# مراجعة توجيه المسؤولية عن المنتج واقتراح توجيه المسؤولية عن المنتجات المعيبة

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**الملخص**

يهدف هذا البحث إلى مراجعة توجيه مسؤولية المنتج  (PLD) من خلال معالجة بعض العيوب المثيرة للجدل والنقاشات المستمرة المحيطة به فيما يتعلق بقابليته للتطبيق على المنتجات التي تعتمد على الذكاء الاصطناعي . في الجزء الثاني من البحث، سأقوم بدراسة الاقتراح الجديد المتعلق بالمسؤولية عن المنتجات المعيبة) توجيه البرلمان الأوروبي والمجلس بشأن المسؤولية عن المنتجات المعيبة(، والذي يخضع حاليًا للمراجعة والنقاشات الأكاديمية .يسعى البحث إلى الإجابة على الأسئلة المتعلقة بكيفية معالجة العيوب في توجيه PLD في الاقتراح الجديد .سيتضمن هذا الجزء تسليط الضوء على أهم التغييرات والتحسينات في الاقتراح في ضوء الاتجاه الرقمي الحالي عبر الاتحاد الأوروبي والعالم .يهدف البحث إلى متابعة المناقشات والنقد الحالي حول الاقتراح الجديد وتقييم قابليته للتطبيق في الظروف الخاصة مثل الأضرار الناجمة عن العيوب في الأجهزة التي تستخدم الذكاء الاصطناعي .يجب ملاحظة أن الاقتراح قد يواجه بعض التغييرات بعد مراجعة العلماء القانونيين وقد يتم اعتماده مع بعض التعديلات على النسخة الحالية من الاقتراح

**الكلمات الدالة:** مسؤولية المنتج، أجهزة الذكاء الاصطناعي، توجيه مسؤولية المنتج.

# A review of the Product Liability Directive and the Proposal for a Directive of liability for defective products

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## Abstract

This research aims to review the Product Liability Directive (PLD) by addressing certain controversial shortcomings and the ongoing debates surrounding it regarding its applicability to AI products. In the second part of the research, I will examine the new proposal on liability for defective products (Directive of the European Parliament and of the Council on liability for defective products), which is currently undergoing revision and scholarly discussions. The research seeks to answer questions regarding how shortcomings in the PLD are addressed in the proposal. This part will involve highlighting the most significant changes and improvements within the proposal in light of the current digital trend across the EU and globally. The research intends to follow discussions and existing critics regarding the new proposal and evaluate its applicability into special circumstances such as harms caused by deficiency in devices using Artificial Intelligence. It should be noted that the proposal may face some changes after reviewing by legal scholar and be finalized with some changes to the current proposal version.

**Keywords**: Product liability, AI devices, Defect, PLD, Damage.

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## 1- Introduction

The current product liability framework in Europe primarily relies on the Product Liability Directive (PLD, 1985). From a historical perspective, in 1970 the council of Europe set up a committee of experts to examine the harmonization of the product liability law in member states. It continues by a draft convention and in 1976 the Strasbourg convention on product liability with regard to personal injury was adopted by the committee of ministers of council of Europe[1]. The central aspect of the convention was to introduce a strict liability regime to the harms caused by defective product that lead to physical injury. An interesting parallel with the European product liability directive is that it establishes liability on the foundation of harm resulting from a defect (Whittaker, 2010).

The PLD serves as the main legal regime for addressing compensation of consumers and establishing rules pertaining to harm caused by products across the European Union (EU) since its adoption at 1985. The PLD plays a central role in harmonizing product liability standards throughout the EU member states. It provides harmonized rules for addressing harm resulting from defective products, ensuring that consumers across the EU are enjoying consistent protections against defective products by seeking certain legal protection for compensation in case of injury or damage. The main liability regime that is embedded in the PLD for seeking compensation is strict liability[2].

