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# Civil liability regime for artificial intelligence

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European added  
value assessment

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STUDY

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# Civil liability regime for artificial intelligence

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## European added value assessment

The findings of this European added value assessment (EAVA) suggest that the revision of the EU civil liability regime for artificial intelligence systems (AI) would likely generate substantial economic and social added value. The current preliminary analysis suggests that **by 2030, EU action on liability could generate** €54.8 billion in **added value** for the EU economy by stepping up the level of research and development in AI and in the range of **€498.3 billion** if other broader impacts, including reductions in accidents, health and environmental impacts and user impacts are also taken into consideration. A clear and coherent EU civil liability regime for AI has the potential to reduce risks and increase safety, decrease legal uncertainty and related legal and litigation costs, and enhance consumer rights and trust. Those elements together could facilitate the faster and arguably safer uptake and diffusion of AI. Member States have not yet adopted specific legislation related to the regulation of liability for AI, with some exceptions related to drones, autonomous vehicles and medical AI applications. Timely action at EU level would therefore reduce regulatory fragmentation and costs for producers of AI while also helping to secure high levels of protection for fundamental and consumer rights in the EU.

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## Executive summary

The civil liability regime is certain to affect the rate, direction and diffusion of artificial intelligence systems (AI). A quantitative assessment of the European added value of taking common EU action on liability and insurance for artificial intelligence (AI), suggests that **EU action on liability could generate €54.8 billion** in added value for the EU economy **by 2030** by accelerating the level of research and development (R&D) in AI and in the range of **€498.3 billion if other broader impacts are also considered**, including reduced numbers of accidents, health and environmental impacts and user impacts.

The main economic functions of clear, ex-ante liability rules and an AI liability framework are: to dissuade actors from engaging in risky activities, and thus to prevent and reduce accidents, as well as to promote safety standards, facilitate the correct pricing of a product or service, encourage innovation investment by mitigating uncertainty over the litigation process, and encourage diffusion and uptake of technology by consumers.

These important functions mean that liability policies have major economic and social impacts, explaining the substantial added value that could potentially be generated as a result of EU common action on AI liability. Beyond direct impacts on the reduction of risks and increase in safety, liability policies have dynamic effects on innovation, investment in research and development and ultimately business competitiveness. Liability regimes also have a considerable social impact, as rules on the distribution of risks and mechanisms for compensation of damages determine the acceptance of technologies by consumers, and they are also associated with fairness and justice.

The current EU civil liability regime is based on the partially harmonised product liability system combined with national liability systems. The EU product liability regime is, meanwhile, based on the EU Product Liability Directive (PLD). The PLD offers a working civil liability regime that already applies and will apply for AI. It is nevertheless, likely, that a number of unsettled issues in relation to substantive scope, damages and exceptions, will create increasingly uncertainty, potentially leading to negative impacts for both producers and, even more so, consumers.

A comparative legal analysis of the national liability regimes of 19 Member States indicates great divergence between Member States in terms of their current rules and their degree of flexibility to adjust to the new challenges related to AI. This comparative analysis indicates that in the absence of common EU action, it is very likely that very divergent practices and interpretations might emerge in the Member States, in some situations potentially introducing obstacles to the functioning of the internal market.

Common EU action on AI liability is necessary as it would bring added value that could not be achieved by the individual actions of Member States. Common EU action do much to facilitate the dissemination and uptake of AI technologies and the competitiveness of the EU economy, while contributing to the rational use of resources and introducing a fair risk distribution mechanism, encouraging innovation and reducing the cost of uncertainty for all economic actors, boosting consumer trust and reducing uncertainty for businesses and citizens. Based on the above, adapting the liability regime at EU level, in a timely and coherent manner, has the potential to generate significant added value for the European economy.

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# 1. Introduction

## 1.1. Background

The purpose of this European added value assessment (EAVA) is to provide an evidence-based evaluation and assessment to accompany the European Parliament's draft report on a legislative initiative proposal on a civil liability regime for artificial intelligence (2020/2014 INL).<sup>1</sup> The report has been initiated by the Committee on Legal Affairs (JURI) in accordance with Article 225 of the Treaty on the Functioning of the European Union (TFEU).<sup>2</sup>

## 1.2. Methodology and scope of the European added value assessment

This EAVA focuses on the regulation of civil liability for artificial intelligence (AI) systems at EU level. There are three main objectives: first, to analyse the main socio-economic functions of liability rules, and thus, ultimately, explain why liability regulation should be key to AI policy; second, to assess the current regulation of liability and specifically how the current framework applies or potentially could apply to AI at EU and national level; third, to assess what could be the potential added value, measured in quantitative economic terms, of taking common EU action on a civil liability regime for artificial intelligence.

European added value of EU action on civil liability regime for AI is assessed both quantitatively and qualitatively.

The **qualitative assessment** of European added value is threefold: first, Chapter 2 provides an analysis of the socio-economic functions of liability rules on the basis of the literature available; second, Chapter 3 focuses on EU-level analysis and explains the scope and limits of the application of the Product Liability Directive to AI; third, Chapter 4 focuses on the regulation of liability in the Member States, with a specific focus on the applicability of the existing rules to AI systems.

The main aim of the comparative analysis of current practices in the Member States is to provide a concise picture of the existing regulatory mixes between fault-based and strict liability rules, and, more specifically, to map the scope and conditions of the application of the strict liability rules in the Member States. The question underlying this comparative legal analysis is where the regulation of AI should be placed in the current system and whether adjustment is necessary. A better understanding of Member States' liability systems can also contribute to discussions at EU level on possible EU solutions and how they would fit in with existing Member State rules. The comparative legal analysis is based on the original dataset of national rules from 19 EU Member States, specifically collected for this EAVA and discussed and presented in full in Annexes I and II.<sup>3</sup>

The **quantitative assessment** of added value, in Chapter 6, estimates the possible net benefits that could be generated as a result of EU civil law rules on the liability of AI as compared to the individual

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<sup>1</sup> European Parliament, [Civil liability regime for artificial intelligence](#), 2020/2014(INL), rapporteur, Axel Voss (EPP, Germany).

<sup>2</sup> According to [Article 225 TFEU](#) the European Parliament has a right to ask the European Commission to take legislative action in a particular area. Under [Article 10 of the Interinstitutional Agreement on Better Law-Making of 13 April 2016](#), the European Commission commits to respond to a European Parliament request for proposals for Union acts by adopting a specific communication. If the Commission decides not to submit a proposal, it must inform the European Parliament of its detailed reasons, including a response to the analysis on the potential European added value of the measure requested.

<sup>3</sup> The comparative legal analysis is based on research conducted by lawyer-linguists from the Directorate for Legislative Acts, DG Presidency, of the European Parliament.

actions of Member States. This quantitative assessment is based on a two-step analytical model. First, the added value is quantified, as a net benefit for the EU economy resulting from additional investment in research and development related to AI; second, the added value is measured considering broader economic impacts, including reduced accidents, health and environmental impacts, tax revenues and user impacts.

The quantitative assessment builds on the data, methodology and results of the Cost of non-Europe in robotics and AI: liability, insurance and risk management (2019) and European added value assessment: A common EU approach to liability rules and insurance for connected and autonomous vehicles (2018). As will be discussed in more detail in Chapter 6, both studies provide only very partial results, as they cover only specific sectors (i.e. autonomous vehicles in the 2018 study) and specific types of impact (mainly research and development). Therefore, the quantification presented in this EAVA should be considered as preliminary, providing only initial guidance and discussion on the possible costs and benefits of EU civil law rules on liability of AI.<sup>4</sup>

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<sup>4</sup> To estimate the economic benefits for the EU economy as a whole, further studies, sector based, would be necessary. As liability rules aim, *inter alia*, to reduce the risks and number of potential accidents and harm, it is necessary to analyse the benefits and costs, considering the dynamics and drivers specifically applicable to a given sector. In this respect, EPRS is planning to publish a detailed study on the cost of non-Europe in AI in transport, which will estimate the costs and added value of taking EU action in the transport sector.

## 2. AI liability: Why regulate? Socio-economic functions of civil liability rules in the AI context

This chapter focuses on the analysis of the socio-economic incentives of civil liability rules as applied to artificial intelligence systems (AI) and explains why regulation of liability plays such an important role in the current debates on the regulation of AI.

### 2.1. AI promises tremendous economic benefits, but the regulatory framework remains incomplete and uncertain

Artificial intelligence is widely considered to be a critical and strategic factor for economic growth and productivity. The economic impact of AI is already significant and would be further accelerated by the increased uptake of AI in the near future. AI acts as 'a capital-labour hybrid' that 'offers the ability to amplify and transcend the current capacity of capital and labour to propel economic growth'.<sup>5</sup> According to the Artificial Intelligence Market Research Report, in 2019 the value of the global AI market was US\$27.23 billion.<sup>6</sup> This value is projected to reach US\$266.92 billion by 2027.<sup>7</sup> World Economic Forum suggests that just 'developing and diffusing AI in its current assets and digital position could add up to an estimated €2.7 trillion to European economic output by 2030'.<sup>8</sup> The increasing uptake of AI systems has significant potential to generate economic value as well as to transform existing social, economic and legal structures.<sup>9</sup>

Public regulation of 'new technologies' is not in itself a novel challenge. However, the very nature of AI systems, including among other features their complexity, autonomy and vulnerability, the scope and intensity of expected uptake, and the fact that they are still at an emerging stage of development, pose new, unprecedented challenges and questions for existing public policy regulation.<sup>10</sup> The regulatory challenges are many.

