

AN APPROACH TO SOME EU INITIATIVES ON THE REGULATION OF  
LIABILITY FOR DAMAGE CAUSED BY AI-SYSTEMS

Una aproximación a algunas iniciativas de  
la UE sobre la regulación de la  
responsabilidad por daños causados por  
Sistemas de IA

MIQUEL MARTÍN-CASALS\*  
*University of Girona*

Abstract

This paper deals with three of the current endeavours of the European Union regarding the regulation of artificial intelligence (AI). First, it briefly analyses the Draft Proposal of the “Artificial Intelligence Act” (AI Act), which puts fundamental rights at the core of Europe’s AI approach and establishes a risk regulation system of preventive character that proposes ex ante solutions but does not provide for liability rules. Then it refers briefly to the Resolution of European Parliament adopted in October 2020 which formulated recommendations to the Commission for the regulation of civil liability regarding the use of artificial intelligence, which included the full text of a Draft Regulation “on liability for the operation of artificial intelligence-systems”. Finally, the paper deals in more detail with the ongoing debate on how to adapt the Directive 85/374/EEC on liability for defective products to overcome the problems posed by AI, such as the openness of AI-systems, and other characteristics of AI that make it difficult to identify the potentially liable person, to prove the defect of a product, to prove causation and to apply other rules included in the Directive now in force.

Keywords

Challenges of AI-systems, risk regulation approach versus liability rules for damage caused by AI-systems, adaptation of the Directive 85/374/EEC on liability for defective products.

Resumen

Este trabajo trata tres iniciativas actuales de la Unión Europea (UE) para regular la inteligencia artificial (IA). En primer lugar, analiza brevemente el Anteproyecto de “Ley de Inteligencia Artificial”, que sitúa los derechos fundamentales en el centro del enfoque europeo de IA y establece un sistema de regulación de riesgos de carácter preventivo que propone soluciones ex ante pero no contempla reglas de responsabilidad civil. También brevemente, se refiere a la Resolución del Parlamento Europeo adoptada en octubre de 2020 que formuló recomendaciones a la Comisión para la regulación de la responsabilidad civil en relación con el uso de inteligencia artificial, que incluía el texto íntegro de un Proyecto de Reglamento “sobre responsabilidad por el funcionamiento de sistemas de inteligencia artificial”. Finalmente, el trabajo trata con más detalle el debate en curso sobre cómo adaptar la Directiva 85/374/CEE sobre responsabilidad por productos defectuosos para superar los problemas que plantea la IA, como la apertura de los sistemas de IA y otras características que dificultan la identificación del posible responsable, la prueba del defecto de un producto, la prueba de la relación de causalidad y la aplicación de otras normas incluidas en la Directiva actualmente en vigor.

Palabras clave

Retos de los sistemas de IA, regulación de riesgos versus reglas de responsabilidad por daños causados por sistemas de IA, adaptación de la Directiva 85/374/CEE sobre responsabilidad por productos defectuosos.

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\* Full Professor of Private Law, Institute of European and Comparative Private Law, University of Girona, Spain, orcid.org/0000-0003-1743-780X, e-mail: miquel.martin@udg.edu.

## 1. Introduction

### *1.1. The fourth industrial revolution and AI as a disruptive technology*

Over the past two-hundred seventy years technological development has changed not only the way human beings organise their work to produce goods and render services, but it has also transformed political systems and social and legal institutions in a series of what has been called ‘industrial revolutions’<sup>1</sup>. Thus, the first industrial revolution spanned from about 1760 to around 1840 on the wake of the invention of the steam engine which enabled the mechanical production in factories powered by steam boilers and the construction of railways which created entirely new systems of communication, exchange, and distribution. A new wave of interrelated technologies in the period between 1870 and 1930 gave rise to a second industrial revolution which increased the growth and opportunities that came from the first one. The advent of the assembly line made mass production possible, and the transformative power of electricity appeared in new devices such as the radio, telephone, television, home appliances and electric lighting. Additionally, the development of the internal combustion engine enabled the automobile and the airplane, and all the new industries related with these new technologies. The third industrial revolution, usually called the computer or digital revolution, began in the 1960s, and was mainly based on the development of semiconductors, mainframe computing (1960s), personal computing (1970s and ’80s) and, finally, the internet (1990s)<sup>2</sup>.

The importance of these industrial revolutions lies in the ways in which they changed the structure of the economic and social systems and the working experience and lifestyle of billions of people. All this has been possible because the new technologies that have brought about these changes have had a ‘disruptive character’, i.e., they have not been just incremental improvements in the already existing technologies, but completely new technologies that have displaced an established technology and shaken up the industry by sweeping away the systems or habits they have replaced<sup>3</sup>. Thus, for instance, in the last forty years the personal computer has displaced the typewriter and has changed the way we work and communicate. The way we communicate has also been transformed by the e-mail, which has displaced letter-writing and disrupted the postal industry and, needless to say, by mobile phones which, by making it possible to call people wherever they are and take and send photos almost instantly, have made phone booths and point-and-shoot cameras obsolete. The cumulative impact of these three industrial revolutions and of these disruptive technologies has been an incredible increase in wealth and opportunities.

Today we are at the early stages of a fourth industrial revolution, which began at the turn of this century, and which builds upon the third or ‘digital’ industrial revolution. However, compared to previous revolutions, it differs in speed, scale, complexity, and transformative power. It is still difficult to predict which of the multiple emerging technologies is going to become fundamental in this new era, but Artificial Intelligence (AI) is going to be crucial and, probably, the most impactful emerging technology in interconnection with some of the other emerging technologies such as blockchain, robotics, driverless cars, and the Internet of Things (IoT). Artificial intelligence (AI) is increasingly expected to disrupt the ordinary functioning of society, from how we teach and learn to how we govern society or fight wars, from how we interact with others to the products we manufacture or the services we provide. As we already know now, the impact of this emerging technology will affect most areas of human activity<sup>4</sup>.

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<sup>1</sup> See SCHWAB (2016); SCHWAB & DAVIS (2018).

<sup>2</sup> SCHWAB (2016), pp. 11 et seq. See also XU et al. (2018), pp. 90-95.

<sup>3</sup> The term “disruptive technology” was coined by Clayton M. Christensen (1952-2020), professor of the Harvard Business School, in his paper BOWER & CHRISTENSEN (1995), pp. 43-53. See also, CHRISTENSEN (1997), where he separates new technology into two categories: sustaining and disruptive. Sustaining technology relies on incremental improvements to an already established technology. Disruptive technology lacks refinement, often has performance problems because it is new, appeals to a limited audience and may not yet have a proven practical application.

<sup>4</sup> LIU et al. (2020). See also JINDAL & SINDHU (2022), where they also describe the main technical aspects of AI.

AI has been in the agenda of the EU for a long time and currently the volume of EU documents that in one way or another refer to the regulation of AI is overwhelming. This paper is going to refer to several areas where the EU has been working intensively. First, very briefly, to the so-called “Artificial Intelligence Act” (AIA), which is a Draft Proposal that establishes a risk management framework for harmonised rules on AI<sup>5</sup>. The second part of this paper will deal with two ongoing initiatives regarding rules for compensation for harm caused by AI-systems: the Proposal of a Resolution of the European Parliament with recommendations to the Commission regarding the regulation of a harmonised civil liability regime for artificial intelligence<sup>6</sup> and, in more detail, on the amendments that should be carried out in the Directive 85/374/EEC on liability for defective products<sup>7</sup> in order to make it applicable to AI-systems. However, at the present 'liquid' state of all these proposals and draft regulations is still difficult to predict accurately how these different legislative initiatives will finally interconnect with each other.

### *1.2. Brief reference to the ‘Artificial Intelligence Act’ Draft Proposal*

The Draft Proposal of the “Artificial Intelligence Act” (AI Act) puts fundamental rights at the core of Europe’s AI approach and is part of a broader effort of the European Union (EU) to regulate and direct the development of new technologies<sup>8</sup>. It follows a risk regulation approach to address the risks of potential biases, errors, and opacity which can adversely affect fundamental rights and establishes mandatory requirements for the design and development of AI-systems before they are placed on the market. For this reason, it proposes *ex ante* solutions and its goal is preventive, not corrective<sup>9</sup>.

The AI Act identifies, evaluates and prioritizes different risks and provides for certain measures to minimise, monitor, and control the probability or impact of these risks. It differentiates between AI-systems that give rise to (i) unacceptable risk, (ii) high risk, (iii) limited risk, and (iv) low or minimal risk.

