

Guiding Principles for Updating the Product Liability Directive for the Digital Age

ELI Innovation Paper Series
Pilot Innovation Paper



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ISBN: 978-3-9505318-5-5

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Acknowledgment is due to the University of Vienna which has generously hosted the ELI Secretariat under successive Framework Cooperation Agreements since 2011.



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Background

An ELI Innovation Paper seeks to set out concrete propositions for European Legal Development in a short paper, which is more tentative in nature and which does not represent the result of comprehensive research; rather, it seeks to spark discussion and to inspire further action. In this spirit, this Pilot Innovation Paper proposes a set of 'Guiding Principles' to prompt further discussion both in terms of detail and of how these Principles could lead to reform of the European Union's Product Liability Directive.

The European Union (EU) adopted its Directive on Liability for Defective Products (85/374/EEC), usually referred to as the Product Liability Directive (hereinafter 'PLD'), in 1985. Over the intervening 35 years, much has changed; most significantly, the rapid development of digital technology and the integration of physical goods with the digital sphere. Many consumer goods now utilise digital content (software) to perform functionalities which, back in 1985, would have been almost entirely mechanical. Moreover, digital content in the form of 'apps' and algorithms, including artificial intelligence (AI), increasingly determine how multiple connected devices operate, with digital automation and AI substituting for human operation. The time has, therefore, come to refresh the existing PLD to adapt it to the digital age so that it can continue to protect individuals who suffer personal injury or other damage, as well as continue its role as the yardstick for Product Liability regimes around the world.

The need for reform of the PLD has been much-documented, whether in expert reports to the European Commission,¹ resolutions of the European Parliament,² or the Commission's own reports.³ There are numerous options for reforming the current Directive, many of

which will involve policy decisions as to how a modern product liability system should be designed in light of the additional issues introduced by the digital era. The guiding principles put forward in this Innovation Paper relate to both the general objectives of the EU's product liability system and the specific issues which need to be addressed by reforming substantive elements of the current PLD. It is not concerned with reforms to the PLD of a general kind.⁴

Guiding Principle 1

A simple mechanism for seeking compensation should be available to a person who has suffered harm caused by a defective product.

The objective of the PLD is to ensure that an individual who has been injured or whose property has been damaged⁵ by a defective product is able to claim compensation simply by proving that a product was defective within the meaning of the PLD and that the defect caused the injury or damage complained about. In PLD, this is done by imposing strict liability on the 'producer' of the product in issue.⁶ The notion of 'producer' has been defined broadly to include some other parties in the supply chain,⁷ notably an importer into the EU, together with a fall-back option if the producer is not identifiable. Furthermore, where there are several possible defendants, they are jointly and severally liable, thus allowing a consumer to claim against any one of them (with national law providing recourse options for the person liable towards the consumer).

The PLD, therefore, reflects the principle that the compensation of the injured party should be facilitated by allowing the injured party to pursue an accessible counterparty without having to lodge multiple claims where there is more than one potential defendant. This ensures that individuals can obtain swift and easy redress once they have succeeded in establishing that they have suffered harm caused by a defective product.

¹ Expert Group on Liability and New Technologies, Liability for Artificial Intelligence and other emerging Digital Technologies (2019) ('EGLNT Report').

² Eg, European Parliament resolution of 20 October 2020 with recommendations to the Commission on a civil liability regime for artificial intelligence (2020/2014(INL))

³ See eg, European Commission, Liability for emerging digital technologies – Staff Working Document SWD(2018) 137 final; European Commission, Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics COM(2020) 64 final ('2020 Report').

⁴ It also assumes that any changes should respect the principle of technological neutrality.

⁵ This is a damage covered under the current PLD. Below, an extension of the possible types of damage covered by the PLD will be suggested.

⁶ Art 1 PLD.

⁷ Art 3 PLD.

It is essential that the possibility for an injured person to seek compensation from a range of parties continues to underpin the PLD in the future, based on their active contribution in making the product or in placing the product on the market. Where appropriate, the party held liable by an individual should have a right of recourse against the party, which has brought about the defect.⁸

A key criterion for the reforms that need to be made to the substantive provisions of the PLD should be this General Principle.

Guiding Principle 2

A product liability system for the digital era must ensure an appropriate balance between protecting individuals and fostering innovation and utilisation of digital technology.