First, there is no general consensus on the definition of AI. Discussions around AI systems and technologies either focus only on one part of the issue or specific application of AI, i.e. machine learning, or on the contrary adopt a very broad definition that includes, for example, digitalisation and automation in the broader sense with only a minimal link to specific AI-enabled elements or systems. Second, the technological development of AI systems and the risks accompanying their application are not yet always fully technologically understood and known. The experimental nature of AI systems, and their high degree of complexity and autonomy, may lead to risks and externalities at the application stage on a scale that could not be fully anticipated at the development stage. As earlier applications of AI systems have shown, bias, driven for example by 'fed' training data or cyber vulnerability, could be one example of a risk not fully accounted for at the development stage.<sup>11</sup> Third, a related challenge is how to strike the right balance between on the one hand incentivising

<sup>5</sup> H. Khizou, [Is Artificial Intelligence Dead? Let's talk stats about AI state](#), 2020.

<sup>6</sup> [Artificial Intelligence Market Research Report](#), 2020.

<sup>7</sup> [Artificial Intelligence Market Research Report](#), 2020.

<sup>8</sup> World Economic Forum and McKinsey, *Innovate Europe Competing for Global Innovation Leadership*, 2019.

<sup>9</sup> Mapping the Cost of Non-Europe 2019-2024, see also analysis by PWC, *The macroeconomic impact of Artificial Intelligence*, February 2018; McKinsey, *Modelling the Impact of AI on the World Economy*, 2018.

<sup>10</sup> A. K. Agrawal, J. S. Gans and A. Goldfarb, 'Economic Policy for Artificial Intelligence', *Innovation Policy and the Economy*, Vol. 19 (2019). The authors argue that in addition 'to subsidies and intellectual property (IP) policy that will influence the diffusion of AI in ways similar to their effect on other technologies, three policy categories – privacy, trade, and liability – may be uniquely salient in their influence on the diffusion patterns of AI'.

<sup>11</sup> For an analysis of algorithmic bias see, for example, A. Lambrecht and C. Tucker, 'Algorithmic discrimination? Apparent algorithmic bias in the serving of stem ads', *Mimeo*, MIT, 2018.

and encouraging innovation, investment and entrepreneurship in AI systems while, on the other, also protecting fundamental EU values and minimising risks, especially for third parties. This challenge is also closely connected to global competitiveness and sovereignty issues.

This EAVA assessment focuses on the third challenge: the regulation and distribution of risks, i.e. liability questions, related to AI systems. More specifically, the assessment focuses on the non-contractual regulation of the civil liability regime for artificial intelligence. Liability is a key topic in both the technological and socio-legal debates. Clear and fair rules on liability could be a significant factor in facilitating or, conversely, deterring the socio-economic benefits of AI.

At this level of advancement and maturity of AI systems, the regulatory issues related to the management of risks and assignment of liability of AI systems at EU level, discussed in more detail in Chapters 3 and 4, are linked to the following main set of issues:

- (1) the definition of AI and the qualities that distinguish it from other existing or emerging technologies that may necessitate the adjustment or revision of the existing rules; the need to understand the mechanisms and risk distribution among actors involved in developing, producing, managing and using AI systems;
- (2) the need to adjust or adopt additional liability legislation specifically targeting AI, and to assess whether it is necessary to adopt regulation of a general scope applicable to all AI systems and applications or if a sector specific approach is more desirable;
- (3) the question as to what type of liability regime is appropriate and under what conditions should it be applied to AI systems (strict liability, risk management approach, fault-based liability) and whether an insurance scheme (obligatory or voluntary) should be set up to support the liability regime.

In this context, the regulatory challenges faced by European and national legislators are complex. In the AI systems field, which is emerging from both technological and regulatory points of view, many questions remain open and governance solutions are often not yet well tested in practice, at national, EU or international level. This fluid context opens wide scope for regulatory innovation and experimentation, while also adding considerable pressure to the need to provide a framework for public regulation under a very high degree of uncertainty.

## 2.2. Rules on liability and distribution of risks are among the key factors that could impact development and uptake of AI

Liability policies have substantial economic and social impacts. This chapter provides a concise overview of the main socio-economic functions of liability rules.

### 2.2.1. AI liability rules as an incentive for rational use of resources and a fair risk distribution mechanism

Regulation of liability has several key functions. First, liability rules have a strong social function. The distribution of risks that liability rules aim to address should reflect notions of justice, equity and fairness. Second, liability rules also have important economic and efficiency functions.<sup>12</sup> Long-standing research on economic theory of law suggests that liability rules facilitate rational use of resources, promote safety standards, and dissuade actors from engaging in risky activities.<sup>13</sup> The analysis by Gallaso and Luo states that 'the liability system, and its reforms, can affect the rate and

<sup>12</sup> R. A. Posner and W. M. Landes, 'The Positive Economic Theory of Tort Law', *Georgia Law Review*, Vol. 15, 1980, p. 851.

<sup>13</sup> See e.g. L. Kaplow and S. Shavell, *Economic Analysis of Law*, in A.J. Auerbach and M. Feldstein (eds.) *Handbook of Public Economics*, Vol.3, 2002, North Holland Publishing.

the direction of technological change, indicating that these policies have dynamic effects on innovation incentives that go beyond their short-term impact on the safety of the users and others. As Finkelstein (2004) stresses, recognising and estimating these dynamic effects is crucial to evaluating the costs and benefits of policy reforms.<sup>14</sup>

An effective regulatory approach to liability, therefore, must aim to provide a balanced regulatory means by which the public regulator can reduce the risk of harm and in justified cases provide mechanisms for compensating victims. There are two broad types of approach regulating the distribution of risks that are not covered by contractual obligations: 'fault-' or negligence-based liability and 'no-fault' or strict liability.<sup>15</sup> These two basic systems create different types of incentive to reduce risks.<sup>16</sup> That is why, as it will be discussed in the following chapters, legal systems usually adopt a mix of negligence and strict liability rules. The question is then what type of liability and incentives to reduce risks are necessary for specific types of product, service and action. There is no clear answer and Member States adopt different approaches; these are reviewed in detail in Chapter 4.

### 2.2.2. AI liability rules as a measure to encourage innovation and reduce costs of uncertainty for all economic actors

In addition to striking an appropriate balance to reduce risks by means of liability rules, the clarity of the liability framework is in itself an important economic factor for all parties. In fact, some market participants argue that clarity on the distribution of risks is more important than any specific approach to the distribution of risks.<sup>17</sup> A clear liability framework can provide companies with legal certainty. This certainly helps companies to appreciate the risks correctly and design and price their products or services accordingly. Furthermore, the empirical data show that clear ex-ante regulation of liability 'can encourage innovation investment by mitigating the uncertainty over the litigation process'.<sup>18</sup>

### 2.2.3. EU liability rules as a measure to enhance consumer trust and a mechanism to accelerate the diffusion and uptake of AI

Furthermore, clear liability framework can also enhance consumer trust, and thus accelerate the uptake and use of AI systems across various industries and functions. On the contrary, poorly defined or ambiguous liability rules have the potential to lead to higher prices for consumers and potentially risky products. Companies cannot appreciate the risk correctly, potentially passing costs on to consumers. Also, inability to recover damages could impact the uptake of AI systems negatively, leading to slower uptake of AI systems and deterring investment and return on investment in the development of innovative products or services.

Thus, the main economic functions of clear, ex-ante liability rules can be summed up as follows, to:

- dissuade actors from engaging in risky activities, and thus prevent and reduce accidents while promoting safety standards;
- facilitate the correct pricing of a product or service;
- encourage innovation investment by mitigating uncertainty over the litigation process;

<sup>14</sup> Punishing Robots: Issues in the Economics of Tort Liability and Innovation in Artificial Intelligence.

<sup>15</sup> Also product liability rules (liability for a defective product where victims are consumers), discussed later.

<sup>16</sup> See Chapter 2.2 below.

<sup>17</sup> T. Evas, A Common EU approach to liability rules and insurance for connected and autonomous vehicles, EPRS, 2018, pp. 152 - 155, 'Stakeholders view'

<sup>18</sup> A. Galasso and H. Luo, [How does product liability risk affect innovation? Evidence from medical implants](#), 2018. See also, L. Kaplow, 'Rules Versus Standards: An Economic Analysis', *Duke Law Journal*, Vol. 42, 2012, pp. 557-629.

- encourage diffusion and uptake of technology by consumers.