Unacceptable risks are referred in a list of prohibited practices which encompasses all those AI-systems whose use is considered unacceptable as contravening EU values, which mainly means violating fundamental rights (Title II, art 5). The prohibitions cover practices that have a significant potential to manipulate persons through subliminal techniques beyond their consciousness or exploit vulnerabilities of specific groups such as children or persons with disabilities. The proposal also prohibits AI-based social scoring for general purposes done by public authorities and the use of ‘real time’ remote biometric identification systems in publicly accessible spaces for the purpose of law enforcement unless certain limited exceptions apply.

High risk AI-systems are those that create an adverse impact on people’s safety or their fundamental rights (Title III, arts 6 and 7). The AI Act distinguishes between two categories of high-risk AI-systems: (1) High-risk AI-systems used as a safety component of a product or as a product falling under EU health and safety harmonisation legislation (e.g., toys, cars, medical devices, lifts); and (2) High-risk AI-systems deployed in eight specific areas identified in Annex III of the AI Act, which can be updated as necessary by way of a delegated act. This list of high-risk AI-systems in Annex III contains a limited number of AI-systems whose risks have already materialised or are likely to materialise in the near future<sup>10</sup>. Providers of high-risk AI-systems are required to register their systems in an EU-wide database managed by the EC before placing

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<sup>5</sup> EUROPEAN COMMISSION (2021).

<sup>6</sup> EUROPEAN PARLIAMENT (2020).

<sup>7</sup> COUNCIL OF THE EUROPEAN COMMUNITIES (1985).

<sup>8</sup> Literature on this Draft Act is overwhelming. Instead of many see VEALE & ZUIDERVEEN-BORGESIU (2021); TOWNSEND (2021); KOP (2021) and RAPOSO (2022). For a critical approach, NESTEROVA (2022).

<sup>9</sup> See PETIT & DE COOMAN (2022), p. 203.

<sup>10</sup> Annex III includes, inter alia, biometric identification and categorisation of natural persons; management and operation of critical infrastructure; education and vocational training; employment, worker management and access to self-employment; access to and enjoyment of essential private services and public services and benefits; law enforcement; migration, asylum, and border control management; administration of justice and democratic processes.

them on the market or putting them into service and to abide by other obligations as stipulated under the AI Act.

The AI-systems presenting ‘limited risk’, refer to systems that interact with humans (chatbots), emotion recognition systems, biometric categorisation systems, and AI-systems that generate or manipulate an image, audio, or video content (i.e. deepfakes) and the AI-Act subjects them to a limited set of transparency obligations.

Finally, AI-systems with low or minimal risk will require minimal obligations of information for their development and use in the EU.

The AI Act risk management measures for high-risk AI-systems (art. 9), include, inter alia, quality standards for training, validation and testing of data sets (art. 10), requirements for the technical documentation of a high-risk AI-system, record-keeping, transparency and provision of information to users, human oversight of high-risk AI-Systems and rules regarding an appropriate level of accuracy, robustness and cybersecurity, (arts. 11 to 15). It also establishes obligations of providers and users of high-risk systems and other parties, standards and conformity assessment of these systems and their certification and registration, and a detailed governance system with the creation of a ‘European Artificial Intelligence Board’ (arts. 56 et seq.) Finally, it also provides for administrative fines for the infringement of its provisions (cf. art. 71 et seq.), but it does not deal with liability arising from damage caused by the infringement of its provisions.

It is obvious that if no new rules were enacted, liability would be governed by national rules of the Member States which, in many aspects, are extremely disparate, and wherever its application is possible, by the national rules implementing the Directive 85/374/EEC on liability for defective products. However, not all cases where harm occurs will be covered by national rules implementing the Directive, since products liability compensates for personal injury, death and property damage, but not for infringement of personality rights or emotional or stand-alone moral harm, which lie in the core of the infringement of many of the prohibitions and duties established by the AI Act. Moreover, the Directive, in its current version, is not adapted to many of the challenges posed by AI-Systems and requires important amendments.

## **2.Regulating liability for harm caused by AI-systems**

### *2.1.Challenges posed by AI to the existing liability rules*

The widespread use of AI-systems to carry out tasks that were previously performed by humans will have positive consequences but may also have negative ones. The delegation to AI-systems of these tasks leads to a shift in risk control from users to manufacturers or, more generally, to operators of these systems<sup>11</sup>.

The New Technologies Formation group set up by the EU has identified a series of challenges that emerging digital technologies and, more specifically, AI-systems pose to current liability rules<sup>12</sup>. Among all of them, the most challenging is probably autonomy, which means that AI-systems, at least in a certain degree, make their own choices between alternative modes of behaviour that are available in each situation. The AI-system, however, is not autonomous if the software is programmed in such a way that the choice of a specific behavioural option by the agent in a concrete action situation is determined by data provided by its designer. In these cases, we could talk about ‘automation’ but not about ‘autonomy’. Accordingly, the digital system will be ‘autonomous’ only when in making a ‘decision’ between two or more possible actions it relies on its own data (percepts)<sup>13</sup>.

<sup>11</sup> On the interplay between autonomy and control, see WHEELER (2020), pp. 343-357.

<sup>12</sup> EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019). In particular, it mentions as challenges of emerging digital technologies: (a) complexity, (b) opacity, (c) openness, (d) autonomy, (e) predictability, (f) data-drivenness, and (g) vulnerability. See EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019), key finding 1-2, pp. 32-33. For a critical appraisal of this report, see BERTOLINI & EPISCOPO (2021), pp. 644-659.

<sup>13</sup> See RUSSELL & NORVIG (2022), p. 60; and CHESTERMAN (2021), pp. 31 et seq.

It is generally admitted that besides the capacity to decide among different acting alternatives (decision capacity), to be 'autonomous' a AI-system must also meet a set of other requirements, such as the capacity to learn on the basis of the experience and observation of the data it gathers (learning capacity); the capacity to adapt to the existing resources (for instance time, energy, environmental conditions) (adaptability); the capacity to be able to anticipate to events in its surroundings (foreseeability) and, finally, the capacity to communicate with persons and with other machines and to cooperate with them (cooperation capacity)<sup>14</sup>. Autonomy of AI-systems is a challenge for liability rules because when they cause harm when acting autonomously the question to whom its consequences must be attributed does not receive a straightforward answer.

A further important challenge, besides autonomy, is the increasing opacity of AI-systems, i.e., the difficulty of understanding and explaining how the decisions have been made. Opacity is not a new problem if it comes from the fact that technologies are proprietary, where detailed knowledge of the inner workings of a system may be limited to those who own it, or when it results from the complexity of systems that require specialist skills to understand them. However, the particular aspect of opacity in AI-systems lies in the fact that they may be opaque by nature, i.e., the technology they use for reaching decisions may be opaque by design, as is the case of some deep learning methods, and in these cases not even its programmers can explain the strategies used by the AI-system to make its decisions<sup>15</sup>. In these cases, the challenge that opacity poses to liability rules is that it may be difficult for victims to establish whether the AI-system was the relevant source of harm or not.

Additionally, interconnectivity leads also to new challenges concerning both safety and security, since the interaction of different actors raises AI-systems to a new level of complexity. The constant interconnection of AI-systems and their permanent interaction will, in all likelihood, pose unprecedented legal difficulties. Thus, when a robot causes personal injury it may be possible to identify the robot being the immediate source of the harm and the potential persons responsible for it. However, in an interconnected environment, it will be likely more difficult to identify the many other actors who may have had an influence on the actual damage, for example, when damage results from the provision of biased data by a third provider or due to a failure of interconnected devices, the net connection or other technical infrastructures or facilities that are involved in the operation of the AI-system. Thus, for instance, the development of autonomous cars leads to a technology in which each vehicle communicates with all other vehicles in a given local traffic area via wireless internet and through sensors, and also receives data from satellites and from the road infrastructure to which it also is connected. In this case, the collision between two vehicles does not have to be caused by the manufacturer of one or the other car, but it can also be due to the lack of communication between the autonomous vehicles, or to missing or inaccurate data provided by one of the systems that records and processes them. In these cases, no single actor would have failed, but rather the interplay of digital systems that, considered individually, were flawless<sup>16</sup>. If these accidents are the result of a 'system failure', it may be difficult to identify who should be liable for causing a specific damage and to furnish proof accordingly.

Openness of AI-system can pose a further challenge. AI-systems are open by design i.e., they need external continuous input from other systems and services, as in the case of updates and upgrades. Since openness means that they are not completed when they are put into circulation, it involves an important shift from the classical notion of a product completed at a certain point in time to a product in permanent change combining with other products and services. Thus, openness has a considerable impact on liability and on the backbone of the

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<sup>14</sup> See, for a general approach, RUSSELL & NORVIG (2022), pp. 226 et seq., and for an approach more related to legal impact, ZECH (2020), pp. A18-A44.