It is important to appreciate that a product liability system such as the PLD needs to strike a workable balance between the provision of a sufficiently high level of protection of individuals to ensure that any harm suffered by them is appropriately compensated, on the one hand, and the need to create an environment which encourages innovation and the utilisation of digital technology, on the other. If this balance tilts too far in favour of protection of individuals, it could have a chilling effect on innovation and utilisation; if it tilts too far towards innovation, it could damage consumer confidence and trust in digital technology and affect its potential for economic exploitation.

Guiding Principle 3

The PLD must be aligned with measures in related areas of law, as well as with non-legal measures such as insurance or compensation schemes.

The PLD was among the first European measures in the field of private law. Since then, the body of European rules has grown considerably, and there have been a

number of major reform initiatives in most fields of EU consumer law. To date, the PLD has not been considered for reform. The relationship of the PLD with other measures, such as the General Product Safety Directive (2001/95/EC, hereinafter 'GPSD') or the (new) Consumer Sales Directive (2019/771/EU) has never been considered. Thus, the GPSD imposes a general obligation on producers that only 'safe' products are put on the market, together with the requirement for monitoring under public law and enforcement of this obligation. The consequences of placing an unsafe product on the market fall under the PLD where such an unsafe product causes personal injury or damage. Key definitions, such as 'producer', 'safe' and 'defective' are not aligned. Indeed, whereas the PLD operates with a static assessment of whether an item was defective (determined at the time when a product was put into circulation), the GPSD takes a more dynamic view of safety and requires market surveillance.⁹ With the possibility of digital monitoring of product performance facilitated via the internet, as well as updates to digital elements, the static approach of the PLD needs to become more dynamic, eg, by abandoning the focus on when a product is 'put into circulation' as a central aspect of the PLD whenever digital elements are involved.

One difficult issue is that a consumer who has purchased a defective item which causes personal injury and/or property damage has a claim under the PLD in respect of those losses, but not for the loss of the defective product itself. For the latter, a claim has to be brought against a different party (the contractual supplier) under a different regime (non-conformity of the goods with the contract). The Consumer Sales Directive, which provides remedies in respect of non-conforming goods, does not provide for recovery from the contractual seller of the defective item any damages, including consequential losses, caused by the non-conformity, leaving this to national law. The need for multiple claims against different parties might deter consumers from seeking redress. One option would be to allow recovery of the costs of the defective product from the producer. This issue is but one instance where better co-ordination between the PLD

⁸ This might entail a review of C-52/00 *Commission v France* ECLI:EU:C:2002:252, where the CJEU precluded the possibility under French law at that time to bring a claim against a retailer in all instances.

⁹ Art 9 GPSD.

and the consumer sales regime¹⁰ (in line with General Principle 1) would be beneficial. Similarly, the relationship between the General Product Safety regime and the PLD needs to be clarified (see General Principle 6).

Furthermore, there are discussions about combining revised and extended liability regimes in the digital era with other mechanisms for providing compensation to individuals, such as insurance schemes or compensation funds (public or industry-operated),¹¹ or to operate such schemes as an alternative. An integrated approach to reforming the PLD should take into account such possibilities, and, where such mechanisms are introduced, to address the possibility for interaction between compensation under the PLD and through such alternative mechanisms, including whether mandatory insurance is appropriate in some instances.

Guiding Principle 4

The definition of 'product' in the PLD should be updated to cover (i) the combination of goods with digital elements and (ii) digital content and digital services supplied as 'digital products'.

The PLD operates with an outdated notion of 'product', being limited to all movables (and electricity)¹², including those which are installed in an immovable. It will generally be the case that an item which operates in combination with digital content would still be regarded as a product, including where the cause of the defect which caused harm to an individual can be attributed to the digital content. In the case of operating software installed on a physical item (such as a washing machine) which remains unchanged and which is not updated via an internet connection, such operating software would be treated akin to a component

part and as such be an integral feature of the product. However, with an increasing number of products, the physical item is less significant than the associated digital content. Moreover, once the digital content requires internet connectivity and is periodically updated, it might be less clear-cut whether a problem with the digital content could be treated as a problem with the physical item itself. In order to remove any residual uncertainty regarding goods which incorporate digital content and those which rely on regularly updated digital content or on the interaction with a digital service, a revision of the notion of 'product' could be made, perhaps on the basis of Art 2(5)(b) of the Consumer Sales Directive, which refers to 'goods with digital elements' as 'any tangible movable items that incorporate or are inter-connected 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'. Consistent with General Principle 2, this definition should be added to the PLD's definition of product.