Based on the above and as specifically applies to liability for AI, to reduce the risks, provide economic players with legal certainty and facilitate user and consumer trust, it is necessary, as a matter of priority, to evaluate the fit of existing liability rules at EU and national levels to AI systems. Adapting the liability regime at EU level in a timely and coherent manner has the potential to generate significant added value for the European economy.



### 3. Liability – how is it regulated? Current EU law liability framework and its application to AI

Regulation of liability in the EU context is a mix of national rules and procedures and EU-level legislation. Accordingly, Chapter 3 provides a brief overview of the applicable EU law related specifically to civil liability for AI.<sup>19</sup> Chapter 4 then, provides a comparative legal analysis of Members States' national rules on liability.

#### 3.1. EU law

The EU does not currently have a specific civil liability regime for AI. The EU law framework on liability is based on the highly harmonised EU rules on the liability of the producer of a defective product (the Product Liability Directive (85/374/EEC)). When it comes to the substantive rules relating, for example, to accidents, national rules on liability and the calculation of damages for victims apply.<sup>20</sup>

##### 3.1.1. EU Product Liability Directive

The Product Liability Directive (PLD) was adopted in 1995 and it provides for liability of producers for damage caused by a defect in their product<sup>21</sup> and the rights of consumers. The PLD establishes a no-fault liability regime for defective products. According to Article 2 PLD a product 'means all movables, with the exception of primary agricultural products and game, even though incorporated into another movable or into an immovable. "Primary agricultural products" means the products of the soil, of stock-farming and of fisheries, excluding products which have undergone initial processing. "Product" includes electricity'.

According to the PLD-established system of liability, it is not the fault of the producer but a defect of the product that is decisive for triggering the liability of a producer. Within the meaning of the PLD, 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'.<sup>22</sup> The PLD also provides that 'A product shall not be considered defective for the sole reason that a better product is subsequently put into circulation'.<sup>23</sup>

The general presumption of liability for a defective product is subject to a list of derogations provided in Article 7. Thus, according to the PLD, producers are not liable for defective products if they prove '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

<sup>19</sup> A recent study commissioned by the European Parliament provides a detailed assessment of the EU legal regime, see [Artificial Intelligence and Civil Liability](#), July 2020, IPOL\_STU(2020)621926.

<sup>20</sup> Sector-specific EU legislation may provide further rules related to liability provisions in specific areas. For example, in relation to motor vehicles, the Motor Insurance Directive (2009/103/EC) establishes EU third-party liability insurance, and covers obligations and procedure for claims resolution for victims of road traffic accidents.

<sup>21</sup> Article 1 PLD, Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products amended by Directive 1999/34/EC of the European Parliament and of the Council of 10 May 1999.

<sup>22</sup> Article 6(1) PLD.

<sup>23</sup> Article 6(2) PLD.

authorities; or (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>24</sup> Importantly, while PLD provides a liability framework, as related to the definition of a product, defect and derogations, national rules on civil liability still apply, for example, to the determination of causality or non-material damages.

PLD is generally perceived as a fair and well balanced instrument for the distribution of risks between producers and consumers of products.<sup>25</sup> However, increasing academic and policy debates point to the limitations of the application of PLD to advanced technologies, including AI systems.<sup>26</sup> The main points of discussion relating specifically to the application of PLD to the new technologies are summarised in Table 1 below.<sup>27</sup>

Table 1 – The main points of discussion relating to the application of the PLD to AI

PLD concept	Issue	Open questions/ problems
Product	Scope of the definition	Should PLD cover all tangible and non-tangible items (including software)? The current formulation is not clear and divergent opinions exist as to the definition of software (is it a product or a service?)
Defect	Notion of the defect as central element of liability determination	The current formulation of a defect in the PLD is closely related to the concept of safety. It is not clear what would be the safety expectations, for example, in relation to cybersecurity and AI. The concepts of defect and safety, as well as notions of reasonable and expected use, might need thorough revision if software is to be included explicitly within the scope of the PLD
Damage and burden of proof	Type of damages covered	The type of damages covered is not harmonised. The scope of pure economic loss and non-material damage are highly contested. It might be excessively difficult and prohibitively costly for a consumer to prove a defect exists, especially, for complex technological applications. Therefore the burden of proof concept might need to be addressed to ensure balanced distribution of a burden between the parties.
Producer	Scope of liable persons	Who should be a liable person for the purposes of the PLD? What should be the role of the different economic operators in the value chain? Specific producer? Software designer? To what extent should a producer be liable, for example, for third party software or applications installed in the product? Should joint liability of all actors involved be applied?
Exemptions and defences	Time limitation and exemptions that limit liability of the producer	10-year rules for the expiry of claims might be problematic. Moreover 'the development risk defence' might need to be clarified.

Source: Prepared by the author, based on the work of and contributions to the European Commission expert group on 'Liability of New Technologies – Product Liability formation'.

<sup>24</sup> Article 7 PLD.

<sup>25</sup> See for instance the report from the Commission to the European Parliament, the Council and the European Economic and Social Committee on the [Application of the Council Directive on the approximation of the laws, regulations, and administrative provisions of the Member States concerning liability for defective products \(85/374/EEC\)](#) (SWD(2018) 157 final) – (SWD(2018) 158 final).

<sup>26</sup> See for instance the report from the Commission to the European Parliament, the Council and the European Economic and Social Committee, [Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics](#), COM(2020) 64 final.

<sup>27</sup> For the discussions on the shortcomings of the PLD, see for example the recent analysis: [Artificial Intelligence and Civil Liability](#), Policy Department for Citizens' Rights and Constitutional Affairs, DG IPOL, PE 621.926, July 2020.

## 3.2. Gaps and barriers in the current EU framework

The Product Liability Directive is the central piece of EU legislation providing EU consumers with a significant additional level of protection in relation to defective products. This protection, alongside national liability systems, is important but limited. The main limitations of the PLD in relation to its application to new technologies include the following:

First, the scope of the PLD, and specifically the definition of a product and a producer: there is legally unsettled and divergent national interpretation of whether software is a product and thus covered by the PLD or not. Given complex value and production chains, the concept of producer within the PLD needs clarification. Should only the final producer be liable, or should all the actors involved in the production and distribution chain share joint responsibility?

Second, the concepts of defect, damage and burden of proof: application of the PLD suggests that the determination of what is a defect is already a challenging task. In the PLD, determination of defect is linked to the level of safety that consumers are entitled to expect. With AI it would become increasingly difficult for consumers and courts to establish the expected level of safety. Neither is the relationship between cybersecurity and the concept of a defect clearly defined. Pure economic loss and damage to personal data or privacy is not explicitly covered by the PLD. Some Member States, such as France for example, allow for the recovery of both economic damages and pure economic loss, while other Member States do not. Pure economic loss and damage to personal data or privacy are likely to play a more important role in liability cases related to AI in the future.

Finally, the PLD provides for a number of exceptions in which producers can limit their liability: one of the exceptions available is the development risk clause. Under this provision the producer may argue that at the time when they put the product into circulation the state of scientific and technical knowledge was not such as to enable the discovery of a defect. Given the technologically complex nature of AI, this clause may be used increasingly to limit producer liability under the PLD.

## 3.3. Conclusion: The PLD covers damage caused by defective products, but whether its scope covers AI is unclear

In conclusion, the application of current EU secondary law on liability to AI would likely be insufficient and likely provide an insufficient level of protection, in relation both to the areas already covered by EU law (i.e. defective products) and even more so to new risks not covered by EU law that are particularly relevant in relation to AI.

## 4. Liability – How is it regulated? Regulation of liability in national law and its possible application to AI

The EU's Product Liability Directive provides an important layer of protection for EU consumers but it is limited as it only covers damages resulting from defective products. A considerable portion of the overall liability protection framework is still based on national non-harmonised regimes. Any analysis of the EU liability framework, must necessarily, therefore, be complemented by a review of national liability regimes.

National rules on liability are a complex net of statutory law and practice that emerged from the legal traditions, culture and values embedded in the specific national jurisdiction. National rules are often further developed through a large body of case law. Annexes I and II provide a concise, comparative overview of the main elements of the liability provisions in 19 EU Member States.<sup>28</sup> Annex I reviews national provisions on fault-based and strict liability and Annex II focuses specifically on the issue of damages.<sup>29</sup>

In the context of the current policy debates on the civil liability regime for AI, discussion and comparative analysis of national law is necessary for three main reasons. First, the analysis of national rules helps to assess whether and to what extent existing national laws, if not adapted, will be able to adjust effectively to the challenges of new technologies. Second, the comparative legal analysis also contributes to a better understanding of existing similarities and differences among Member States and, in turn, helps to assess to what extent the existing differences may potentially lead to legal uncertainty and fragmentation and thus negatively impact producers and other businesses in the supply chain. Finally, comparative analysis of national law, also provides an interesting regulatory test bed for possible public policy solutions, for example, for the definition and classification of certain things and activities as 'dangerous' and thus requiring a special liability regime. National law provides a wealth of information that can be used as a basis for the discussion and search for the common EU approach.