<sup>15</sup> See CHESTERMAN (2021), pp. 63 et seq.

<sup>16</sup> See ZECH (2020), pp. A-45 -A-48.

existing rules on product liability, which is the moment when the product was put into circulation.

Other possible challenges can be included in the above mentioned. This is the case for instance of vulnerability, mainly in the form of cyber-attacks, which can be related to the interconnectivity and to the openness of the AI-System. This can be also the case with lack of predictability, which can also be linked to autonomy and complexity, and the so-called 'data-drivenness', i.e., the necessity of collecting and obtaining data from other sources for the proper functioning of the AI-system<sup>17</sup>.

## *2.2. The EU Parliament Draft Regulation for a civil liability regime for artificial intelligence*

In its Communication on "Building a European Data Economy" of January 2017, the EU Commission declared that its objective was to enhance legal certainty about liability in the context of emerging technologies in order to create favourable conditions for innovation. It also manifested its fear that the current state of liability law, characterised by uncertainty, could hinder the introduction of digital technologies by companies and deter consumers from using such products<sup>18</sup>.

In this regard, one focus of the necessary reform work was identified in the area of the Product Liability Directive 85/374/EEC, while a broader focus pointed at approaches to overcome the current difficulties in assigning liability<sup>19</sup>.

In 2018, the Commission set up an expert group to analyse the further development of liability law regarding digital autonomous systems, which published its report in 2019<sup>20</sup>. On 19 February 2020, the Commission published a White Paper on the regulation of artificial intelligence, which contains considerations on the further development of liability law<sup>21</sup>. Finally in October 2020, the European Parliament adopted a resolution formulating recommendations to the Commission for the regulation of civil liability regarding the use of artificial intelligence, which included the full text of a Draft Regulation "on liability for the operation of artificial intelligence-systems"<sup>22</sup>.

According to Article 1 of the Draft Regulation, its aim is to establish rules for civil liability claims against "operators of AI-systems". Art. 3 (a) and (b) Draft Regulation defines the term AI-system to mean digital autonomous systems i.e., digital systems that are equipped with a certain degree of autonomy and art. 3 (d) Draft Regulation divides the class of operators into two groups when it provides that the term 'operator' 'means both the frontend and the backend operator *as long as the latter's liability is not already covered by Directive 85/374/EEC*' (emphasis added). According to Art. 3 (e) of the Draft Regulation, persons who are to be classified as "frontend operators" are a "...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'. The backend operator is defined in Art. 3 (f) Draft Regulation as a 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'.

As has been pointed out, this classification runs the risk of establishing a second category of product liability for backend operators with problems for the delimitation of cases where the backend operators are producers, in which case liability will depend on proof of the existence of a defect, and cases where they are not, and they are liable according to the Draft Regulation,

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<sup>17</sup> See in more detail EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019), pp. 32-33.

<sup>18</sup> EUROPEAN COMMISSION (2017), pp. 4, 14.

<sup>19</sup> EUROPEAN COMMISSION (2017), pp. 14-15

<sup>20</sup> EUROPEAN COMMISSION (2019).

<sup>21</sup> EUROPEAN COMMISSION (2020a), 65 final, 15 et seq. There is also a related Commission report, EUROPEAN COMMISSION (2020b), 64 final, 14 et seq.

<sup>22</sup> EUROPEAN PARLIAMENT (2020).

i.e., truly strict liable for causing harm while performing their activity with no need for a defect to be proven<sup>23</sup>. In fact, art. 11 Draft Regulation, under the misleading heading of ‘joint and several liability’, considers that both operators, including the frontend operator<sup>24</sup>, can qualify as manufacturers and tries to establish conflict rules in the case of possible concurrence of claims<sup>25</sup>.

### 2.2.1. High-risk AI-systems

The Draft Regulation provides for strict liability in the cases of ‘high risks’ AI-systems (Chapter II), which are defined as ‘a significant potential in an autonomously operating AI-system to cause harm or damage to one or more persons in a manner that is random and goes beyond what can reasonably be expected’ (art. 3 (c) Draft Regulation). The provision adds that ‘the significance of the potential depends on the interplay between the severity of possible harm or damage, the degree of autonomy of decision-making, the likelihood that the risk materialises and the manner and the context in which the AI-system is being used’. Thus, to the classical approach that considers that the magnitude of risk depends on its severity and its probability of occurrence<sup>26</sup>, it adds the degree of autonomy of the AI-system and manner and context of use, which do not seem necessarily related to it. These features, however, are not sufficient to consider that the AI-system is of high risk and thus subject to strict liability. The Draft Regulation requires that the AI-system be listed in an Annex to the Regulation ---which is still empty--- and empowers the Commission to amend the future list through delegated acts (art. 4.2 Draft Regulation).

The only defence mentioned in this context is force majeure (art. 4.3 Draft Regulation). However, Chapter IV, which applies to all basis of liability established in the Draft Regulation, also mentions contributory negligence (art. 10 Draft Regulation).

Art. 4.4 Draft Regulation requires that, both the frontend and the backend operators, underwrite compulsory insurance and arts. 5 and 6 Draft Regulation deal in detail with several aspects of quantum of damages which seem unacceptable. First, art. 5.1 (a) Draft Regulation sets a cap of 2 Mio€ for death and personal injury and art. 5.1 (b) 1 Mio€ cap of what seems to refer to property damage and which the Draft Regulation terms as a ‘*significant immaterial harm*’ (emphasis added) that results in a verifiable economic loss or of damage caused to property<sup>27</sup>. These amounts are per accident, not per injured person since art. 5.2 Draft Regulation establishes a pro-rata reduction rule in the cases of a plurality of victims. The amounts are much lower than those provided by art. 9 of the motor vehicle Directive 2009/103/EC<sup>28</sup>, as amended by Directive (EU) 2021/2118<sup>29</sup> which provides for 1.3 Mio€ per injured party with a limit of 6.45 Mio/€, per accident, for personal injury and death, and 1.3 Mio/€ for material damage.

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<sup>23</sup> Overly critical on this point WAGNER (2021), pp. 10-12, who considers that the Draft Regulation of the Parliament suggests the establishment of a second category of product liability next to the Product Liability Directive.

<sup>24</sup> WAGNER (2021), p. 13 considers that his rule is confusing as conflicts between the Product Liability Directive and the Draft Regulation cannot arise in this context, simply because frontend operators never qualify as manufacturers. That is, frontend operators as such, i.e., those actors that do not also qualify as backend operators, cannot come within the class of producers as defined in Art. 3 (1) Product Liability Directive.

<sup>25</sup> “Article 11. *Joint and several liability*. - If there is more than one operator of an AI-system, they shall be jointly and severally liable. If a frontend operator is also the producer of the AI-system, this Regulation shall prevail over the Product Liability Directive. If the backend operator also qualifies as a producer as defined in Article 3 of the Product Liability Directive, that Directive should apply to him or her. If there is only one operator and that operator is also the producer of the AI-system, this Regulation should prevail over the Product Liability Directive”.

<sup>26</sup> See, for instance art. 5.101 (3) PETL: “A risk of damage may be significant having regard to the seriousness or the likelihood of the damage”.

<sup>27</sup> Recital 16 explains what this means in a rather confuse manner by saying that “Significant immaterial harm should be understood as meaning harm as a result of which the affected person suffers considerable detriment, an objective and demonstrable impairment of his or her personal interests and an economic loss calculated having regard, for example, to annual average figures of past revenues and other relevant circumstances”.

<sup>28</sup> Directive 2009/103/EC of the European Parliament and of the Council of 16 September 2009 relating to insurance against civil liability in respect of the use of motor vehicles, and the enforcement of the obligation to insure against such liability.

<sup>29</sup> Directive (EU) 2021/2118 of the European Parliament and of the Council of 24 November 2021 amending Directive 2009/103/EC relating to insurance against civil liability in respect of the use of motor vehicles, and the enforcement of the obligation to insure against such liability (Text with EEA relevance).

Additionally in the motor vehicle Directive this is a minimum amount, which the Member States can extend<sup>30</sup>, by contrast to the Draft Regulation, where it is a maximum amount. These differences would lead to preposterous results, such as that the victim of an accident caused by a traditional car would be entitled to better protection and, in some situations, to more compensation than the victim of an autonomous driverless car.