Furthermore, individuals also acquire digital content or digital services separately from any tangible items,¹³ eg, in the form of apps installed on tablets or smartphones. These are purely digital products, but they, too, could cause personal injury or damage to property in ways not envisaged when the PLD was adopted. The emergence of digital products as a new type of product has already been recognised elsewhere in EU Law.¹⁴ Therefore, in addition to broadening the definition of 'product' to include products with digital elements, the definition should further be extended to include 'digital products';¹⁵ ie, digital content and digital services as defined in the Digital Content and Services Directive.¹⁶

¹⁰ Ideally, this would include the introduction of direct producer liability in respect of the non-conformity of goods, although this has been rejected in the past: see Commission, Communication on the implementation of Directive 1999/44/EC on certain aspects of the sale of consumer goods and associated guarantees including analysis of the case for introducing direct producers' liability COM (2007) 210 final (p 12). See also the converse situation, precluding the imposition of full liability under the PLD on the retailer: C-52/00 *Commission v France* ECLI:EU:C:2002:252.

¹¹ See also EGLNT Report, pp 61-63.

¹² Art 2 PLD.

¹³ No position is taken for the purposes of this Innovation Paper with regard to the classification of such a transaction under national law, ie, whether this is a supply of services, goods or *sui generis*.

¹⁴ In a different context, Art 2(c) of the Unfair Commercial Practices Directive (2005/29/EU, as amended by Directive 2019/2161/EU) defines 'product' as 'any goods or service including immovable property, digital service and digital content, as well as rights and obligations'.

¹⁵ It might already be the case that digital content is within the scope of the definition of product: see D Fairgrieve et al, 'Product Liability Directive', in P Machnikowski, *European Product Liability – An analysis of the state of the art in the era of new technologies* (Intersentia, 2017), pp 46-47, but this is at least a debatable point.

¹⁶ Directive 2019/770/EU.

The PLD should expressly extend to personal injury or harm caused by AI, and so the definition of ‘product’ should also encompass this.¹⁷

These extensions will also ensure that the PLD will apply to the Internet of Things (IoT), ie, instances where multiple products are connected and interact with one another (eg, by exchanging data which then determines how each product operates).

Guiding Principle 5

The category of persons liable towards an individual (the notion of ‘producer’) should be revised to reflect the different actors involved.

The PLD imposes liability on the ‘producer’ of the defective product in issue. However, it does not limit the notion of ‘producer’ to the business who manufactured or produced the product, but it includes the following within the notion of producer:¹⁸ (i) producer of raw materials; (ii) manufacturer of components; (iii) ‘own branders’ putting their name or trademark on products manufactured by someone else; and (iv) an importer of the product (if imported for distribution).¹⁹ Where none of these can be identified, any other supplier of the product is treated as producer, unless such a supplier identifies the producer.²⁰

This approach reflects a recognition that the PLD should facilitate an individual who has suffered harm in bringing a claim by including a wider range of potential defendants than just the manufacturer of the product within the notion of ‘producer’. Doing so avoids attempts by a defendant to deflect a claim by arguing that somebody else is responsible (subject to the defences provided under Art 7 PLD). This is rein-

forced by Art 5 PLD, which imposes joint and several liability of each party falling within the notion of ‘producer’, thereby giving the individual the choice against whom to claim.

The rationale underpinning this approach to the notion of producer includes two key elements: first, an individual should not be given the run-around by a defendant pointing at someone else as the party against whom a claim should be brought; and secondly, that whoever is liable towards the individual should have a right of recourse against the party who is responsible, in a practical sense, for the defect in the product which caused the harm. It is acknowledged that this will often require complex investigation ‘behind the scenes’ to establish such responsibility, but it should ensure that the system remains consistent with another element of its rationale, that liability should be allocated to the person who most likely to have caused the harm, or that liability should fall on the person best placed to absorb the loss.