This chapter builds on this comparative legal analysis of national law, providing only brief guidance on the complexities of the national liability systems.<sup>30</sup> First, by way of introduction, it introduces the concepts of contractual and non-contractual liability, fault-based and strict liability and damages. Second, the chapter focuses on a comparative analysis of one element of national liability regimes: provisions on strict liability.<sup>31</sup> The comparative analysis on fault-based liability and damages is very important, and provided in the annexes, but are not covered in this chapter owing to space limitations.

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<sup>28</sup> A complete overview of national rules on liability is not feasible in a publication of this size.

<sup>29</sup> For the complete set of questions comparatively analysed in Annex I and Annex II, please see the respective Annexes at the end of this publication.

<sup>30</sup> The main comparative legal analysis of national legislative provisions on liability is provided in Annexes I and II.

<sup>31</sup> More specifically, the chapter analyses the material scope of national provisions on strict liability. This includes the definitions and the material scope of the relevant provisions. The personal scope, i.e. the discussion on the liable persons covered by national provisions and conditions for their liability, are not discussed in this chapter. Provisions on the personal scope of liability provisions are covered in Annex I.

## 4.1. National liability frameworks: General remarks

### 4.1.1. Contractual and non-contractual liability

Generally, in civil law, damages can be recovered based on two broad categories of obligations: contractual and non-contractual (or extra-contractual).<sup>32</sup> A contract concluded among parties can therefore stipulate the distribution of specific obligations, risks and damages. Accordingly, contractual liability and recovery of damages are based on the terms of contract and applicable jurisdictional clauses.

However, not all obligations and risks are necessarily covered by a contract.<sup>33</sup> Therefore, a person can also be responsible for damages caused to a third party by actions that are not covered by any contractual provisions agreed between the parties. Jansen defines non-contractual obligations as 'obligations that are not based on voluntary transactions but rather protect citizens against unwanted infringements of their legally protected status quo: the body's and personality's integrity, property rights and other comparable interests'.<sup>34</sup> Breach of certain non-contractual obligations, defined by law, can also lead to the responsibility of a person to compensate for damage caused to a third party. The substantive scope of non-contractual liability and conditions that need to be established by a person claiming the damage are defined by law.

Non-contractual liability can be divided broadly into two categories: fault-based and non-fault based (strict) liability. As the definition suggests, fault-based liability requires the establishment of a fault of a party, damage, and a causal link between fault and damage. Strict liability, however, does not require any specific fault, and to recover a damage the affected party often has just to establish the fact of damage caused by a breach of an obligation. Again the scope of non-contractual obligations that are covered by a fault-based or strict liability regime is defined by national law and depends on the specific jurisdiction.

In certain areas, for example, regulating the use of personal motor vehicles, a law can stipulate compulsory insurance, to cover potential damages caused to a third party. In this sense, compulsory insurance and an accompanying insurance fund, serve as a safety net to ensure that in certain situations covered by law damage caused to a third party by a motor vehicle would be recoverable.

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<sup>32</sup> For a comparative introduction to European tort law, see for example: C. van Dam, *European Tort Law*, 2nd edition, Oxford University Press, 2018; see also E. Karner, K. Oliphant and B. C Steininger (eds.), *European Tort Law. Basic Texts*, 2nd edition, Jan Sramek Verlag, 2018.

<sup>33</sup> C. Bar and U. von Drobnig explain the difference between contractual law and non-contractual liability as follows: 'The purpose of the law of tort consists in protecting basic human rights at the level of private law, that is to say horizontally between citizens inter se, with the legal remedies placed at their mutual availability. From its content, tort law forms the second auxiliary pillar (next to contract law) on which the so-called law of obligations is based. Contract law is the basis for the increase of a party's patrimony by receipt of money, goods or services, whereas tort law protects persons and the preservation of their patrimony. Both of these fields of law would be senseless without the other'. C. Bar and U. von Drobnig, *The Interaction of Contract Law and Tort and Property Law in Europe: A Comparative Study*, 2004, p. 25.

<sup>34</sup> N. Jansen, 'The Concept of Non-Contractual Obligations: Rethinking the Divisions of Tort, Unjustified Enrichment, and Contract Law', *Journal of European Tort Law*, 2010.

### 4.1.2. Fault based and strict liability

Fault-based liability is a general and standard framework for recovery of damages in all European jurisdictions.<sup>35</sup> The basic presumption is that a person is required to compensate for losses caused by his or her fault or negligence. Accordingly, commonly, as a general rule, fault-based liability requires establishment of a fault, damage and a causal link between fault and damage. The burden of proof is, as a general rule, on the claimant.<sup>36</sup>

In certain limited cases, national legal systems provide for strict or no-fault liability rules. In the situations that fall under strict liability rules, a person who has suffered damage does not have to prove a fault (or defect) or a causal link between the fault and the damage. The existence of the damage is sufficient. In the situations covered by strict liability rules, a person to whom strict liability rules attribute a risk – is liable for a damage caused. Strict liability rules, place significant responsibility on a person subject to liability rules and substantially simplify the recovery of damages for a victim. Therefore, national law provides for a limited and carefully designed set of situations that trigger strict liability. Usually, as discussed in more detail below, conditions subject to strict liability cover situations of a significant danger or increased public risk, or responsibility for acts of minors, employees or persons with limited capacities, or acts of animals.

### 4.1.3. Damages

Damages are remedies for material or non-material harm to a legally protected right. The type of recoverable damages and scope of the compensation depends on the type of the liability claim and a specific jurisdiction.<sup>37</sup> Broadly speaking, damages can be compensatory (compensating for actual harm to health or property) and punitive (mainly aimed at preventing and deterring risky behaviour in the future). Compensatory damages are further categorised into damages that cover economic loss (pecuniary damages) and non-economic (non-pecuniary) loss. Furthermore, in discussion of economic loss, a distinction is made between so called 'pure economic loss' and 'consequential economic loss'. The concept of 'pure economic loss' is one of the most contested legal concepts and various Member States define it differently.<sup>38</sup> On a very high level of generalisation, the concept of 'pure economic loss' refers to compensation for losses that are not directly linked to physical injury or property damage. National approaches to the recovery of material damages for economic loss and law practice on compensation for non-material damages is divergent and discussed in more detail in Annex II.<sup>39</sup> The procedural rules for determination of compensation are subject to national law and practice.

## 4.2. National general rules on strict liability: Comparative analysis

In the current EU debate on the civil liability regime for artificial intelligence, one of the key points of discussion relates to the choice of approach for AI based systems. There is an emerging consensus that the future EU approach to civil liability for AI should be based on a mix of fault-based and strict

<sup>35</sup> A more nuanced discussion of national liability frameworks also requires discussion of concepts of 'negligence' and 'contributory negligence', but this is beyond the scope of this short overview, which focuses solely on the main concepts and principles with a view to helping the reader to understand the main points of discussion, rather than provide an exhaustive legal presentation on European tort law.

<sup>36</sup> Annex 1 provides a detailed analysis of national rules on fault-based liability, including national law and case law on the establishment of fault, damage, causal links, burden of proof and types of damages recoverable.

<sup>37</sup> The discussion on the type of harm that should be subject to compensation and the conditions for recovering losses suffered is a very complex legal subject, an adequate overview of which cannot be given in this short paragraph.

<sup>38</sup> For a discussion and explanation of the differences between Member States see for instance C. Bar and U. von Drobnig, *The Interaction of Contract Law and Tort and Property Law in Europe: A Comparative Study*, 2004, pp. 28-31.

<sup>39</sup> See also, W.V.H. Rogers (ed.), *Damages for Non-Pecuniary Loss in a Comparative Perspective*, Springer, 2001.



liability provisions.<sup>40</sup> Fault-based liability is a general presumption in most European legal systems, while strict liability provisions are narrow set of exceptions. In order to contribute to the EU debate on the desirable mix of fault and strict liability for a future EU common approach on liability, this chapter focuses on the comparative analysis of national provisions on strict liability.<sup>41</sup>

The provisions on strict liability have been chosen for detailed analysis because these rules are exceptions to general fault-based liability and because the differences in the Member States' rules can have a significant impact on recoverability of a damage for a victim. In their analysis of the European tort systems, Christian Bar and Ulrich von Drobnig explain:

'the differences in the area of strict liability in the member states can be of almost dramatic importance to European citizens. One only has to think of everyday incidents such as traffic accidents. Due to the different levels of protection in the national tort law systems and the related regimes of third party liability insurance, it can be of crucial importance for the whole of the rest of the victim's life and those of his relatives, in both financial and personal respects, whether the accident took place one hundred meters in front of, or beyond a given (often not even manifest) national border'.

Moreover, the 2017 European Parliament resolution on civil law rules on robotics, states that a future EU legislative approach on liability should be based on detailed analysis 'determining whether the strict liability or the risk management approach should be applied'.<sup>42</sup> 'Strict liability' at least for AI applications with specific risk profiles, also seems to be under discussion in the current European Commission. The main aim of the comparative legal analysis that follows in this chapter is to help understand what are the defining features or qualities on the basis of which Member States determine what falls within the scope of the strict liability provisions. The underlying questions are whether and to what extent AI systems would fit into any of the existing categories of strict liability provisions.