Art. 6 Draft Regulation refers to recoverable heads of loss and does not mention non-pecuniary loss consequential of personal injury or death, which presently is European common core<sup>31</sup> and that in some European countries is the most substantial head of loss in the case of low-income victims. Unacceptably as well, the Draft Regulation links compensation to secondary victims for loss of earnings in the case of death of a primary victim to the existence of a 'legal obligation to support', which also runs against the trend experienced in many European countries over the last decades, which tends to take into account factual situations of support<sup>32</sup>. Finally, in a display of unusual detail which I consider praiseworthy, art. 6.1 *in fine* Draft Regulation expressly provides that children conceived but not yet born (*nasciturus*) at the time when the accident causing death occurred are entitled to compensation.

As regards prescription, art. 7 Draft Regulation distinguishes different limitation periods which, in the case of personal injury will be thirty years 'from the date in which the harm occurred', and in the case of property damage or 'the verifiable economic loss resulting from the significant immaterial harm', ten years for the date that the property damage or loss occurred or thirty years from the date on which the operation of the high-risk AI-system that subsequently caused the property damage or the immaterial harm took place. None of these prescription periods is subject to the discovery rule since they start running independently from any consideration regarding actual or possible knowledge of the victims. The Draft Regulation does not deal with interruption or suspension of prescription and provides that they will be governed by the corresponding national rules.

### 2.2.2. Other AI-systems

Under the heading 'other AI-systems' Chapter III deals with fault-based liability for AI-systems that do not constitute a high-risk according to the Draft Regulation.

In these cases, fault of the defendant is presumed, and art. 8 Draft Regulation establishes what appears to be an appraised enumeration of causes for exoneration. Accordingly, the operator may escape liability by proving that the AI-system was activated without his or her knowledge and all reasonable and necessary measures to prevent such activation were taken. Also, by proving that due diligence was observed in the selection of the AI-system suitable for the relevant tasks and skills, in putting it into operation, monitoring it and maintaining it and by installing all available updates (cf. art. 8.2 Draft Regulation). The operator is not liable in the case of force majeure, but he remains subsidiarily liable in the case of harm caused by a third party. It also establishes a duty of the producer of the system to cooperate both with the operator and the injured party by providing information that may allow liability to be determined.

Fault-based liability will be governed by the national rules of the EU Member States where harm occurred as regards limitation periods and quantum of compensation (cf. art. 9 Draft Regulation), but it will be subject to the same rules of apportionment of liability (Chapter

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<sup>30</sup> For instance, art. 4.2 of the Spanish Royal Legislative Decree passing the Recast Text of the Act on Civil Liability and Insurance for Motor Vehicles (*Real Decreto Legislativo 8/2004, de 29 de octubre, por el que se aprueba el texto refundido de la Ley sobre responsabilidad civil y seguro en la circulación de vehículos a motor*), regardless of the number of victims, provides for a cap of 70 Mio€ per accident in cases of personal injury and death and of 15Mio€ per accident in cases of property damage.

<sup>31</sup> In Germany, the *Gesetz zur Einführung eines Anspruchs auf Hinterbliebenengeld*, BGBl I 2421, 21.7.2017 introduced the new § 844 (3) BGB which compensates for non-pecuniary loss in the case of death. See WURMNEST & GÖMANN (2018), pp. 207-210. Less than two years later The Netherlands followed suit, see EMAUS & KEIRSE (2019), pp. 416-417.

<sup>32</sup> This trend is reflected in art. 10:202 (2) PETL (Personal injury and death) which provides that "In the case of death, persons such as family members whom the deceased maintained or would have maintained if death had not occurred are treated as having suffered recoverable damage to the extent of loss of that support".



IV) i.e., contributory negligence, solidary liability, and recourse (arts. 10 to 12 Draft Regulation) that apply in the case of strict liability for high-risks AI-systems.

### 2.3. The Product Liability Directive

As is well known, product liability in all Member States is currently based on the Directive 85/374/EEC on liability for defective products (hereafter PLD or the Directive). The Directive did not aim to supersede the rules of the law of contractual or non-contractual liability or any special liability system existing when it was notified but established harmonising rules on the basis of a so-called ‘maximum’ Directive. As is well known, this means that when Member States implemented it, they could opt for the few aspects that the Directive left to their choice, but they could not increase the level of protection that it offered<sup>33</sup>. The Directive was conceived having in mind products that were tangible and, so to say, ‘analogical,’ and there are many aspects that should be amended to enable its application to AI-systems.

From 18 October 2021 and 10 January 2022 the European Commission conducted a public consultation regarding the difficulties of applying the Directive to products in the digital and circular economy and the difficulties for consumers of getting compensation and making claims and the problems linked to certain types of AI that make it difficult to identify the potentially liable person, to prove the defect of a product and causation<sup>34</sup> and in May 2022 published the results of this consultation and a Factual Summary Report on this public consultation<sup>35</sup>. There is a general agreement that the PLD should be amended but there is still an important disagreement as regards to what extent. In the next pages I am not going to refer to amendment required by the needs of a circular economy<sup>36</sup> and I will deal only with those aspects required by the application of the PLD to AI-systems.

#### 2.3.1. The notion of ‘product’

Art. 2 PLD operates with a notion of ‘product’ limited to all movables, including those which have been incorporated into an immovable, and to electricity<sup>37</sup>. According to its definition, it is understood that software installed on a physical movable (for instance, in a machine), which remains unchanged and is not updated, can be considered as a component part of the machine and thus as a product. However, even in these cases it is arguable whether the victim can bring a claim against the developer of such a software as a manufacturer of a component part (art. 3 (1) PLDC) and what is the impact of software that was installed or updated after the product was put into circulation<sup>38</sup>. It seems clear, however that stand alone software or digital content not included in a tangible item is not a product. According to the ECJ, data as such is not a product<sup>39</sup>. Finally, services are not included in the definition of product.

To adapt the Directive to the needs of digital products in general and to AI-systems in particular, the existing doubts should be removed and the amendment should broaden the definition of ‘product’ to include products with digital elements, regardless of whether they

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<sup>33</sup> For an important comparative overview regarding products liability in Europe see MACHNIKOWSKI (Ed.) (2017).

<sup>34</sup> Public Consultation - Civil liability - adapting liability rules to the digital age and artificial intelligence: [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12979-Civil-liability-adapting-liability-rules-to-the-digital-age-and-artificial-intelligence/public-consultation\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12979-Civil-liability-adapting-liability-rules-to-the-digital-age-and-artificial-intelligence/public-consultation_en).

<sup>35</sup> Ref. Ares (2022)2620305 - 06/04/2022, EUROPEAN COMMISSION (2022).

<sup>36</sup> The European Law Institute has so far produced two important documents regarding the required amendments of the Directive. See TWIGG-FLESNER (2021), (hereafter ELI Guiding Principle and number) and KOCH et al. (2022) (hereafter ELI Response), which has also been published in the Journal of European Tort Law (JETL 2022; 13(1), pp. 1-24.

<sup>37</sup> Art. 2 PLD provides that “For the purpose of this Directive, ‘product’ means all movables even if incorporated into another movable or into an immovable. ‘Product’ includes electricity”.

<sup>38</sup> See FAIRGRIEVE et al. (2017), pp. 46-47.

<sup>39</sup> STJCE 10.6.2021, VI c. *Krone - Verlag Gesellschaft GmbH & Co KG*, ECLI:EU:C:2021:471, establishes that it does not constitute a ‘defective product’, according to art. 2 PLD, “a copy of a printed newspaper that, dealing with a paramedical subject, gives inaccurate health advice regarding the use of a plant, the observance of which has caused damage to the health of a reader of that newspaper”. For a commentary see MACHNIKOWSKI (2022).

include digital content or digital services, as long as they are essential to ensure that the items in which they are incorporated or interconnected with can perform their functions, along the lines of the provisions contained in the Sale of Goods Directive<sup>40</sup> and of the Digital Content Directive<sup>41</sup>. It is arguable, however, whether the new product definition should include data or not<sup>42</sup>. Whether the digital content was installed before or after putting the tangible item into circulation should be irrelevant with respect to the liability of the item's manufacturer as long as its functionality depends upon this digital content. Manufacturer of goods with digital elements should also be held strictly liable for digital content provided by some third party if such digital content is essential for the proper functioning of the goods<sup>43</sup>.

The results of the Consultation seem to approve this approach, since all respondents (155), excluding individual members of the public, mainly agreed that consumers should get compensation under the Directive when intangible products are defective and cause personal injury or property damage. In particular a majority of business and non-business respondents considered that the notion of product should include software that controls how a product works (78% or 122 out of 155); software upgrades and updates (66% or 102 out of 154); software supplied separately to use on a product (56% or 87 out of 155); and digital services that control how a product works (55% or 85 out of 154). Fewer than half, however, were in favour of including data or information as such<sup>44</sup>.