## 2- Product liability regime across the EU
### 2-1- The Product Liability Directive (PLD)

By establishing uniform rules for compensation within the strict liability regime, the PLD aims to simplify legal procedures for consumers of production across the EU and create a safe and secure market for both businesses and customers. The directive allows consumers to have confidence in their rights, regardless of their location within the EU.

There are controversial discussions regarding the applicability of the PLD to AI systems including their software and decision-making feature. Reviewing the provided definitions of main concepts in the current Product Liability Directive, could clarify its scope, applicability, limitations and even shortcomings. In the following, some shortcomings of this directive with respect to the AI systems are discussed.

Firstly, in Article 1 of the PLD, the legislator provides a general framework of the main purpose of this Directive by stating that the "producer" is liable for any harm or damages out of its defective products. In the following, in Article 3 of the Directive, a broad definition of the producer is given with an inclusive description: manufacturer of a finished product and manufacturer of a component of a product or even any individual who introduce himself as producer. This wide and inclusive definition implies that the legislator aims to ensure the protection of consumers' rights. The directive does not leave any entity that provides a product into customer across Europe out of the scope of this Directive[3].

In the sections 2 and 3 of Article 3, the legislator considers situations that a product is imported to EU and situations that a product circulates across EU while there is no identified producer pertaining to the product. The law here discusses that if there is no track to find the

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[1] The text of the Convention is available at <http://conventions.coe.int/Treaty/en/Treaties/Html/091.htm>.

[2] Strict liability is defined as a liability regime in which the claimant does not need to prove the fault or negligence of the wrongdoer. In strict liability cases, the focus is on whether the defendant's actions or the product in question caused harm, rather than whether the defendant was at fault or acted negligently.

[3] Case C-402/03, Skov Aig v Miika l.avprisvarehus A/S [2006] ECR 1-199, para 30.

producer for imposing the liability, the provider of the product to the market would count as the producer and therefore, it would bear the responsibilities that are imposed by the Directive (Cabral, 2020).

There have been some discussions on whether the producers of AI devices are covered under the PLD. Seemingly, the broad definition of producer would include the producers of AI devices. It can be discussed that although the PLD does not specifically mention AI, but since most AI systems are part of another product themselves, therefore, AI producers would be covered by the directive at least as a producer of some components of the final products (Cabral, 2020), (Twigg-Flesner, 2021). On the other hand, since the legislator aims at high protection of the consumers and the Directive provides a broad definition for producer, its interpretation also should be inclusive to the extent that it covers the AI products as well[1].

The second key and challenging concept in PLD is the concept of defective products. Defective products concept is the main legal basis for seeking compensation and its definition and implications have a direct impact on its applicability to the liability compensation complaints (Lohsse et al., 2019).

Article 6 of the PLD makes an explanation about the defective products by stating few challenging factors that need to be met for establishing defect in a product. In the cornerstone of those factors, the concept of safety has been placed[2]. The PLD requires evaluation of lack of safety by reasonable expectations by the consumer and public at large. Since safety evaluation is upon the consumer expectation, there should are certain challenges in situations that consumers' expectations are not properly framed yet[3](Lohsse et al., 2019).

In this respect, we can imagine the trial or introduction period of AI devices. While the consumer has some expectations in advance, defining a reasonable level of expectations could be challenging for both courts and consumers. As an example. an innovative technological company introduces a new product for home assistant called AIHome, which is equipped with advanced AI algorithms. This device could provide many services to your home such as managing household appliances such as the vacuum cleaner, providing information about your fridge ingredients and other devices and, also, providing entertainments. Due to the advertisement of the company regarding the services of the device, some high expectations may have developed between customers including the ability to understand complex voice commands or accents and anticipating or understanding the user's preferences. Due to these incapabilities of the device, it may lead to some wrong orders form the shopping store and make financial loss to the customer. The main question here would be how it can be counted as a defect? Is there a defect in product? What is the reasonable expectation here? The challenge for courts and consumers lies in defining what constitutes a "reasonable expectation" regarding the safety and performance of technological AI devices such as AIHome. Some consumers may argue that the device falls short of their high expectations, while others may consider its limitations acceptable given the state of AI technology.