The comparative legal analysis of national law in this chapter is organised along four main groups of strict liability provisions that are found in national laws. Those four groups are:

- 1 strict liability for 'things' (Chapter 3.2.1),
- 2 strict liability for 'dangerous' activities (Chapter 3.2.2),
- 3 strict liability for 'animals' (Chapter 3.2.3) and
- 4 vicarious liability (Chapter 3.2.4)

National legal provisions are analysed in terms of their substantive scope and, in particular, their openness to internalise possible new situations relating to claims for compensation of damages from AI systems. In each of the four categories analysed, Member States are classified into three groups. The first group, 'open', includes national systems that rely on broad principles, and thus may be considered most open to adjust to new situations. The second group, 'mixed', includes systems that include exhaustive lists of situations. The third group, 'narrow', covers systems that either do not provide at all for a specific group of strict liability provisions or define the strict liability very narrowly as applying to a very specific situation under very specific conditions.<sup>43</sup>

<sup>40</sup> See Chapter 2 above; note however that some authors argue that a risk-based approach would provide the best solution for the EU common approach, for a recent contribution see Artificial Intelligence and Civil Liability, Policy Department for Citizens' Rights and Constitutional Affairs, Directorate-General for Internal Policies, European Parliament, PE 621.926, 2020.

<sup>41</sup> This is clearly only one part of the debate, which needs to be supplemented, among other things with the discussions on the fault-based rules.

<sup>42</sup> Paragraph 53, [European Parliament 2017 resolution](#).

<sup>43</sup> Considering the complexity of the national rules, this classification is clearly a simplified representation of the reality and can be used as a broad guideline only. Also, to have a more nuanced understanding it is necessary to combine

### 4.2.1. Strict liability for 'things'

Most national jurisdictions provide for strict liability for 'things'. This provision in national law covers situations where damage is caused by a specific 'thing'. National laws and practices differ in relation what constitutes a thing. Some jurisdictions explicitly cover only tangible things while other also include intangible things. Member States also take different approaches on whether or not a thing must necessarily be 'dangerous' by nature to trigger strict liability.<sup>44</sup>

The analysis suggests that reviewed Member States can generally be grouped into three main groups.<sup>45</sup> The first is the 'open' group. This group of Member States include in their national legislation an open, general clause related to strict liability for 'things', which are not limited only to defective products. This general clause may be further supplemented by other provisions related to specific things, i.e. buildings. Within this group of Member States, France and Romania include intangible things alongside tangible things within the scope of the strict liability provisions.

Table 2 – Strict liability for damage caused by things: Open national systems<sup>46</sup>

		ODT	NT	GL	SC
Croatia	Article 1045(3) of the Civil Obligations Act (COA) provides for strict liability for damage resulting from things representing an enhanced source of danger to the environment. The Supreme Court offered a 'definition' of a dangerous thing in its decision Rev 190/2007-2 of 27 March 2007, saying that dangerous things are those which by their purpose, properties, position, location, method of use or otherwise constitute <b>an increased risk of damage</b> to the environment and must therefore be monitored and used with greater care. The practice of the courts has so far dealt with 'traditional dangers' and has defined dangerous things as those that are dangerous by nature ( <b>weapons, explosives, motor vehicles</b> , etc.) and those that are not usually considered to be dangerous but that can become dangerous in particular circumstances ( <b>animals, faulty constructions</b> , etc.)	Yes	No <sup>47</sup>	Yes	Yes
Estonia	The Law of Obligations Act (LOA) includes specific provisions on risk-based liability for damage caused by things or activities that are a major source of danger (paras. 1056 to 1060). The LOA refers specifically in Article 1058 to the liability of an owner of a <b>dangerous construction</b> or thing.	Yes	No <sup>48</sup>	Yes	Yes

this evaluation of strict liability provisions with the provisions on the contractual liability and fault-based rules, as more 'narrow' systems may provide alternative interpretative mechanisms for compensation of damages.

<sup>44</sup> Annex I provides a detailed comparative analysis of national provisions, the table below provides a short overview.

<sup>45</sup> Belgium is not included in any group. Article 1384(1) of the Civil Code imposes strict liability for damage caused by a defective thing. No other specific provisions for other 'things' are provided. Thus, although Belgium includes a general clause as do Group 1 Member States, it limits this general clause to defective products as do Member States in Group 3. Group 2 includes Member States that do not include a general clause but cover things that are also non-defective, therefore Belgium also does not 'fit' in this group.

<sup>46</sup> ODT – national provisions also cover 'things' other than defective things; NT – national law also covers intangible things; GL – national law includes a general clause related to strict liability for things; SC – national law includes specific clauses, for specific types of things.

<sup>47</sup> Not specifically provided.

<sup>48</sup> Not specifically provided. However, some non-tangible 'things' may be covered by 'dangerous activities'.



France	Article 1242, first paragraph, of the French Civil Code provides that 'We are responsible not only for the damage caused by our own act, but also for that which is caused by the act of persons for whom we are responsible, <b>or of things that are in our custody</b> '. Things that are subject to a special status (animals, Article 1243 CC; buildings in ruins, Article 1244 CC; defective products, Article 1245 and following CC) and motorised land vehicles ( <a href="#">Badinter Law</a> ) do not fall within the scope of Article 1242, first paragraph, CC. The principle of strict liability of the keeper for damage caused by things that are in his or her custody is very general. It includes moving and non-moving things and movable and immovable property, whether or not dangerous, whether or not defective and whether or not operated by a person. <sup>49</sup>	Yes	Yes <sup>50</sup>	Yes	Yes
Netherlands	Article 6:173 of the Dutch Civil Code governs liability for movable things: 'The holder of a movable thing, of which is known that it causes great danger for people and property when it does not meet the standards which in the circumstances may be set for such equipment, is liable in the event that the potential danger is realised, unless the holder would not have been liable under the previous Section had he or she known of the danger at the time it occurred'.	Yes	No	Yes	No
Romania	Liability for things is one of three examples of liability of the custodian (of animals, things or buildings) and is set out in Article 1376 together with Article 1377 of the New Civil Code. Article 1376 NCC provides that 'Anyone is obliged to repair, irrespective of any fault, the damage caused by the thing under their guard; this Article applies also in case of car collisions or other similar cases'.	Yes	Yes <sup>51</sup>	Yes	Yes <sup>52</sup>

Source: Author, based on Annex I.

This group of Member States seems to be most open to cover and apply strict liability for 'things' beyond specific cases explicitly mentioned in the law. This could be relevant, for example, in future cases related to damages caused for example, by software, an algorithm, or any other element or application of AI systems. Some national experts have pointed out that provisions relating to 'things' and 'activities' (discussed below) may be complementary. In some situations, for example related to

<sup>49</sup> [Cour de Cassation \(Cass.\), Joined Chambers, 13 February 1930, Jand'heur](#). The case law draws a distinction between custody of the structure and custody of the behaviour: depending on whether the damage is caused by the thing's behaviour or by its structure, liability can lie with the person who has custody either of the thing's behaviour (the user) or of the thing's structure (the owner, the manufacturer or even the professional seller or renter).

<sup>50</sup> The question whether intangible things are covered by Article 1242, first paragraph, CC is discussed at length in legal literature. The provision is very general and does not distinguish between tangible and intangible things. The case law has applied the provision to matter such as liquids, fumes, or smoke (Cass., 2nd civ., 26 June 1953 (liquid), [Cass., 2nd civ., 10 February 1967, No 66](#) (industrial fumes); [Cass., 2nd civ., 11 June 1975, No 73-12.112](#) (smoke from the chimney of a heating system)). Damage caused by intangible things such as artificial intelligence does not seem to be excluded *per se*. However, in the [Draft revision of civil liability](#) and in the [Report on the reform of French civil liability law and economic relations of the Paris Court of Appeal working group](#), this liability principle is expressly limited to tangible things (*choses corporelles*) (Article 1243, first paragraph, of the Draft revision of civil liability provides that 'We are strictly liable for the damage caused by the acts of tangible things that are in our custody').

<sup>51</sup> Not specifically provided in law or case law.

<sup>52</sup> Liability for buildings, as a specific type of thing, is governed by Article 1378 of the New Civil Code.

software, it may be a matter of interpretation whether it should fall under the scope of 'things' or 'activities'.

The second group of Member States is 'mixed', i.e. 'specific but not only defective'. This group of Member States does not include general provisions related to strict liability for 'things' like Group 1. However, they include specific provisions related to damage from specific things, such as buildings, and those specific provisions are not limited to defective things.