### 2.3.2. *The notion of 'producer'*

Art. 3 PLD imposes liability on the different persons who participate in the value chain, which are considered 'producers'. This includes not only the producers of the finished product, components parts and raw materials, but also the so-called 'apparent producer' or 'own-branders', i.e., persons who put their names, trademark or other distinguishing feature on the product presenting themselves as its producer. When the product has been produced outside the EU, the current rules further expand the notion of 'producer' to include the importer into the EU. Subsidiarily, the supplier of the product is also treated as 'producer' if he does not identify within a reasonable time who is the 'producer' in the above-mentioned sense which, if this is the case, includes the importer into the EU<sup>45</sup>.

The idea behind this wide number of possible defendants is to facilitate claims to persons who suffer personal injury or property damage as a result of a defective product. This wide plurality of possible defendants relieves claimants from investigating which element of the product caused harm (in the case of raw material, component part and final product producers), or who the actual producer was (in the case of 'apparent producers') or from the burden of litigating outside the EU (in the case of the importer). Furthermore, the detrimental

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<sup>40</sup> In this sense, the TWIGG-FLESNER (2021), ELI Guiding Principle 4, p. 5 suggests that the new definition of 'product' established in art. 2 PLD could be based on Art 2(5)(b) of the Sale of Goods Directive which includes in goods 'any tangible movable items that incorporate or are interconnected with digital content or a digital service in such a way that the absence of that digital content or digital service would prevent the goods from performing their functions ('goods with digital elements').

<sup>41</sup> With a remarkably similar wording art. 2 (3) of the Digital Content Directive refers to "goods with digital elements' as 'any tangible movable items that incorporate, or are interconnected with, digital content or a digital service in such a way that the absence of that digital content or digital service would prevent the goods from performing their functions'". See Juliette Sénéchal in SCHULZE & STAUDENMAIER (2020), Com Art. 2 (3), Mn. 13-17.

<sup>42</sup> KOCH et al. (2022), p. 12, (ELI Response) against extending the notion of product to data.

<sup>43</sup> In this sense, and in more detail, KOCH et al. (2022), p. 13 (ELI Response).

<sup>44</sup> EUROPEAN COMMISSION (2022), p. 3.

<sup>45</sup> Article 3.- 1. 'Producer' means the manufacturer of a finished product, the producer of any raw material or the manufacturer of a component part and any person who, by putting his name, trademark or other distinguishing feature on the product presents himself as its producer.

2. Without prejudice to the liability of the producer, any person who imports into the Community a product for sale, hire, leasing, or any form of distribution in the course of his business shall be deemed to be a producer within the meaning of this Directive and shall be responsible as a producer.

3. Where the producer of the product cannot be identified, each supplier of the product shall be treated as its producer unless he informs the injured person, within a reasonable time, of the identity of the producer or of the person who supplied him with the product. The same shall apply, in the case of an imported product, if this product does not indicate the identity of the importer referred to in paragraph 2, even if the name of the producer is indicated.

consequences of failing to identify all potential defendants are also shifted from the victim of the defect to the supplier of the product. The protective effect is enhanced by establishing solidary liability in case of multiple defendants in the chain of production (art. 5 PLD) and by channelling liability to the producer when damage has also been caused by a third party (art. 8.1 PLD).

In the case of AI-systems, the production and distribution chain is not lineal and unidirectional, i.e., does not finalise in a certain moment and may involve defendants that are not mentioned in the Directive currently in force. Thus, in classical product liability there are raw materials that are used to make components and components which are used to make final products, which are placed in the market in a certain moment in which the producer loses control of the product. By contrast, AI-systems usually interact with other products and services, with data flowing from the product to other products or services or to consumers, in both directions. These other products and services may be operated by other producers or service providers, and the interconnection does not stop when the product is placed on the market because its functioning requires regular updates and a continuing flow of data from these other digital products and services or from others.

A possible new actor to consider in this context is the so-called “backend operator”, a notion proposed by the NTF, and which art. 3.f) of the Regulation Proposal of the European Parliament of 20 October 2020 defines as ‘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’. Other new actors in the distribution chain, are online marketplaces, which take an active role in the distribution of digital products. If they enable end users to import products into the EU from suppliers established outside the EU, they should be equated to importers<sup>46</sup> and if they do not, they could be equated to the current suppliers and could be held liable when the other possible defendants involved cannot be identified<sup>47</sup>.

The Consultation showed that there is a general agreement in regards to extending the notion of ‘producer’ to online marketplaces which nowadays enable consumers to buy products from outside the EU without there being an importer. By contrast there was greater disagreement on whether the proposed draft Digital Services Act (DSA) and draft General Product Safety Regulation (GPSR) were sufficient to ensure consumer protection in regards to online marketplaces<sup>48</sup>.

### *2.3.3. The notion of defect*

The notion of defect established in art. 6 PLD is an objective and normative criterion that provides that defectiveness must be assessed based on the safety expectation that the public in general is entitled to have or, when the product is addressed to a specific group, that the average member of this group is entitled to have. The normative character of the test means that the level of safety will be assessed by courts and the provision shows that the time in which the product was put into circulation plays again a central role in the current products liability regulation, since subsequent putting into circulation safer products does not make defective those that are already in the market and do not meet the new standard (art. 6.2 PLD)<sup>49</sup>.

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<sup>46</sup> KOCH et al. (2022), pp. 16-17 (ELI Response).

<sup>47</sup> See in more detail, TWIGG-FLESNER (2021), ELI Guiding Principle 5, p. 7.

<sup>48</sup> EUROPEAN COMMISSION (2022) p. 3-4.

<sup>49</sup> Art. 6. 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.

2. A product shall not be considered defective for the sole reason that a better product is subsequently put into circulation.

As already mentioned, AI-systems are subject to regular updates not only to improve their utility, but also to improve their safety. For this reason, freezing the analysis of defectiveness at the time the product was put into circulation does not seem appropriate. Responsibility of the producer should be extended beyond this moment and decided according to the expectation of safety that the public had when the accident took place, according to the circumstances. It should be further analysed whether, in addition to the presentation of the product and the use to which it could reasonably be expected that the product would be put, other circumstances should be considered<sup>50</sup>.

#### 2.3.4. The notion of 'damage'

The product liability regime established by the Directive 85/374/EEC compensates for personal injury, including death, and under certain conditions, for property damage (cf. art. 9 PLD). It does not compensate for losses resulting from infringements to the rights of personality, pure economic loss, and pure emotional harm, i.e., injury to feelings which is unrelated to personal injury or to the infringement of a personality right.

In the case of property damage, the Directive excludes compensating for damage to the product itself to prevent a possible circumvention of the contractual rules regarding warranties through product liability rules. It also excludes compensating for damage to property which is of a type ordinarily not intended for private use or consumption and, when the item of property can be used both privately and commercially, it excludes compensation when the injured person did not use it mainly for his or her own private use or consumption. It also establishes a limit of 500 euro, which in some Member States is interpreted as a threshold which allows compensation in full when it has been exceeded, whereas in others is understood as a franchise which is always deductible from the compensatory amount<sup>51</sup>.

As regards non-pecuniary loss resulting from damage covered by the Directive, art. 9 PLD does not want to interfere with the different traditions of the Member States and leaves the recoverability and the assessment of such losses to what national law provides. This means that when applying the PLD every Member State should compensate non-pecuniary loss which is consequential to death or personal injury (or, exceptionally to property damage) in the same cases where it would compensate it by applying national law. Thus, for instance, countries, such as Germany, where compensation for non-pecuniary loss has been gaining ground since the Directive was implemented, have amended their transposition rules to bring them in line with general national provisions that accepted compensation for non-pecuniary loss resulting from personal injury governed by a strict liability regime, first<sup>52</sup>, and more recently, for non-pecuniary loss resulting from death<sup>53</sup>. Spain, by contrast, misunderstood the treatment that the Directive gave to non-pecuniary loss when transposing the Directive and, in order to compensate for non-pecuniary loss resulting from death or personal injury, required that liability was based on national liability rules, creating thereby serious problems in the application of the rules transposing the Directive<sup>54</sup>.

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<sup>50</sup> See TWIGG-FLESNER (2021), ELI Guiding Principle 6, pp. 7-8 and KOCH et al. (2022), p. 17, (ELI Response).