Besides the varying experiences of AI devices consumers, another important factor is the evolving nature of these technologies. AI technology is rapidly evolving, and capabilities of devices such as AIHome may improve over time through software updates. This factor adds another layer of complexity to the assessment of whether the product is defective concerning whether consumers' expectations are realistic considering the evolving nature of AI.

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[1] In Article 3 of the Directive, as it is mentioned above, the legislator tries to impose liability on any person in the supply chain ensuring existing liability inside the supply chain and prevent avoidance of liability by any actors across the supply chain of the product.

[2] See eg Safety and Liability Report (n 3) 14; Resolution on Civil Liability (n 9) para 8; EP JURI Study (n 29) 47–62)

[3] DLFHCBAI\53 EP JURI Study (n 29) 57. 54 Safety and Liability Report (n 3) 6.

Another controversial content in the PLD is the 'damage' definition. Article 9 provides a clear definition of damage within the framework of the Directive. In particular, the definition of damage in the Directive excludes the non-material damage and it consists only of the damages to property and physical injury (Cabral, 2020). In another word, it only considers pecuniary damage which could cause a defective product. As the operation of AI devices is expanding rapidly, these types of harm (including pure economic loss and non-material) could happen more frequently.

While the PLD does not cover non-material harm and only limits damage to material harm, a major source of concern is that by further introduction and development of AI products and consequently, expanding non-material harms, how the PLD could respond to it? Currently, since the PLD does not cover these harms, claimants must seek compensation through their national laws (Schutte & Majewski, 2022).

It should be noted that new AI-based devices would contribute more frequently to harm to data. However, scope of the Product Liability Directive (PLD) regarding damages to data is currently unclear. This ambiguity is a subject of significant discussions, as it relates to the absence of provisions addressing privacy and Cybersecurity issues within the PLD[1]. Since the approach of the PLD toward counting data as property is unclear, it leaves it to national laws of the member states to decide whether data is a property or not (PLD, 1985). As a result, Member States may adopt differing approaches, potentially leading to inconsistent case rulings and interpretations across the EU (PLD, 1985). This ambiguity underscores the need for clarity and harmonization in addressing issues related to data, privacy, and Cybersecurity within the context of product liability.

The other condition for damage in the Directive, as stated in Article 9 of the PLD for recognizing damage, is regarding the intention of using the product (PLD, 1985). The product that causes damages should be intended for private use or if intended for public use, it should be used for private purposes (Cabral, 2020). This requirement simply excludes public products or products that are being used for public purposes and limits the scope of the Directive to private consumers (Schütte et al., 2021). Defining the usage of AI-based devices for private matters can indeed be challenging due to the potential overlaps between situations where these devices are used for both private and public purposes. As an example, smart security cameras and sensors in private homes not only protect individual properties but can also contribute to public safety. Footage from these devices can be shared with law enforcement to investigate crimes or incidents in the neighborhood. Another example in this respect is wearable devices like fitness trackers or smartwatches, which are used by individuals to monitor their health and activity. However, this data can also be anonymized and aggregated to provide insights into public health trends, such as tracking the spread of diseases. Therefore, the nature of AI technology can contribute to conflicts regarding the private versus public usages.

### 3- Proposal PLD

On 28 September 2022, the European Commission published a "Proposal for a Directive of the European Parliament and of the Council on liability for defective products". According to the commission report, the Proposal seeks to cover important objectives and address major concerns in the era of digital goods and modern products emergence[2]. As it was discussed in

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[1] Bertolini, EP JURI Study, 2020, 59.