Table 3 – Strict liability for damage caused by things: Mixed national systems<sup>53</sup>

		ODT	NT	GL	SC
Bulgaria	Article 50 LOC + Supreme Court case law this type of liability is for damage caused by the objectively inherent properties or defects of a thing.	Yes	No	Yes	No
Czech Republic	Section 2936 of the Civil Code provides that 'The person who is obliged to provide a performance to someone and, in doing so, uses a defective thing shall provide compensation for the damage caused by the defect of the thing. This also applies in the case of the provision of health care, social, veterinary and other biological services'. Section 2938 specifically mentions a <b>collapsing building</b> resulting from a defect or lack of maintenance, as a separate category of a dangerous 'thing' triggering strict liability.	Yes	Yes	No	Yes
Germany	As regards liability for 'things', German civil law does not distinguish between damage arising as a result of the use of a tangible or intangible thing or directly by the person. A number of special acts provide for strict liability for dangerous activities. However, the liability of the owner of a plot of land pursuant to <a href="#">Section 836</a> of the Civil Code arises from a presumption of fault. It provides that if the <b>collapse of a building or other structure attached to land, or the breaking off of parts of the building or structure</b> , causes death or personal injury or damage to a person's health or property, then the possessor of the land (the owner-occupier) is liable for the damage to the injured person to the extent that the incident was a consequence of the defective construction or inadequate upkeep of the building. <sup>54</sup>	Yes	Yes	No	Yes

<sup>53</sup> ODT – national provisions cover also other 'things' than defective things; NT – national law also covers intangible things; GL – national law includes general clause related to strict liability for things; SC – national law includes specific clauses, for specific types of things.

<sup>54</sup> In a recent judgment (Judgment of 9.2.2018, [Az. V ZR 311/16](#)), the Federal Court of Justice (*Bundesgerichtshof*) introduced non-fault based liability not provided for in the Civil Code for owners of buildings by analogy with [Section 906](#) BGB (escape of imponderable (risky) substances) in a case in which a fire caused by works on the roof of one building damaged the neighbouring property.

Hungary	The <a href="#">Hungarian Civil Code</a> (CC) does not provide for a general strict (objective) liability regime for things, but it does provide for fault-based liability for damage caused by <b>defective buildings and for damage caused by things thrown, dropped or spilled</b> .	Yes	No	No	Yes
Italy	The Italian Civil Code (CC) only provides for a few cases of strict liability for things, through a reversal of the burden of proof: liability for damage caused by things in a person's custody, subject to a defence of <i>force majeure</i> (Article 2051); liability for damage caused by the <b>total or partial collapse of a building</b> (Article 2053).	Yes	No <sup>55</sup>	No	Yes
Slovenia	In the Slovenian <a href="#">Obligations Code</a> (OZ) there is no general provision on strict liability for things except for dangerous things. Article 131(2) OZ refers to damage resulting from things or activities representing a major source of danger for the environment. Moreover, the OZ includes special provisions related to strict liability for the holder of a <b>building</b> (Article 159 OZ) and liability for <b>demolition of structures</b> (Article 160 OZ).	Yes	No	No	Yes
Spain	In the Spanish <a href="#">Civil Code</a> there is no general provision on 'strict liability for things'. <sup>56</sup> However Articles 1905 to 1910 CC provide for strict liability with regard to certain things (such as when a building collapses, a tree falls, a thing is thrown or falls, or a machine explodes). Some authors consider certain activities referred to in Article 1908 CC to be dangerous activities (e.g., <b>the explosion of machines, the combustion of explosive substances, the escape of excessive fumes or spillage</b> ), in particular when due to industrial activities. According to Article 1907 CC, the owner of a <b>building</b> is liable for damage resulting from the <b>collapse of all or part thereof</b> , if such a collapse results from a lack of necessary repairs.	Yes	No	No	Yes

Source: Author, based on Annex I.

The third group includes systems that rely on narrow provisions only covering specific and defective things. This group of Member States provides for strict liability of things only in specific cases and only if a thing is defective. This group seems to be the most restrictive in terms of the scope of a situation that may fall under the strict liability of things. National law provides for strict liability only

<sup>55</sup> Italian legal doctrine provides for a distinction between tangible things (*res corporales*) and intangible things (*res incorporales*). Property or assets are things that can be the subject of rights ([Article 810 CC](#)). This concept of property – whether movable or immovable property –, albeit nominally related to the concept of 'things', has evolved so as to cover intangible things, such as intellectual property. With regard to liability for things in a person's custody ([Article 2051 CC](#)), an essential condition is that the person liable must be in possession of the thing. Because of this condition, the provision does not cover intangible things, since they are not susceptible to being physically possessed.

<sup>56</sup> Academic literature mentions Articles 1905 to 1910 CC as covering a number of events that give rise to strict liability (*responsabilidad objetiva*) regardless of fault, or to a so-called 'quasi-strict liability' (*responsabilidad cuasi-objetiva*), since a number of cases of exemption from liability are provided for.

in specific cases (similar to Group 2) but only if the thing is defective, therefore, strongly reducing the scope and excluding causes other than defect.

Table 4 – Strict liability for a damage caused by things: Narrow national systems<sup>57</sup>

		ODT	NT	GL	SC
Greece	There is no general provision on liability for damage caused by things in the Greek Civil Code (CC). However, Article 925 (CC) introduces strict liability for the owner or occupier (person in possession) of a <b>building or other construction that might collapse</b> , unless they can prove that it was kept in good condition.	No	No	No	Yes
Lithuania	Lithuanian law does not contain a general provision on the strict liability for things, Article 6.266 of the Lithuanian Civil Code (CC) provides for the strict liability of the owner or custodian for damage caused by the <b>collapse or other defects of buildings, constructions, installations and other structures</b> , save in the case of force majeure or contributory fault or gross negligence on the part of the victim.	No	No	No	Yes
Malta	There is no general provision on strict liability for things but there are examples of such liability in Chapter 16 (Civil Code) of the Laws of Malta. For example, Article 1041 CC provides that the owner of a building is liable for any harm caused by its collapse if it is due to <b>defects in construction</b> or the need for repairs and the owner knew or should have known of those defects or that need for repairs.	No	No	No	Yes
Portugal	There is no strict liability for 'things' in Portuguese law. In the case of damage caused by buildings or by things, there is fault-based liability. Article 492 Portuguese Civil Code imposes liability on the owner or on the tenant of a <b>building or another facility if it collapses</b> and causes damage because of a construction or maintenance defect. Article 493(1) imposes liability on the person having in its possession a movable or immovable 'thing', with a duty to monitor it, unless that person is able to prove that there is no fault on his or her part and that it was not possible to avoid the damage.	No	Yes	No	Yes
Sweden	There is not generally strict liability for 'things'.	No	No	No	Yes

Source: Author, based on Annex I

In conclusion, national law and practice provide a very colourful picture of various approaches. Applying the classification discussed in the beginning of this chapter – Croatia, Estonia, France,

<sup>57</sup> ODT – national provisions cover also other 'things' than defective things; NT – national law also covers intangible things; GL – national law includes general clause related to strict liability for things; SC – national law includes specific clauses, for the specific types of things.

Netherlands and Romania are systems that rely on broad principles related to the application of strict liability for things. Bulgaria, Czech Republic, Germany, Italy, Slovenia and Spain include mixed provisions that can thus be classified as systems that rely on the list that however applies to all types of things. The third group, Greece, Lithuania, Malta, Portugal and Sweden, belong to narrow systems that either do not include any specific provisions or rely on a narrow list that applies only to defective things.

#### 4.2.2. Dangerous activities

The second type of special liability clauses in national systems that deviate from general fault-based liability rules are national provisions related to the dangerous activities. Here again Member States provide a very broad spectrum of approaches. The comparative analysis proceeds on the basis of the same classification as above related to 'things'.

Applying the same typology, the first group includes open systems that include a general provision that in principle could potentially cover any activity that according to national law and practice could be categorised as dangerous. The determination of what constitutes a dangerous activity is often for the national courts to define. This group of Member States is potentially the most flexible, when it comes to integrating dangerous activities related to AI systems, for example.