<sup>51</sup> 'Article 9. For the purpose of Article 1, 'damage' means:

(a) damage caused by death or by personal injuries;

(b) damage to, or destruction of, any item of property other than the defective product itself, with a lower threshold of 500 ECU, provided that the item of property:

(i) is of a type ordinarily intended for private use or consumption, and

(ii) was used by the injured person mainly for his own private use or consumption.

This Article shall be without prejudice to national provisions relating to non-material damage'.

About the different understanding of the meaning of the 500 euro threshold/franchise, see FAIRGRIEVE et al. (2017), p. 84.

<sup>52</sup> With the reform of §§ 253 and 847 BGB introduced by the 2. *Gesetz zur Änderung des Schadensersatzrechts*, 19.7.2002, BGBl I, p. 2674 which also amended § 8 ProdHaftG. See FEDTKE (2002) and in KOZIOL & STEININGER (Eds) (2002b), pp. 206-212.

<sup>53</sup> *Gesetz zur Einführung eines Anspruchs auf Hinterbliebenengeld*, BGBl I 2421, 21.7.2017 which introduced § 844 (3) BGB and § 7 Abs. 3 ProdHaftG. See WURMNEST & GÖMANN (2018), pp. 207-210.

<sup>54</sup> See MARTIN-CASALS & SOLÉ (2017), pp. 429-431.

In spite of the approximation occurred in the last decades, different approaches still exist, and for this reason it has been rightly recommended, in my view, that the EU should abstain from regulating non-pecuniary loss, but it should make explicitly clear that the PLD regime only extends to consequential non-pecuniary loss resulting from personal injury including death, and not to stand-alone emotion harm<sup>55</sup>.

A novelty required by AI would be to include, into the notion of recoverable damage, damage to data and to digital content other those included in the AI-system. It is well known that the operation of AI-systems may give rise to considerable pecuniary losses for incidents where data or digital content are destroyed, deleted, corrupted, or made unreadable. Losses can be more substantial if data or digital content are used in the business context, where the implications of experiencing a data loss event can be catastrophic, affecting day-to-day operation and the general functioning of an enterprise. Moreover, pecuniary consequential loss resulting from data loss, such as damage to business reputation and customer loss, plus the expenses needed to reconstruct the lost data, can be enormous<sup>56</sup>. In my opinion, in these cases the possible different consequences that arise in the case of loss data and digital content for private use and for commercial use should lead to reconsider the often-proposed inclusion into the scope of the Directive of damage to items that are intended for commercial use or used for this purpose.

The Consultation Factual Summary Report does not mention all these aspects and only deals briefly with the 500 euro threshold for damage to property and with the possibility of including in the notion of damage covered by the Directive pure economic loss<sup>57</sup>, loss or damage to data not covered by the General Data Protection Regulation (Regulation (EU) 2016/679), and immaterial harm (like pain and suffering, reputational damage or psychological harm).

As regards the 500 euro threshold, a slight majority of the respondents (55%) indicated that it created obstacles to consumers making compensation claims to either a moderate, large, or very large extent. While non-business respondents accounted for 89% (131 out of 147), business stakeholders represented the remaining 11% (19)<sup>58</sup>.

As regards damage to data, most of the respondents among non-business organization and EU citizens agreed or strongly agreed that producers should be liable for damage to data (60%) and that producers should also be liable for data protection infringements (59%). There also seemed to be a general agreement in including pure economic loss and immaterial harm (like pain and suffering, reputational damage, or psychological harm). By contrast, business stakeholders were mainly opposed to such rules, being their opposition strongest regarding the compensability of immaterial harm and data loss or damage not resulting in a verifiable economic loss<sup>59</sup>.

### *2.3.5. Burden of proof when establishing the defect and causation*

Art. 4 PLD requires that the claimant proves both the defect and the causal relationship between defect and damage<sup>60</sup>.

In the case of AI-systems and digital products proof of the defect may be a hurdle difficult to overcome, since finding a defect in these cases is much more complex than in the case of analogical or conventional products. In the case of analogical products, it may be easier to prove the defect, if it can be seen or, if not, because an expert can establish it. By contrast, in the case of AI-systems the first step will be to locate where the defect is. If the hardware is not defective,

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<sup>55</sup> KOCH et al. (2022), p. 18, (ELI Response).

<sup>56</sup> See TWIGG-FLESNER (2021), ELI Guiding Principle 7, pp. 8-9 and KOCH et al. (2022), pp. 18-28 (ELI Response).

<sup>57</sup> The Report gives 'loss of profit' as an example of pure economic loss, which, however, cannot qualify as pure economic loss when it is consequential from property damage.

<sup>58</sup> EUROPEAN COMMISSION (2022), p. 6.

<sup>59</sup> EUROPEAN COMMISSION (2022), pp. 4, 10.

<sup>60</sup> Article 4 The injured person shall be required to prove the damage, the defect and the causal relationship between defect and damage.

finding the defect in the software may be extremely difficult, since it may require an expertise that only the manufacturer's employees have, or which is extremely expensive. Moreover, finding the defect may require analysing the digital element, the digital service, or the interconnection of all the elements of the AI-system.

Similar problems arise in the case of causation. Art. 4 PLD clearly points out that causation is a necessary condition for the producer's liability and that the burden of proof lies on the claimant. Other relevant provisions regarding causation are Art 5 PLD, which establishes that when two or more persons are liable for the same damage, they are jointly and severally (solidary) liable and Art 7 f) PLD, which refers to cases where multiple manufacturers may be a cause of harm and one of them is a manufacturer of a component part and provides that the manufacturer of a component part may escape liability when the defect is attributable to the design of the product in which the component part has been fitted or, even if the component part itself is defective, when the defect is attributable to the instructions given by the manufacturer of the product. Finally, Art 8.1 PLD prevents the liability of the producer from being reduced when damage is caused both by the defect in the product and by the act or omission of a third party, and Art 8.2 PLD allows reduction when damage is caused both by the defect in the product and by the fault of the injured person or any person for whom the injured person is responsible.

None of these provisions, however, lays down what causation or other relevant issues, such as solidarity or contributory negligence, actually mean, and the PLD leaves their definitions and scope to the national law of the Member States. As regards how defect and causation must be proven, both the standard of proof and what could be called 'alleviating devices', such as admissibility of prima facie reasoning or judicial presumptions, are also left to national law. Additionally, the Directive does not regulate either whether general causation can play any role in this issue or which solution must be adopted when uncertainty prevents the causal link being established according to the corresponding general rules.

In this context, the NTF group has made many proposals to fill these gaps, which in most cases are not confined to products liability, but that could also provide mechanisms to facilitate the proof of defect and causation in a new product liability regulation.

Thus, for instance, a rule regarding reversal of the evidentiary burden of proof of the defect when causation has been proven and the difficulty or costs to establish which is the relevant level of safety or whether the required level of safety has been met or not are disproportionate<sup>61</sup>. A reversal of the burden of proof should also take place when producers have infringed their duty to equip technology with means of recording information about the operation of the technology (logging by design) or have not given the victim reasonable access to information, on the assumption that the information, if logged and disclosed, would have revealed that the relevant element of liability, whether defect or causation, is fulfilled<sup>62</sup>. Moreover, a reversal of the burden of proof should take place when safety rules have been infringed and the damage occurred is of a kind that these rules were meant to avoid<sup>63</sup>.

Finally, inferential reasoning, i.e., inferences and factual presumptions drawn based on a careful assessment of the individual facts of the case and experts' opinions in order to assess the probability of existence of the unknown facts, can also be useful to assist claimants to prove causation when certain factors are at play. NTF mentions, among others, the likelihood that the technology at least contributed to the harm, or that damage was the materialisation of the risk

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<sup>61</sup> EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019), KF 15: "If it is proven that an emerging digital technology has caused harm, the burden of proving defect should be reversed if there are disproportionate difficulties or costs pertaining to establishing the relevant level of safety or proving that this level of safety has not been met. This is without prejudice to the reversal of the burden of proof referred to in [22] and [24]".

<sup>62</sup> EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019), KF 22: "The absence of logged information or failure to give the victim reasonable access to the information should trigger a rebuttable presumption that the condition of liability to be proven by the missing information is fulfilled". See NTF-Report, pp. 47-48.

<sup>63</sup> EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019), KF 24: Where the damage is of a kind that safety rules were meant to avoid, failure to comply with such safety rules, including rules on cybersecurity, should lead to a reversal of the burden of proving (a) causation, and/or (b) fault, and/or (c) the existence of a defect.

of a known defect within the technology, even though its actual impact is not self-evident. A further factor would be the kind and degree of harm potentially and actually caused or, in the case of multiple possible causes and, although it remains unclear which one of them caused the harm, if all possible causes are attributable to one actor, etc.<sup>64</sup>.