[2] European Commission, Evaluation of Council Directive 85/374/EEC, 25; European Commission, Third report on the application of Council Directive on the approximation of laws, regulations and administrative provisions of the Member States concerning liability for defective products (85/374/ EEC of 25 July 1985, amended by Directive 1999/34/EC of the European Parliament and of the Council of 10 May 1999) COM (2006) 496 final 9, September 14, 2006, https://eur-lex.europa.eu/ legal-content/EN/TXT/?uri=CELEX%3A52006DC0496. Even

the previous section, the Product liability Directive has couple of shortcomings that require modifications in order to avoid infringement in the EU single market, provide a high level of protection for consumers and facilitate free movement of goods across the EU (Havu, 2019). To mention these shortcomings, one can refer, in general, to the insufficient definitions and concepts provided in the PLD which are not suitable to apply to modern digital products and digital services (Proposal, 2022, Explanatory Memorandum). Aside from the lack of key concepts about digital products, the burden of proof procedure proposed in the PLD contains several challenges that have been seemingly dealt with in the Proposal[1].

In this work, first, the added values and advantages of the new Proposal will be provided which is followed by discussions around the gaps and concerns that are supposed to be filled with the up-to-date provisions of the Proposal.

### 3-1- Provisions improvements and added values of the Proposal

Initially, it is important to note that providing 'legal certainty' regarding the AI products could be considered as one of the most important objectives and ultimate goals of the Proposal [2].

The new Proposal on Liability for Defective Products begins with providing clarity regarding the incisive and important aspects of the definitions and applicability of the Directive. Firstly, it delivers a certain definition on the types of products and businesses that are under the scope of the Directive (Articles 2 and 4 of the Proposal). Furthermore, it provides a more precise scope on types of damages and the definition for concept of damage that is practiced by this Directive (Article 4 of the Proposal). Secondly, it establishes a balanced framework for the rights and interests of both manufacturers and consumers throughout the EU[3].

The other significant improvement in the proposal is aiming to establish an entity within the EU that would bear responsible for defective products imported to the EU from the producers outside the EU (Proposal, 2022, Explanatory Memorandum). However, this improvement appears to overlap with already existing provisions in the Product Liability Directive (PLD). The PLD already places liability on importers within the EU for such situations. Hence, it is unclear what options have been added to the pre-existing provisions in the PLD. However, it may emphasize the significance of these existing obligations in the light of the growing trends of consumers purchasing products from non-EU countries. This also highlights the importance of having uniform rules regarding the imported products that are used by European consumers and protection of the right of consumers of those products. These harmonized rules strengthen the product safety not only for the EU single market but for businesses outside the Europe. The concrete rules provided in the Proposal encourage the suppliers out of Europe to import and distribute safe products in the EU to avoid liability out of its harms (EU commission report, 2020), (Lohsse et al., 2019).

### 3-2- Clarifying definitions through the Proposal

By clarifying definitions, the proposal aims to ensure equal protection for individuals, regardless of whether the harm comes from a physical or a digital defective product. The

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though harm-sufferers' (arguable) difficulties in terms of proving defect and causation were already noted, e.g., in the PLD evaluation report of 2006, this matter did not lead to revising legislation.
Case C-621/15, W X Y v. Sanofi Pasteur MSD SNC and Others [2017], ECLI:EU:C:2017:484[1]
[2] The proposal provides legal certainty on what products and businesses are covered by no-fault liability. It will also encourage all businesses, including non-EU manufacturers, to place only safe products on the EU market in order to avoid incurring liability. This will in turn reinforce product safety. These aspects and objectives are provided in Explanatory and within the context of the proposal.

The proposal strikes a careful balance between the interests of industry and consumers, as explained in [3] Section 8 of the impact assessment this is explained under the section of legal basis, subsidiarity and proportionality

Proposal seeks to cover harms out of defective digital products, in a same way as it is used to cover the traditional products. It achieves this goal by expanding the EU's product liability rules to include software providers, businesses making significant product modifications, authorized representatives, and fulfillment service providers[1].