Table 5 – Strict liability for damage caused by dangerous activities: Open systems

Member State	Relevant national provision(s)
Croatia	Strict liability is provided for in Article 1045(3) of the Civil Obligations Act (COA) 'Where damage results from things or activities representing an <b>enhanced source of danger to the environment</b> , liability shall be imposed regardless of fault'. The COA does not define a dangerous activity, nor does it provide examples. The determination of what is 'dangerous' is left to the courts on a case-by-case basis. Dangerous activities have in practice come to be seen as activities by which, in the ordinary course of events, by their technical nature and manner of performance, the life and health of persons or property may be endangered, and that endangerment requires a higher duty of care by the persons engaged in such activities and persons in contact with them. The practice of the courts has so far dealt with 'traditional dangers' and has defined as <b>dangerous activities those such as hunting, diving, fireworks, wood cutting, etc.</b>
Czech Republic	Section 2925 of the Czech Civil Code (CC) provides for strict liability for damage caused by particularly hazardous activities. The provision further explains that an activity is considered to be particularly hazardous if the possibility of serious damage cannot be reasonably excluded in advance even by exercising due care. The view of academia is that since some AI applications are able to reach a certain degree of autonomy and make their own decisions, their operation can be considered to be hazardous.
Estonia	Dangerous activities are explicitly covered by strict liability (para. 1056 of the Estonian Law of Obligations Act (LOA). To date, there is no case-law on strict liability for software or AI. Article 1056 (2) provides that 'a thing or an activity is deemed to be a major source of danger if, due to its nature or the substances or means employed in connection with the thing or activity, major or frequent damage may arise therefrom even if it is handled or performed with due diligence by a specialist. If liability for causing damage by means of a source of danger is prescribed by law, any thing or activity similar to such source of danger is also deemed to be a source of danger, regardless of whether the person who manages the source of danger is culpable'.
Hungary	<a href="#">Sections 6:535 to 6:539 of the Hungarian Civil Code (CC)</a> provide for a general strict (objective) liability regime (liability for hazardous activities), which covers liability for 'things', such as machinery and equipment. That general strict (objective) liability regime does not cover software or AI explicitly and there are no definitions in Hungarian law of hazardous activities or artificial intelligence. According to existing case-law an activity is

	hazardous where a relatively minor disorder occurring during <b>an activity could create a situation threatening to cause serious injury, such as a life-threatening injury, injury causing a permanent disability, a permanent deterioration of health or substantial damage to property, or where even a minor fault – minor negligence – by the person carrying out the activity could create such a situation, risking serious injury</b> (judgment: BDT 2012.2661). According to the <a href="#">case law</a> a person is not exempt from liability for reason of an irregularity that is due to an unidentifiable reason where such an irregularity occurred within the hazardous activity itself. Such a reason could be the faulty, irregular operation of the software of the AI where it causes extra-contractual damage.
Italy	<a href="#">Article 2050</a> of the Italian <a href="#">Civil Code</a> (CC) provides that anyone causing damage to others while carrying out a dangerous activity (whether it be dangerous <i>per se</i> or due to the means utilised) shall pay compensation, unless he or she proves that he or she adopted all suitable precautions in order to avoid the damage (reversal of burden of proof). The Italian Supreme Court of Cassation has deemed certain activities to be dangerous <i>per se</i> (only relevant examples follow): <b>pharmaceutical manufacturing</b> ; <sup>58</sup> <b>tree felling</b> ; <sup>59</sup> <b>use of nuclear power</b> ; <sup>60</sup> <b>loading and unloading of goods with hoists, cranes and freight elevators</b> ; <sup>61</sup> <b>sawmills</b> . <sup>62</sup>
Lithuania	Article 6.270 of the Lithuanian Civil Code (CC) provides for the liability applicable to damage caused by hazardous activities. The person whose activity is hazardous (by <b>means of means, mechanisms, electricity and atomic energy, explosives and toxic substances, construction, etc.</b> ), is liable for the damage caused by the hazardous activity.
Portugal <sup>63</sup>	Article 493(2) of the Portuguese <a href="#">Civil Code</a> (CC) subjects dangerous activities to fault-based liability with a presumption of fault. Article 493(2) CC provides that: 'persons who cause damage to others while executing an <b>activity that is dangerous by its very nature, or by the nature of the means used</b> , are obliged to compensate them, unless they present evidence that they have taken all the measures required by the circumstances to prevent the damage'. The <a href="#">relevant case law</a> confirms that dangerous activities are subject to fault-based liability.
Slovenia	According to Slovenian case law, a dangerous activity is an activity that poses an increased risk to life and health. Crucially, it is an activity that, even with increased care, involves risks that cannot be contained or controlled by a human person (such activities include: <b>tree felling, woodworking with a saw, combat training, work at height, driving with a vehicle and paragliding</b> ).

Source: Author, based on Annex I.

The second group, includes national systems that do not include general provisions and limit provisions related to dangerous activities to specific cases only. Those specific cases are very diverse and include for example natural risks caused by water, soil and air pollution (Bulgaria, France, Romania); technological risks (France, Germany, Romania) or hazardous products (France, Spain).

<sup>58</sup> Supreme Court of Cassation, Judgment No 8069, 20 July 1993.

<sup>59</sup> Supreme Court of Cassation, Judgment No 1188, 21 April 1954.

<sup>60</sup> Regulated by Law no 1860/1962, as well as by Presidential Decree No 519/1975 and Ministerial Decree No 20/03/1979.

<sup>61</sup> Supreme Court of Cassation, Judgment No 103, 19 January 1965.

<sup>62</sup> Supreme Court of Cassation, Judgment No 3691, 12 November 1969.

<sup>63</sup> Portugal is an outlier in this group. Although national law includes an open clause, it does not provide for strict liability, but rather, fault-based liability.



Table 6 – Strict liability for damage caused by dangerous activities: Mixed systems

Bulgaria	The <a href="#">Law on the protection of agricultural property</a> (Article 29) provides for strict liability for <b>damage caused by water, soil and air pollution</b> , presenting a danger to farm animals, birds and crops. The fault of the tortfeasor is not relevant.
France	French law contains a number of special regimes related to dangerous activities, in particular related to <b>technological and natural risks</b> . <sup>64</sup> Technological disaster is defined as a (non-nuclear) accident occurring either in a classified installation (i.e. installations subject to declaration or authorisation and Seveso sites), or in an underground storage of <b>hazardous products</b> , or during the transport of hazardous materials and causing damage to a large number of properties. The <a href="#">Draft revision of civil liability</a> does not introduce liability for (abnormally) dangerous activities in general. This choice can be explained by the fact that the general principle of liability for damage caused by things is maintained in the French Civil Code.
Germany	Strict liability is regulated in special legislation on dangerous activities, such as the <b>operation of air traffic, rail traffic, nuclear power and energy plants</b> . While such dangerous activities may, in future, be operated by AI, they are not in themselves specifically related to AI.
Romania	There is no general strict liability for dangerous activities, apart from <a href="#">Article 1996</a> of the New Civil Code, which states that 'The sender that has dangerous goods shipped without having previously informed thereof the carrier, shall have to compensate the latter for any damage caused by the dangerous nature of the ship'. There are, however, some provisions in specific legislation. For example, Article 4(1) of <a href="#">Law No 703 of 3 December 2001 on liability for nuclear damage</a> as well as Article 95(1) and (2) of <a href="#">Government Emergency Ordinance No 195 of 22 December 2005 on the protection of the environment</a> .
Spain	In the Spanish <a href="#">Civil Code</a> (CC) there is no general provision on strict liability for dangerous activities, but some authors consider certain activities referred to in Article 1908 CC to be dangerous activities (e.g. <b>the explosion of machines, the combustion of explosive substances and the escape of excessive fumes or spillage</b> ), in particular when due to industrial activities. Article 1906 CC provides for strict liability for hunting and is a well-established example of a dangerous activity. <sup>65</sup>

Source: Author, based on Annex I.

The third and final group covers systems that provide no, or only very narrowly defined, provisions, regulated in specific legislative acts, related to liability for dangerous activities. Thus, for example, while there is no general provision in relation to strict liability for dangerous activities in the Greek Civil Code, the Code on Aviation Law provides for the air carrier's strict liability. Similarly, in Malta, specific liability rules apply to explosives and fireworks.

<sup>64</sup> [Law No 2003-699 of 30 July 2003 concerning the prevention of technological and natural risks and compensation for damage](#), which inserts provisions concerning compensation for damage in the Insurance Code in a new chapter entitled 'Technological Disaster Risk Insurance' (Articles L 128-1 to 128-4 of the Insurance Code (Legislation), and [Decree No 2005-1466 of 28 November 2005 on compensation for victims of technological disasters and amending the Insurance Code](#) (Articles R 128-1 to R 128-4 of the Insurance Code).

<sup>65</sup> Liability for damage caused by hunting is specifically regulated by the Law on hunting ([Ley 1/1970, de 4 de abril, de caza](#)), in particular by Article 33 thereof. The right to hunt is subject to obtaining a licence and to taking out mandatory insurance.

Table 7 – Strict liability for a damage caused by dangerous activities: Narrow systems

Member State	National provision(s)
Belgium	There is a proposal of 30 September 2017 for a general provision on strict liability of an operator ( <i>exploitant</i> ) of a specific and seriously dangerous activity (Articles 5.190-5.196 of the draft legislation). <sup>66</sup>
Greece	There is no general clause of liability linked to dangerous activities in Greek law. Nevertheless, specific legal acts may provide a strict liability regime for certain activities. One such example is <a href="#">Law No 1815/1988</a> (Code of Aviation Law), which, in Articles 106 to 121, provides for the air carrier's strict liability for death, personal injury or damage to property.
Malta	There is no general provision on strict liability for dangerous activities. However, some specific rules provided in the Explosive Ordinance <sup>67</sup> and Control of Fireworks and other Explosives Regulations. <sup>68</sup>
Netherlands	There are three regimes in regard of dangerous things: Article 6:173 of the Dutch <a href="#">Civil Code</a> (CC): liability for dangerous equipment; Article 6:174 CC: liability for dangerous constructed immovable things; and Article 6:175 CC: liability for dangerous substances. There is no specific provision related to dangerous activities, but utilising dangerous thing may lead to a dangerous activity.
Sweden	The general rule in the Swedish tort law is fault-based liability According to para. 1 of the Law concerning Responsibility for Damages from Air Traffic ( <a href="#">Lag (1922:382) angående ansvarighet för skada i följd av luftfart</a> ), the owners of aircraft and helicopters are strictly liable for damages to persons and property on the ground (not the passengers), <sup>69</sup> even if the owner did not cause the damage.