In the case of AI-systems and systems with digital content the combination of multiple physical items and digital elements with services may increase the difficulty for an individual to establish where the defect occurred and who caused it. This is clearly the case in an Internet of Things (IoT) system, where multiple physical and digital elements interact. If these different elements have been designed by their producers to be combined and interact, and form what the NTF calls a “commercial and technological unit”<sup>65</sup>, it could suffice to show that the unit was defective or that the unit caused damage. Moreover, liability of the different subjects involved in one of these units would be solidary<sup>66</sup>. The existence of a “commercial and technological unit” would depend on the joint or coordinated marketing of the different elements, the degree of their technical interdependency and interoperation, and the degree of specificity or exclusivity of their combination<sup>67</sup>.

In the recent Consultation, respondents point to difficulties in proving defectiveness and causation due to the technical complexity of certain products, but whereas consumer organizations, non-governmental organizations, and citizens were all in agreement when it came to emphasizing such challenges, with 95%, on average, business associations and industries, were less likely to identify such a problem, with 38%, on average<sup>68</sup>.

As regards specific measures to ease the burden of proof for AI-systems, non-business respondents, including EU citizens, overwhelmingly supported measures such as the disclosure of information; inferring facts from the refusal to disclose information; presuming causation in the case of non-compliance by AI providers or by AI users with their safety obligations and on an alleviation of the burden of proof regarding the functioning of AI-systems. Business stakeholders expressed more differentiated opinions, with a strong tendency to disapprove most of such measures<sup>69</sup>.

The position papers submitted in the consultation revealed similar trends: representatives of consumer organisations, citizens and NGOs agree that victims should not bear the burden of proof and there is a need for an alleviation, while opinions vary about how this could be done. Business organisations and companies usually do not favour a shift of the burden of proof or state that sufficient alleviations can be granted by courts under existing national laws. In addition, some of these stakeholders caution against an obligation to make technical information available to the victim, because of intellectual property considerations<sup>70</sup>.

### 2.3.6. Defences

Art. 7 PLD provides six defences that a producer can raise to escape liability when all conditions for establishing liability have been met<sup>71</sup>. Some of these defences should be amended to be applicable to AI-systems and products with digital content.

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<sup>64</sup> Cf. EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019), KF 26 and pp. 49-52.

<sup>65</sup> EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019), KF 29-30, pp. 55-57

<sup>66</sup> EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019), KF 29 and 31.

<sup>67</sup> EXPERT GROUP ON LIABILITY AND NEW TECHNOLOGIES - NEW TECHNOLOGIES FORMATION (2019), KF 30

<sup>68</sup> EUROPEAN COMMISSION (2022), p. 5.

<sup>69</sup> For detailed data and percentages, see EUROPEAN COMMISSION (2022), p. 9.

<sup>70</sup> EUROPEAN COMMISSION (2022).

<sup>71</sup> Article 7. The producer shall not be liable as a result of this Directive if he proves:

(a) that he did not put the product into circulation; or

(b) that, having regard to the circumstances, it is probable that the defect which caused the damage did not exist at the time when the product was put into circulation by him or that this defect came into being afterwards; or

(c) that the product was neither manufactured by him for sale or any form of distribution for economic purpose nor manufactured or distributed by him in the course of his business; or

(d) that the defect is due to compliance of the product with mandatory regulations issued by the public authorities; or

This is the case with the defence based on the allegation that the defect did not exist when the product was put into circulation (art. 7 (b) PLD). Considering that the idea of putting a product into the market in a certain moment cannot apply to AI-systems and products with digital content which are subject to periodical updating, this defence should take into account this fact and, in the case of AI-systems, refer this moment to the last time the product was updated<sup>72</sup>. In the same vein, when Art 7(f) PLD provides a defence for the producer of a component when the defect is due to the design of the finished product into which the component has been fitted or to the instructions given by the manufacturer of the finished product, the defence should be expanded to include the developer of software who incorporates it into the product<sup>73</sup>.

More problematic is the ‘development risks’ defence contained in art. 7(e) PLD. This defence allows a producer to escape liability on the grounds that the ‘state of scientific and technical knowledge at the time when he put the product into circulation’ did not allow for the particular defect to be discovered. As is well known, this defence may be adopted or not by Member States and many have adopted it and a minority have excluded it in general terms or with regard to certain products only<sup>74</sup>. It is arguable, however, whether this defence should be made mandatory, in order to protect developers of AI-systems, be left as it is now, or be excluded altogether in order to better protect victims. Maintaining the defence would require adjusting the moment when the product was put into circulation along the above mentioned lines and, possibly, to clarify how the reference to the ‘state of scientific and technical knowledge’ has to be understood in a society where the availability of information and the speed to which it circulates has nothing to do with the situation existing when the Directive was drafted<sup>75</sup>.

The Consultation referred only to this last defence, with the result that business associations and industries mostly supported the possibility of keeping the development risk defence unchanged and, on the contrary, consumer organisations and NGOs favoured revising or removing it. A possible change that received most support (39% of respondents agreed or strongly agreed) was denying the defence for AI products that continue to learn and adapt while in operation<sup>76</sup>.

### 2.3.7. Prescription and extinctions periods

Art 10 (1) PLD provides a compulsory prescription period of three years, which begins to run from the day on which the claimant becomes aware or should have become aware of the damage, the defect and the identity of the producer and must be alleged by the defendant. The prescription period can be suspended or interrupted according to what national law provides<sup>77</sup>.

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(e) that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of the defect to be discovered; or

(f) in the case of a manufacturer of a component, that the defect is attributable to the design of the product in which the component has been fitted or to the instructions given by the manufacturer of the product.

<sup>72</sup> In this sense, KOCH et al. (2022), p. 20, (ELI Response), suggests the following new wording of this provisions: ‘The producer shall not be liable as a result of this Directive if he proves: ...

(b) that, having regard to the circumstances, it is probable that the defect which caused the damage did not exist at the time when the product was put into circulation *or up-dated by him or by an affiliated provider* [emphasis added], or that this defect came into being after such moment; ...’

<sup>73</sup> KOCH et al. (2022), p. 21, (ELI Response), proposes the following wording: ‘The producer shall not be liable as a result of this Directive if he proves: ... (f) in the case of a manufacturer of a component *or the developer of software incorporated into another product* [emphasis added], that the defect is attributable to the design of the product in which the component has been fitted *or the software installed* [emphasis added], or to the instructions given by the manufacturer of that product into which the component was subsequently incorporated, irrespective of whether that product was distributed as finished or itself incorporated as a component into another product.’

<sup>74</sup> See the national reports in MACHNIKOWSKI (Ed.) (2017), mainly the French (pp. 226 et seq.) and the Spanish reports (pp. 444 et seq.)

<sup>75</sup> KOCH et al. (2022), pp. 21-22, (ELI Response).

<sup>76</sup> EUROPEAN COMMISSION (2022), p. 5.

<sup>77</sup> Article 10. 1. Member States shall provide in their legislation that a limitation period of three years shall apply to proceedings for the recovery of damages as provided for in this Directive. The limitation period shall begin to run from the day on which the plaintiff became aware, or should have become aware, of the damage, the defect and the identity of the producer.



By contrast, art. 11 PLD provides a longstop or extinction period according to which liability will be extinguished upon expiry of a ten-year period from the date the producer put the product that caused the damage into circulation<sup>78</sup>. The extinction period can be considered ex officio by the judge and provides an absolute deadline that can neither be suspended nor interrupted.

As regards art. 10 PLD there is general agreement that there is no need to make any amendment to meet the challenges imposed by AI-systems and products with digital content. As regards art. 11 PLD, however, the issue is more controversial<sup>79</sup>. It has been contended that the long-stop period of ten years acts as a sort of counterbalance for the higher burden of holding producers strictly liable and that it guarantees a high degree of legal certainty, especially for producers who use new technologies to manufacture their products and who must bear high investment costs<sup>80</sup>. However, as is already the case now, a ten-year extinction period is inappropriate in the case of latent damage, i.e., damage that is discoverable only long after the damaging event took place, with the result that even the long-stop period may occasionally have already lapsed before the victim has had the chance to bring the claim. This has been the case with asbestos-related diseases, such as asbestosis and mesothelioma, which have very long latency periods, but it can also be the case with personal injury caused by other substances. In this sense, a ten-year limitation period was called into question by the ECtHR judgment of 11 March 2014, *Howald Moor and Others v Switzerland*<sup>81</sup> in the context of the application the starting point for the limitation period applicable under Swiss law to victims of asbestos exposure. Although the Court stated that the rules on limitation periods pursue the legitimate aim of ensuring legal certainty, their systematic application to persons suffering from diseases that cannot be diagnosed until many years after the triggering events, may deprive these persons of the opportunity to assert their claims before the courts. Consequently, the Court found that the application of the limitation period had restricted the victims' access to a court pursuant to art. 6.1 ECHR to the point of impairing the very essence of his right.