There is no reason why this rationale should not be maintained in the digital era. However, there is a need to revisit the notion of ‘producer’ in light of the changes in producing and supplying products in the digital era. The PLD is based on a linear one-directional distribution system along a chain of contracts. However, many goods with digital elements no longer fit this model, not least because in many instances, the supply of a physical item is connected with the supply of digital content or a digital service. Similarly, digital content and digital service as a product are often not supplied one-directionally, eg, because of the need to update the digital content or digital service, or because data flows from consumer to the producer or operator of the digital content/digital service. The GPSD already includes a producer’s representative in the EU for producers not established within the EU in its definition of producer²¹ and, more significantly, ‘other professionals in the supply chain, insofar as their activities may affect the safety properties of a product.’²² The latter aspect should cover the supplier of the digital content/service (particularly where this is a separate party from the producer of the physical item) and should extend to

¹⁷ Eg, ‘artificial intelligence’ means a system that is either software-based or embedded in hardware devices, and that displays intelligent behaviour by, inter alia, collecting, processing, analysing, and interpreting its environment, and by taking action, with some degree of autonomy, to achieve specific goals’ (Art 4(a) of the draft proposal for a regulation on ethical principles for the development, deployment and use of artificial intelligence, robotics and related technologies appended to the European Parliament resolution of 20 October 2020.

¹⁸ Art 3(1) PLD.

¹⁹ Art 3(2) PLD.

²⁰ Art 3(3) PLD.

²¹ Art 2(e)(ii) GPSD.

²² Art 2(e)(iii) GPSD.

the provision of updates and other activities such as data monitoring undertaken by that supplier. A corresponding extension to the PLD's definition of 'producer' is required to reflect the fact that the linear approach with a defined point at which a product is brought into circulation no longer reflects current production and distribution models. A possible broadening could draw on the concept of the 'backend operator', proposed in the *EGLNT Report*, ie, the person who monitors the digital content/service and provides necessary updates, as well as the data and other relevant aspects, is a useful point of reference.²³

Moreover, online platforms have become a key business model in the supply of goods and digital products, prompting a debate about the obligations of platforms towards its users.²⁴ Indeed, the Market Surveillance Regulation (2019/1020/EU) already imposes obligations in respect of product-related EU rules on a 'fulfilment service provider',²⁵ which covers certain types of online platforms; more generally, 'information society service providers' who sell products online are required to co-operate with market surveillance authorities.²⁶ In this regard, the Market Surveillance Regulation already recognises the particular role of platforms in the supply of products.

There are many different business models for online platforms, with some limiting their role to that of a passive intermediary, with others having varying degrees

of a more active involvement in facilitating and performing transactions via their platforms. Some platforms take over significant aspects of the supply, eg, where an online marketplace offers warehousing, order processing and distribution on behalf of a business,²⁷ often located outside the final recipient's country and, indeed, the EU. The definition of producer in the PLD should be extended further to include online platforms taking an active role in the distribution of products, adopting the definition of 'fulfilment service provider' used in the Market Surveillance Regulation. Such platforms should be liable as producer at least in circumstances where the manufacturer is either not identified or located outside the EU. The recognition that liability of platforms should be extended also underpins Art 19 of the ELI Model Rules on Online Platforms, which envisages that a consumer can exercise the contractual rights and remedies available against the immediate supplier also against a platform operator.²⁸

Guiding Principle 6

The notion of 'defect' which triggers the producer's liability should be reconsidered to reflect the particular features of digital products and digital elements.

An individual can only claim for harm which was caused by a product which was 'defective', ie, a product which did not 'provide the safety which a person is entitled to expect, taking all circumstances into account'.²⁹ Particular circumstances mentioned in the PLD are the presentation of the product, the uses to which the product could reasonably be expected to be put, and the time when the product was put into circulation (with the added proviso that the mere fact that a 'better product' is subsequently put into circulation does not render earlier products defective³⁰). These criteria reflect both the fact that the notion of 'product'

²³ See also the draft proposal for a regulation on ethical principles for the development, deployment and use of artificial intelligence, robotics and related technologies appended to the European Parliament resolution of 20 October 2020: '(f) 'backend operator' means any natural or legal person who, on a continuous basis, defines the features of the technology and provides data and an essential backend support service and therefore also exercises a degree of control over the risk connected with the operation and functioning of the AI-system'.

