operation. As far as the due diligence concerned, it consists of the following actions: selecting a suitable AI-system for the right task and skills, putting the AI-system duly into operation, preventing the unauthorised use, monitoring the activities and maintaining the operational reliability by regularly installing all available updates (See Resolution Article 8 Section 2). The standard of due care should be adjusted the following factors: (i) the nature of the AI system; (ii) the legally-protected right potentially affected; (iii) the potential harm or damage the AI-system could cause; and (iv) the likelihood of such damage (See Resolution Preamble Section 18).

3. High-risk AI systems and the assessment of the risk in the light of the member state liability systems

According to the Resolution, operating a high-risk AI system triggers risk-based strict liability. Where a high-risk AI system is operating, the operator should be held liable for the damage and harm caused independently of its material or immaterial nature or independently of the physical or the virtual nature of the environment where the AI system is used. Accordingly, it is an issue of utmost importance to determine and to list these high-risk AI systems. As anticipated above, the Commission made one step forward. While elaborating the risk assessment method, it laid down several factors which will determine the extent of the immanent risk of a given case of application, and it also created an exhaustive but expandable list for these high-risk AI systems and applications.

According to the Resolution, the following factors should be considered to assess a given AI application as of a high-risk:

- its autonomous operation involves a significant potential to cause harm to one or more persons, in a manner that is random and goes beyond what can reasonably be expected;
- the sector in which significant risks can be expected to arise and the nature of the activities undertaken must also be taken into account;
- the significance of the potential depends on the interplay between the severity of possible harm, the likelihood that the risk causes harm or damage and the manner in which the AI system is being used. (See Resolution Point 15)

In contrast, the AIA determines a more detailed set of criteria:

- the intended purpose of the AI system;
- the extent to which an AI system has been used or is likely to be used;
- the extent to which the use of an AI system has already caused harm to the health and safety or adverse impact on the fundamental rights or has given rise to significant concerns in relation to the materialisation of such harm or adverse impact, as demonstrated by reports or documented allegations submitted to national competent authorities;
- the potential extent of such harm or such adverse impact, in particular in terms of its intensity and its ability to affect a plurality of persons;

- the extent to which potentially harmed or adversely impacted persons are dependent on the outcome produced with an AI system, in particular because for practical or legal reasons it is not reasonably possible to opt-out from that outcome;
- the extent to which potentially harmed or adversely impacted persons are in a vulnerable position in relation to the user of an AI system, in particular due to an imbalance of power, knowledge, economic or social circumstances, or age;
- the extent to which the outcome produced with an AI system is easily reversible, whereby outcomes having an impact on the health or safety of persons shall not be considered as easily reversible;
- the extent to which existing Union legislation provides for: (i) effective measures of redress in relation to the risks posed by an AI system, with the exclusion of claims for damages; (ii) effective measures to prevent or substantially minimise those risks. (See Proposal Article 7 Section 2)

Comparing these two approaches, the Resolution followed a more traditional set of criteria by putting the issues relating to liability for damages into the focal point. On the contrary, the Commission follows a wider approach, by considering all relevant regulatory issues. For example, a speaking doll, a companion robot designed for children could be deemed as a high-risk application of AI technology because its operation risks the safety and the rights (to privacy, to data protection (See Stefán, 2020) etc.) of a special vulnerable group, i.e., children.

Apart from classical high-risk application cases of AI systems, such as autonomous cars (Juhász, 2018), that means when an AI system will be assessed as of a high-risk according to the upcoming AIA risk management process, it is not sure that its high-risk nature would be considered the same by the traditional judicial practice of a given Member State. Therefore, the list of high-risk AI systems should have obligatory nature to avoid the discrepancies. Nevertheless, the question stands whether the national courts can assess the operation of an AI system as dangerous activity and whether they can apply the same strict liability rules in other cases than those referred in the list. As far as the high-risk nature is considered, this exclusive interpretation competence seems to be reflected in the Resolution: "This Regulation shall prevail over national liability regimes *in the event of conflicting strict liability classification* of AI-systems." (See proposed draft for a regulation Article 4 Section 5) The answer also depends on the method of harmonisation, that is, whether the new strict liability rule for high-risk AI systems will exclude the application of the similar domestic provisions in the light of the principles of maximum harmonisation. In case of product liability, the Court of Justice of the European Union already ruled that any national strict liability rule is excluded from being applied instead of product liability where its function is likewise to grant protection against defective products.(see case No. ECJ C-183/00, María Victoria González Sánchez v Medicina Asturiana SA.)

4. Interplay between AI strict liability and product liability

As anticipated above, in the absence of a detailed proposal for amendments of Product Liability Directive (PLD), the interplay between the two strict regimes for AI-caused damage and harm can be envisaged only with great inaccuracies. The system established by the PLD is relatively well functioning, with the adjustments for AI systems, it would not be worth creating a competing strict liability system. Although it is not our opinion, as it mentioned above, according to the one-stop-shop approach, it is recommended to define a single person on the base of single strict liability rule who is held liable and should compensate the damage and loss.

However, a new regulation will directly affect the national liability systems, and therefore it would serve the goal of maximum harmonisation better. That means, in certain cases, the relationship between the two regulative measures should be decided in advance. In its Resolution, the EP created a system, where the PLD is applicable only in cases when there are frontend and backend operators at the same time, and the backend operator is also deemed as the producer of the given AI application. In the cases where there is only a frontend operator who is the producer, as well, and in the cases where there is only one operator, the regulation should prevail over the Directive.

In our opinion, this is a significant step towards the homogeneous AI liability system. However, in cases of high-risk AI applications, it could have a negative effect on the evidentiary issues. Because it may give the producers the incentive to find frontend operators at all costs in order to escape the stricter AI liability, provided that the product liability will preserve its defences.

5. Summary

With the Commission Proposal for Artificial Intelligence Act (AIA) of April 2021, the European Union made great steps towards a common AI liability system which may prevail over certain national liability rules of the Member States. The Europeanisation and the harmonisation of the Tort Law is a hard nut to crack because of the diversity of the national liability regimes and the conceptual differences relating to strict or fault-based liability, the damage to be compensated, just to name a few. For that reason, the Parliament and the Commission found that only a regulation could set a well-functioning system and achieve the goals laid down by the European Parliament in its Resolution of October 2020. Prior to that, the first task is to establish a risk management process, and to erase the discrepancies between the existing EU legal instruments relating to AI systems and digital single market, i.e., in the field of consumer protection, product safety, data and privacy protection, etc.

In this context, the common AI liability system drafted by the Resolution seems to be difficult to achieve. In the absence of effective EU regulation, first of all, the national courts and authorities should apply their own civil liability rules within these challenging circumstances. Then, the next challenge will be to adjust their own liability regimes to the upcoming EU regulations, and to implement a new legal transplant into the very heart of their private law.

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