A possible solution to these cases is to establish different long-stop periods for personal injury claims, a solution that was adopted by the 2002 reform of the German Civil Code, which, by contrast to the regular 10-year long-stop period, provides for a thirty-year period for damages claims for the infringement of life, bodily integrity, health or liberty (§ 199 (2) BGB)<sup>82</sup>. Another possible solution is to do away with the long-stop period in the case of personal injury, a solution that was adopted in the Netherlands in 2004<sup>83</sup> or in France in 2008 by an amendment of the French Civil Code, which now provides that the general long-stop period of twenty years does not apply, among other specific cases, to claims for personal injury<sup>84</sup>.

According to the Factual Summary Report, most respondents considered that the time limitation of three years was the least significant obstacle to making claims, but a slight majority of all respondents (51%, being 89% non-business respondents and 11% business respondents) indicated that the 10-year time limit creates obstacles to compensation for death and personal injury to either a moderate, large or very large extent<sup>85</sup>.

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2. The laws of Member States regulating suspension or interruption of the limitation period shall not be affected by this Directive.

<sup>78</sup> Article 11. Member States shall provide in their legislation that the rights conferred upon the injured person pursuant to this Directive shall be extinguished upon the expiry of a period of 10 years from the date on which the producer put into circulation the actual product which caused the damage, unless the injured person has in the meantime instituted proceedings against the producer.

<sup>79</sup> See, in favour of keeping the ten-year extinction period, FAIRGRIEVE et al. (2017), Mn. 186. In favour of abolishing altogether or at least of excluding it and reconverting it into a prescription period in the case of personal injury, KOCH et al. (2022), pp. 21-22, (ELI Response).

<sup>80</sup> FAIRGRIEVE et al. (2017), Mn. 186.

<sup>81</sup> COUR EUROPEENNE DES DROITS DE L'HOMME (2014). *Affaire Howald Moor et Autres C. Suisse*, Arrêt 11 mars 2014.

<sup>82</sup> MAGNUS (2019), Mn. 45, p. 186.

<sup>83</sup> Since 2004 in The Netherlands cases of personal injury and death are only governed by the normal five-year period, starting in this case – and by contrast to the general discovery rule – not from actual discovery but from discoverability of the harm, which in this case is equated to knowledge (cf art 3:310 (5) BW. See KEIRSE (2019), Mn. 55, pp. 349-350.

<sup>84</sup> See art. 2232 French CC, in connection with art. 2226 French CC. See BORGHETTI (2019), Mn 51, pp. 149-140.

<sup>85</sup> EUROPEAN COMMISSION (2022), p. 6.

### 2.3.8. Default rules for internal and external relationship of solidary debtors and contribution or recourse

Products liability involves an ample number of potential defendants and the adaptation of the PLD to liability for damage caused by AI-systems, as mentioned, will require including additional ones. Currently, Art. 5 PLD provides that when according to the Directive two or more persons are liable for the same damage, they are solidary liable, but it does not establish any rules either for the external relationship nor for the internal relationship of solidary debtors and refers these matters and regulation of contribution or recourse to the national law of the corresponding Member States<sup>86</sup>.

The European legal systems present significant differences on these rules and, more specifically, regarding whether an event, such as release, judgment or prescription, which relieves a solidary debtor of his liability towards the creditor does affect or not the liability of the other debtors towards the creditor and contribution as between themselves. On this point, problems may mainly arise when a solidary debtor is relieved of his liability towards the creditor due to prescription.

In some legal systems, such as the German, Greek and Portuguese, prescription of the creditor's claim against one solidary debtor does not have a common effect, i.e., does not affect either the liability to the creditor of the other solidary debtor or the right of recourse between the solidary debtors. In these systems, a solidary debtor who has performed more than his debtor's share may bring contribution against the other debtor, even when the prescription period against this other debtor has already elapsed, because nonetheless he remains liable with respect to the internal relationship and thus, he still must participate in the apportionment<sup>87</sup>. Interruption or renewal of prescription or its suspension as regards one debtor does not affect the other either<sup>88</sup>.

By contrast, in the Romanistic legal family, such as in the French or the Spanish legal systems, the common effects of prescription work both in the benefit and to the detriment of all solidary debtors. Thus, prescription has a partial discharging effect on the other debtor: the relieved debtor is fully free, and the creditor's claim against the remaining debtor is reduced by the amount of the internal share of the freed debtor. On the other hand, the interruption of the running of the period of prescription against one solidary debtor works to the detriment of the other<sup>89</sup>.

It has been contended that rules providing for common effects regarding prescription, which either work to the benefit or to the detriment of the debtors, may be suitable in a contractual setting where the debtors have obliged themselves together or where solidarity is generated by a common commitment. However, they should not be applied in other cases of solidarity, as in the case independent tortfeasors, where solidarity arises because they cause the same damage, which are cases where the debtors may not know each other or may not even be aware that there are co-debtors at all<sup>90</sup>.

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<sup>86</sup> Article 5. Where, as a result of the provisions of this Directive, two or more persons are liable for the same damage, they shall be liable jointly and severally, without prejudice to the provisions of national law concerning the rights of contribution or recourse.

<sup>87</sup> See MEIER (2012); MEIER (2018), pp. 1596 et seq. and OREJUDO (2016), Chap. 35 (Proview).

<sup>88</sup> MEIER (2018), Mn. 4; OREJUDO (2016). A similar solution is also adopted in England and Wales in the case of prescription, but not in the case of extinction by the lapse of the longstop period of ten years, where a producer of a component part, for instance, could successfully oppose extinction to his benefit to the producer of the final product seeking contribution. See FAIRGRIEVE & GOLDBERG (2020), Mn. 8.80.

<sup>89</sup> MEIER (2018), Mn. 4; OREJUDO (2016).

<sup>90</sup> MEIER (2018), Mn. 3. It should be added here, however, that some countries where these secondary effects of solidarity may affect co-debtors have developed alternative theories (such as the obligation *in solidum*) to curb them.

There is a fundamental agreement between academics that a future amendment to the PLD should tackle these questions<sup>91</sup>, which unfortunately, the Factual Summary Report, does not even mention.

### 3. Conclusions

It is rather difficult and risky to make any conclusions when law is still in the making. In our case, both the AI Act and the EU Parliament Regulation are only draft proposals, whereas in the case of the PLD there has not been any draft proposal so far and continues in a phase of continuous brainstorming enhanced by the recent Consultation.

Beginning by the end, one must bear in mind that the PLD requires the existence of a product that is defective and only covers certain cases of harm, i.e., death and personal injury and property damage. It is not likely that these two aspects will change, despite any possible amendments. In this sense, as it results from the list of different types of risks referred to in the AI Act, the spread use of AI-systems will cause harm in other areas, more notably personality rights and, probably to a lesser extent, recoverable emotional or stand-alone moral harm. If liability for these harms is not covered by other harmonised provisions, the breach of the provisions of AI Act will amount to fault or to breach of statutory duty and will be governed by national law, something which will lead to fragmentation. In this sense, further harmonised provisions on liability for damage caused by AI-systems seem necessary both for the protection of users and consumers of AI-systems and for the development of AI-systems technologies across the EU.

As regards the Draft Proposal of the EU Parliament, one could easily say that it is just a first attempt to establish harmonised general true strict liability rules, since they do not require the existence of a defect, and that also goes beyond other limitations inherent to the PLD. A valuable novelty is that it also provides for partially harmonised fault liability rules. However, it has been a hasty proposal that should be reviewed and rethought in depth. On the one hand, because too frequently may overlap with PLD and on the other, among other aspects, because in its aim to protect AI-systems operators from the risk of excessive liability, it excludes non-pecuniary loss resulting from death a personal injury, something that does not conform the European common core, and the caps it provides seem too low. It is also arguable whether regarding strict liability 'on size fits all', since its rules are usually tailored to the risks ensuing from a certain area of activity and, although many risks posed by AI-system will be common, others will certainly depend on the specific activity that causes harm.

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<sup>91</sup> TWIGG-FLESNER (2021), *ELI Guiding Principle* 10, p. 11; and KOCH et al. (2022), p. 21 (ELI Response).

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