²⁴ Importantly, see European Commission, *Proposal for a regulation on a Single Market For Digital Services (Digital Services Act)* COM (2020) 825 final. Article 22 of the proposed regulation ('traceability of traders') would increase transparency of contractual suppliers but might not necessarily improve the operation of the PLD if the trader is located outside the EU and if the producer cannot be identified.

²⁵ Defined as 'any natural or legal person offering, in the course of commercial activity, at least two of the following services: warehousing, packaging, addressing and dispatching, without having ownership of the products involved...' (Art 3(11), Regulation 2019/1020/EU).

²⁶ Art 7, Regulation 2019/1020/EU.

²⁷ Cf the decision by the California Court of Appeal, 4th district, in *Angela Bolger v Amazon.com LLC* (D075738), 13 August 2020.

²⁸ Note that this does not envisage a product liability claim against a platform operator.

²⁹ Art 6(1) PLD. This Innovation Paper does not form a view on whether this 'consumer expectation' test should be replaced with a 'risk-utility' test.

³⁰ Art 6(2) PLD.

is limited to tangibles³¹ (and electricity) and assumes a one-time supply to the consumer. The fact that goods relying on digital elements to operate, as well as purely digital products, will usually not be supplied just once but be subject to regular updates (whether to improve functionality, fix bugs or deal with security issues) might necessitate a clarification of the defectiveness standard. In particular, the fact that digital products are subject to regular updates might make the proviso regarding the later availability of 'better products' no longer workable.

Indeed, the PLD repeatedly refers to the point at which a product was 'put into circulation'. Whereas that notion made sense when the PLD was adopted, this is no longer so: in light of continuous monitoring and updating particularly of digital elements, the responsibility of the producer extends well beyond the point when the product was put into circulation.

It is not suggested that the notion of 'defective' under the PLD and the notion of 'unsafe' under the GPSD should be aligned.³² The latter Directive is concerned with products which are inherently unsafe, whereas the PLD also covers manufacturing defects in individual items which result in damage. This possibility must be preserved in any revised PLD. Moreover, the safety criterion in the GPSD focuses purely on the safety and health of persons and does not consider the effect on property or economic loss. Nevertheless, it should be made clear that an 'unsafe' product which has resulted in injury or damage to property or data would also be 'defective'.

Guiding Principle 7

Revisions of the notion of 'damage' could be considered to include damage to digital elements and data.

The PLD covers two types of damage: (i) death or personal injury; and (ii) damage or destruction to an 'item of property' if that item was intended, and actually

used, for private use/consumption. At the time the PLD was adopted in 1985, those were the only conceivable types of loss an individual might suffer. However, in the digital era, damage might not only be caused to individuals themselves and physical items of property, but also digital items and, more significantly, data created by an individual, whether stored on a physical device or on a digital service (cloud).

Three examples illustrate that there are types of damage beyond those recognised in the PLD: (i) a defective component of a smart homes system installed in a consumer's home might destroy a physical item to which it was attached (eg, a connected thermostatic valve on a radiator) – this would already be covered by the PLD; (ii) an application on a laptop belonging to the individual disables all the USB ports and erases all the data created by the individual and stored on the laptop's hard-drive – the loss of data would not be covered at present; (iii) a digitally-controlled door-lock fails to connect to the individual's smartphone and prevents the door from being unlocked from the inside as the individual tries to escape a fire.

These examples show that damage can be injury to the individual, can be to another physical item, or can be to a digital element as well as data, and that this can be caused by tangible as much as digital aspects of a product. As the digital era evolves towards the further digitalisation of assets and processes, as well as further automation, a revision to the notion of 'damage' is required to ensure that the scope of the PLD aligns with the features of the digital era. One change should be the inclusion of loss of data within the scope of 'damage', as well as damage to other digital content.

Moreover, the limitation to 'items of property' intended and actually used for private purposes also has to be reviewed. The sharp distinction between personal and professional use as it is currently applied in respect of items of property which were damaged is no longer appropriate because the line between professional and personal use of products is increasingly blurred. Products are increasingly used for mixed purposes; similarly, the distinction between an individual acting in a professional or non-professional capacity is also frequently not as clear-cut as it once was. One only needs to think of the growing used of 3D-printing and the

³¹ D Fairgrieve et al, 'Product Liability Directive', in P Machnikowski, *European Product Liability – An analysis of the state of the art in the era of new technologies* (Intersentia, 2017), pp 40-42.