Additionally, the Proposal covers data as an 'item of property' (one of the controversial shortcomings of the Directive) and acknowledges the significant role of data in the digital era by covering material losses resulting from data loss, destruction, or corruption[2]. As it is pointed out previously, whether to define data as an item of property or not, was an uncertain point in the PLD which had led to many discussions and uncertainties among legal scholars and practitioners (Wuyts, 2014). This broader scope increases the chances of compensation for those who suffered by different damages out of defective products and promotes fair competitions among businesses.

It is important to mention that non-material harm to fundamental rights, such as privacy and discrimination, is not covered by the Proposal and they are under the scope of other EU complementary legislations (Proposal, 2022, Sections 1.2 and 1.3).

### 3-3- Burden of proof

Burden of proof is one of the factors that has been improved in the procedural aspects of the Proposal in comparison with the Directive. While the structure of burden of proof in the current PLD is such that it is applicable to traditional products, it is very challenging to be applied to digital products[3]. The burden of proof in the PLD was build upon two factors: the first factor is proving defect in the product and the second one is proving the causal relation between the product and damage[4]. This would be very challenging in the cases involving AI since the consumer may not have enough knowledge to discover causal relations between the defect and the harm (Proposal, 2022, Explanatory Memorandum). The Proposal tries to increase chances of receiving compensation by consumers by putting some rules in place in the interest and favor of consumers regarding the burden of proof (Proposal, 2022, Article 9). As an example, the Proposal obliges producers to cooperate with the consumer in disclosing the needed technical information that would help consumers to prove the causal relation between the harm and the defective product. Moreover, the proposal eases the procedure of burden of proof with some advancements in court procedures. It is considered that courts, in complex technological cases or high AI deployment devices, assume that defect is definitely existing in the product, or the damage is certainly out of the defective products (Article 9 of the Proposal). As it is obvious, these enhancements are highly in the interest of consumers and protection of consumers´ rights across the EU (Proposal, 2022, Impact assessment). The last point which is worth mentioning in this respect is that the Proposal tries to ease the burden of proof by removing some considered exemptions of liability for producers in the Directive, such as avoiding liability when the defect has not been discovered (Proposal, 2022, Impact assessment).

Although the Proposal claims that it tries to create a fair balance between the consumers' and manufacturers' interests in market and product complaint cases, but it seems that it encounters so many critics by the manufacturers. They argue that these types of rules could lead to high expenses for consumers and may prevent innovations and creativity by the companies or producers of high AI technology products.

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[1] European Parliament resolution of 20 October 2020 with recommendations to the Commission on a civil liability regime for artificial intelligence (2020/2014(INL)).

[2] Proposal article 4 s.6 and s.7 states that 'data' means data as defined in Article 2, point (1), of Regulation (EU) 2022/868 of the European Parliament and of the Council. (Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Act) (OJ L 152, 3.6.2022, p. 1).)

[3] See e.g. Commission, White Paper, 2020, 13.

[4] Case C-621/15, W X Y v. Sanofi Pasteur MSD SNC and Others [2017], ECLI:EU:C:2017:484.

### 3-4- Software and digital/AI products

In the digital era, products can take both physical and digital forms. Software including computer applications, mobile applications or other types of AI systems are becoming more popular in the market and the significance of ensuring their product safety is constantly growing. The PLD, however, is not able to clarify its status with respect to software and there have been many debates about its applicability to software.

Currently, there are ongoing discussions about the applicability of the Directive to software/applications and digital/AI products which are all operating based on installed software/applications (Cabral, 2020). While both scholars and EU institutions have acknowledged that it is possible to apply the Product Liability Directive rules to software and they consider it a desirable direction for the future, there are no legal certainty and explicit words about it in the Directive itself (Schutte & Majewski, 2022). In particular, there are several complications in this respect. There have been arguments around whether software should be considered as a product or services. This is a decisive question to address since if software is a product, then it can be covered by the PLD while it will be excluded from the PLD if it is categorized as services.