³² Cf G Howells, C Twigg-Flesner and T Wilhelmsson, *Rethinking EU Consumer Law* (Routledge, 2017), ch 7, pp 273/4.

possibility of ‘hobbyists’ to engage in some commercial activity.³³ Therefore, this distinction no longer makes sense as digital technology and changes in the labour market increasingly blur the boundaries between professional and personal activities, whether that be in the fact that goods are used for ‘mixed purposes’ or the fact that individuals may be acting as ‘prosumers’. In dealing with ‘mixed purposes’, EU law has taken the view that an individual would be acting as a consumer where the professional purpose is negligible,³⁴ or at least ‘so limited as not to be predominant’,³⁵ but in light of developments, the threshold might have to be even higher and products used only for prosumer activities (ie, wholly professional activities) should not be covered.

Guiding Principle 8

The burden of proof should be adjusted to reflect the complexity of goods with digital elements and of digital products.

The general rule under the PLD is that the person who has suffered harm is required to show (i) that the product in question was defective and (ii) that this defect caused the harm suffered. In the typical situation assumed for the PLD, this requires an individual to prove that the product was defective, which usually entails an examination of the product itself. Where necessary, an expert can be engaged to examine the product.³⁶

However, when the individual has suffered harm because of a defect in a product which is either goods with a digital element (including AI), or perhaps even a purely digital product, it may be more difficult for the individual to prove that the product was defective. For instance, in the case of goods with digital elements, it may be necessary to examine whether the defect is the result of a problem with the digital element or the di-

gital service, rather than the physical item. In the case of an IoT system, the combination of multiple physical items and digital elements might further exacerbate the difficulty for an individual to establish where the defect occurred. The general approach, in accordance with General Principle 1, should be that it suffices for an individual to establish that the entire package comprising the physical product combined with other physical products and digital content has caused the damage. In consequence, an individual should be able to hold any of the parties who produced a physical or digital element liable, irrespective of where precisely the defect occurred. The latter issue should be left to the final allocation of liability under a clear recourse system established in accordance with General Principle 10. This is subject to one qualification particularly in respect of IoT systems. Such systems may be sold or marketed as a package, but they may also be put together entirely by an individual. The general approach put forward here should be limited to the former situation, where a system is offered as some kind of package. The *EGLNT Report* uses the idea of a ‘technological and commercial unit’, characterised by ‘(a) any joint or coordinated marketing of the different elements; (b) the degree of their technical interdependency and interoperation; and (c) the degree of specificity or exclusivity of their combination.’³⁷ This idea could be adopted in the present context, with the result that at least in the case of ‘technological and commercial units’, it suffices for an individual to show that the unit as a whole was defective.

In addition to establishing that a product was defective, an individual is also required to prove that the defect *caused* the injury or damage in issue. Usually, the fact that the use of a defective product with digital elements or of an IoT system which was defective has resulted in injury or damage would satisfy this requirement. A difficulty is posed by the fact that a key feature of both products with digital elements and of IoT systems is the importance of data to determine how the product or system operates. If such data is recorded within the product/system, then there would not seem to be any added complications in proving defectiveness and causation. However, once such data is supplied from external sources, there could be a problem with

³³ Cf G Howells, C Twigg-Flesner and C Willett, ‘Protecting the Values of Consumer Law in the Digital Economy: The case of 3D-printing’ in A De Franceschi and R Schulze (eds), *Digital Revolution – New Challenges for Law* (Beck/Nomos, 2019); see also C-105/17 *Komisija za zaštitu na potrošitelite v Evelina Kamenova* ECLI:EU:C:2018:808.

³⁴ C-464/01 *Johann Gruber v Bay Wa AG* ECLI:EU:C:2005:32.

³⁵ Recital 17 to Directive 2011/83/EU.

³⁶ The PLD does not stipulate the *standard* of proof, which is a matter for national law.

³⁷ *EGLNT Report*, p.58,

regard to establishing both defectiveness and a causal link with the injury or damage sustained. It is conceivable that externally-supplied data, ie, data supplied by a third-party, could be the cause of a malfunction of the product or system. There is room for argument as to whether, in such an instance, the question is one of defectiveness of the product/system in that a malfunction could result from external data, or whether this is a matter of causation in that the cause of the malfunction was the external data. From the individual's perspective, both possibilities create a hurdle to succeeding with their claim, not least because it will be very difficult for the individual effectively to show that external data was not a relevant factor. It should therefore not fall on the individual to rule out the relevance of external data; instead, the producer should have the burden of proving that it was not the product/system itself that led to the injury or damage but that externally-supplied data did.