A major debate circulates around whether software should be categorized as a product or services. Software can be introduced to the market as an independent product and later integrated into other products as a component (EU commission, 2020; Lohsse et al., 2019). Importantly, it has the potential to cause damage when it operates. According to the Directive Article 2, product means all moveable even though incorporated into another moveable or into an immoveable. Therefore, one approach is that when software is an integral part of the product (i.e. embedded to it at the time of purchase), for instance on a smart vacuum cleaner, it is considered as a product, whereas it is excluded when a standalone software is later installed on a device for example when you download and install a new program/application on your personal computer/cell phone (Schutte & Majewski, 2022). Hence, since it was discussed that standalone software should be categorized as services, broadening the definition of "moveable" in Article 2 of the PLD could not resolve the issue. On the other hand, another approach is to consider any software as product by interpreting the existing provision of the PLD which is not excluding intangible items (Schutte & Majewski, 2022).

It seems that the Directive has a broad approach in defining product since it avoids using limiting words and phrases, for instance while it mentions moveability, it does not limit the definition by mentioning tangibility/intangibility of the items. Also, since the PLD specifically mentions electricity as a product that is covered by the Directive, it illustrates its positive approach towards covering technologies and future technologies[1].

One significant advancement within the Proposal that could make substantial changes in the application of the Proposal compared with the Directive, is that it extends its coverage to software. The Proposal takes this issue into consideration and in its Article 4, it clearly includes software and other digital and AI products under the umbrella of the products covered under the strict liability regime by the PLD. Finally, the Proposal tries to end these uncertainties by inclusion of software as a product by providing a clear definition in Article 4.1. The Proposal ensures legal certainty about software as a product regardless of its' usage or if it is accessed through cloud technologies or if it is implemented in a device (Proposal, 2022, Recital (12)) [2].

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[1] See also working document European Commission, Evaluation of Council Directive 85/374/EEC on the approximation of laws, regulations and administrative provisions of the Member States concerning liability for defective products (Working document) SWD(2018) 157 final, 5 July, 2018, 23)

[2] It should be noted that although commission suggested in a report the expansion of definition of product to cover the future technology but there are still many uncertainties regarding the downloaded software and other challenges which creates legal uncertainty and arguments against commission reports. However the Proposal

## 4- Conclusions and future perspectives

To sum up, as it is stated in the Proposal itself, the necessity of harmonized rules for compensations damaged consumers of AI products across the EU is paramount to ensure fair and equal protection of rights in addressing arisen harm. Without a harmonized set of rules for compensating individuals affected by defective products, manufacturers would encounter distinct sets of regulations across the EU member states. This divergence would result in varying levels of consumer protection and create an uneven playing field for businesses operating in different Member States, potentially distorting competition (Proposal, 2022, Section 2).

In the following, a remarkable point that would come to mind is about the proportionality of the current liability regime for AI devices across the EU. As it is relevant to this research, liability of manufacturers toward the suffered consumers that is described in the PLD and Proposal, include all AI devices under one certain regime. Some might ask the question that since the nature and scope of different AI devices are inherently different, could they be covered under one regime? In another word, having various risks and harm that they can create based on their nature and their operations, should not we consider different regimes to provide a fair protection for interest of both consumers and manufacturers?

The other criticism is that the risk arisen form the traditional products are very different with risks arisen from AI products. It can be argued that this different nature could need a different protection of consumers of these products and therefore, different liability rules for victims. In conclusion, I think that categorizing both traditional products and AI products regarding the compensation of harm that they create in the same way seems unfair and challenging. Moreover, even classifying all AI devices and the risks arisen from them under one set of rules does not seem proper.

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clarified the issue by clearly mentioning software as a product in article 4. see commission report: European Commission, 'Evaluation of Council Directive 85/374/EEC' (Working document) (2020) 23–24; Safety and Liability Report (n 3) 13.

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