Guiding Principle 9

The defences available to a producer need to reflect the impact of digitalisation on products.

In order to balance the respective interests of those classed as 'producers' under the PLD and consumers, the PLD provides a number of defences which can be raised by a producer who would otherwise be liable to pay compensation to an individual who was harmed by defective product. Art 7 PLD provides for six separate defences. Some of these might be difficult to apply when it comes to goods with digital elements.

For example, Art 7(b) provides a defence if the producer shows that the defect did not exist at the time the product was put into circulation or only came into being afterwards. In the case of goods with digital elements, or digital products, which are subject to regular updating, this defence might cause difficulties because a defect might be the result of an update made to the relevant digital content or digital service, and therefore only arise after the product has been 'put into circulation'. The idea of a fixed moment at which the product is 'put into circulation' and the producer's involvement is complete no longer holds – irrespective of whether any updates are provided by the producer

or a third-party under an arrangement with the producer. This defence should be amended to clarify its application in the context of goods with digital elements and, if the revised regime were to extend to purely digital products, to such products. As a minimum, the defence should not apply in respect of defects in the digital element, nor in digital products, which are subject to updates.

Secondly, Art 7(f) permits the manufacturer of a component to raise a defence in circumstances where the defect is due to the design of the overall product into which the component has been fitted or to the instructions given by the manufacturer of the product. Its application in the context of products with digital elements is unclear, especially as to whether it would extend to the producer of the relevant digital content/service, ie, whether the digital element is treated as a 'component'. In the case of goods with digital elements, the integral relationship between the physical item and the digital content/service which is necessary for the product to perform its functions might suggest that it would not be appropriate to treat the digital element simply as a 'component' – this seems different from a mechanical component in a complex physical product, for example. The digital element is an integral feature of the overall product (comprising physical and digital 'components') rather than a subsidiary aspect, and it could even in some cases be regarded as the main 'product'. There is therefore at the very least a lack of clarity as to how this defence could operate in the case of goods with digital elements, and, indeed, whether it would be appropriate for it to be available at all.

A third defence which requires reconsideration is the so-called 'development risks' defence in Art 7(e). This allows a producer to escape liability on the basis 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. Once more, by focusing on the situation as it was when the product was put into circulation, the defence would cause difficulties once digital elements are involved, or where the product is a digital product. In the case of digital elements/products, there will often not be a clear point at which the product is put into circulation because digital elements/products are regularly updated

and are intended to be regularly updated. It is therefore possible that a defect could be introduced into a product with digital elements, or a digital product, as a result of such an update. Moreover, digital technology facilitates the utilisation of mechanisms such as logging processes and remote monitoring of the operation of a product which enhances the possibility for discovering defects after a product has been put into circulation. If the development risks defence were to be retained, its scope in respect of goods with digital elements, digital products, and AI should be reconsidered and the focus on the point at which a product is 'put into circulation' changed.

Guiding Principle 10

A system for allocating the financial consequences of a successful claim by an individual to the party responsible for that loss should be an integral part of a revised product liability system.

The PLD's definition of 'producer' is already broad – reinforced by the joint and several liability of all parties who are designated as producer under the PLD. Nevertheless, General Principle 5 requires a further broadening of this definition. Furthermore, General Principle 1 reflects the rationale underpinning the PLD that an individual should have easy access to a counterparty against whom to claim, and that the party held liable by an individual should have recourse against the party ultimately responsible for the defect. At the present time, the PLD does not address the way in which recourse should be made available to the party held liable by the individual. In particular, the impact of statutory limitation periods on the possibility of seeking recourse needs to be considered to ensure that a right of recourse would not be curtailed as a result of statutory limitation period. Instead, this is a matter for national law to address. In the interest of enhanced legal certainty for all those involved in the provision of goods with digital elements and digital products, a clear and consistent recourse system is required at the European level. Such a system should put into place an appropriate set of default rules, which apply unless the parties have made other arrangements.