Source: Author, based on Annex I.

In conclusion, in line with the discussion on the application of strict liability regime to things, national provisions on dangerous activities are diverse. Applying the classification discussed at the beginning of this chapter, Croatia, Czech Republic, Estonia, Hungary, Italy, Lithuania, Portugal and Slovenia are systems that rely on broad principles related to the application of strict liability for dangerous activities. The second group, includes Bulgaria, France, Germany, Romania and Spain, systems that include provisions related to dangerous activities in their civil codes but limit them to very specific areas of application. The third group – Belgium, Greece, Malta, Netherlands and Sweden – belong to narrow systems that do not include any specific provisions in their civil codes and provide for strict liability for some narrowly defined dangerous activities through separate legislative acts.

#### 4.2.3. Strict liability for damage caused by animals

A third category covers systems that provide no or only very narrowly defined provisions, governed by specific legislative acts, relating to liability for dangerous activities. Thus, for example, while there is no general provision in relation to strict liability for dangerous activities in the Greek Civil Code,

<sup>66</sup> [Avant-projet de loi](#) portant insertion des dispositions relatives à la responsabilité extracontractuelle dans le nouveau Code civil).

<sup>67</sup> Article 43 of [Chapter 33](#) (Explosives Ordinance) of the Laws of Malta.

<sup>68</sup> Article 12 of the [Subsidiary Legislation 33.03](#) (Control of Fireworks and other Explosives Regulations, adopted pursuant to Chapter 33 LoM.

<sup>69</sup> Persson et. al. (2018) p. 261; NJA 1985 s. 561: The claimant developed a hearing problem after being too close to two fighter jets. The court of first instance concluded that the state (the owner of the fighter jets) was responsible for the damage.



the Code on Aviation Law provides for the air carrier's strict liability. Similarly, in Malta, specific liability rules apply to explosives and fireworks.

Table 8 – Strict Liability for damages caused by animals: Open systems<sup>70</sup>

		AA	DA
Belgium	Strict liability for damage caused by an animal. <sup>71</sup>	Yes	No
Bulgaria	Strict non-fault liability for damage caused by an animal. <sup>72</sup> It is not necessary for the animal to have any specific qualities or to be specifically dangerous in order for the owner or the custodian to be liable under Article 50 LOC. <sup>73</sup>	Yes	No
Croatia	Strict liability for damage caused by an animal. Animals can be considered to be dangerous things. <sup>74</sup> According to case law, wild animals kept by persons are usually considered to be dangerous things, whereas other animals may be considered to be dangerous things, depending on the circumstances.	Yes	No
Czech Republic	Strict liability for damage caused by an animal. <sup>75</sup>	Yes	No
France	Strict liability of the owner or user of an animal for damage caused by that animal. <sup>76</sup> In the <a href="#">Draft revision of civil liability</a> , strict liability for damage caused by animals is included in the liability regime for damage caused by things (Article 1243).	Yes	No
Greece	Article 924 of the Greek Civil Code provides that the owner of an animal is strictly liable for any damage caused by the animal. Where the damage is caused by a domestic animal used for the purpose of the owner's profession or to guard or help the owner and the owner exercised the normal level of duty of care, the owner can avoid liability.	Yes	No
Italy	<a href="#">Article 2052</a> of the Italian <a href="#">Civil Code</a> (CC) provides that the owner of an animal is strictly liable for any damage caused by the animal. <sup>77</sup>	Yes	No
Lithuania	Article 6.267 of the Lithuanian Civil Code (CC) together with Article 6.270(1) CC, provides that the owner or custodian of a domestic or wild animal is strictly liable for damage caused by the animal, even if it escaped.	Yes	No
Malta	Strict liability for animals is established in Article 1040 of <a href="#">Chapter 16</a> (Civil Code (CC)) of the Laws of Malta (LoM). The owner of an animal, or any person using an animal, is, while using the animal, liable for any damage caused by the animal, whether the animal was in that person's charge or had strayed or escaped. <sup>78</sup>	Yes	No

<sup>70</sup> AA – strict liability applies to all animals; DA – strict liability applies only to dangerous animals.

<sup>71</sup> [Article 1385 of the Belgian Civil Code](#).

<sup>72</sup> [Article 50 of the Law on Obligations and Contracts](#).

<sup>73</sup> [Supreme Court of Cassation, Decision No 249 of 24.09.2012](#).

<sup>74</sup> Article 1063 COA: 'Damage caused in relation to a dangerous thing or a dangerous activity shall be considered to result from that thing or activity, unless it is shown that the thing or activity did not cause the damage'.

<sup>75</sup> Sections 2933 to 2935 of the Czech Civil Code relate to damage caused by an animal.

<sup>76</sup> [Article 1243](#) of the French [Civil Code](#). Conditions are developed through case law ([Cass., 2nd civ., 15 April 2010, No 09-13.370](#); [Cass., 2nd civ., 9 January 1991, No 89-15.489](#)).

<sup>77</sup> [Article 2052](#) CC provides only for strict liability and does not refer to negligence or *culpa in vigilando*. This is well established in the case-law and in the legal doctrine. The following Supreme Court of Cassation, III Civil Section, judgments are relevant: No 7703, 16 April 2015; No 10402, 20 May 2016; No 17091, 28 July 2014; No 2414, 4 February 2014; No 1210, 23 January 2006; No 20, 9 January 2002.

<sup>78</sup> Article 6 of [Subsidiary legislation 439.19](#), (Owning and Keeping of Dangerous Animals Regulations), adopted pursuant to [Chapter 439](#) (Animal Welfare Act) LoM provides that 'A keeper of a dangerous animal in terms of these regulations

Netherlands	According to Article 6:179 of the Dutch <a href="#">Civil Code</a> : 'The keeper of an animal is liable for the damage caused by that animal, unless he or she would not have been liable under the previous Section had he or she been able to control the behaviour of the animal that caused the damage'.	Yes	No
Romania	Liability for damage caused by animals is one of three examples of strict liability of the person having the guard (or the keeper) of animals, things, buildings and is set out in Article 1375 together with Article 1377 of the Romanian <a href="#">New Civil Code</a> (NCC). Article 1375 NCC provides that 'The owner or the user of an animal is liable, independently of any fault, for the damage caused by the animal, even if it escaped and is no longer under his or her guard'.	Yes	No
Spain	Article 1905 of the Spanish <a href="#">Civil Code</a> (CC) provides that the keeper or person who avails himself of an animal, is strictly liable for any damage caused by the animal. There is a specific law on the keeping of potentially dangerous animals. <sup>79</sup> Potentially dangerous animals are defined as 'those that, belonging to wild fauna, being used as pets, or companion animals, regardless of their aggressiveness, belong to species or breeds that have the capacity to cause death or injury to people or other animals and damage to things.'	Yes	No

Source: Author, based on Annex I.

The second group of Member States covers national systems that apply strict liability only to specific types of dangerous animals or only as limited to a specific type of danger that is specific to an animal, as, for example, in Germany.

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shall be solely and fully responsible for the same animal and for any matter relating to the health and safety of the dangerous animal and the general public'.

<sup>79</sup> [Ley 50/1999](#), de 23 de diciembre, sobre el Régimen Jurídico de la Tenencia de Animales Potencialmente Peligrosos).

Table 9 – Strict Liability for damages caused by animals: Mixed systems<sup>80</sup>

		AA	DA
Germany	<a href="#">Section 833(1)</a> of the German <a href="#">Civil Code (BGB)</a> provides that the keeper of an animal (all sorts of animals, be they tame, wild, dangerous or not) is strictly liable. However, liability is limited to damage caused by the danger that is specific to an animal. Under <a href="#">Section 833(2)</a> BGB, where the animal is domesticated and held for the purpose of the keeper's profession, livelihood or income, the keeper is not liable if he or she exercised the necessary care in the supervision of the animal or if the damage would have occurred even if the keeper had done so (presumption of fault). Under <a href="#">Section 834</a> , the custodian of an animal can be made liable (presumption of fault).	Yes	Yes
Hungary	The <a href="#">Hungarian Civil Code (CC)</a> provides for liability for the keeping of animals. The keeper of an animal is liable for the damage caused by the animal, unless the keeper proves that he or she was not at fault in connection with keeping the animal (6:562 CC) (fault-based liability). Keepers of dangerous animals are liable in accordance with the rules on liability for hazardous operations (6:562 CC) (strict (objective) liability).	No	Yes
Portugal	Article 502 CC provides that a person who uses an animal for the purpose of his or her own interests is strictly liable for the damage caused by the animal, provided that the damage is the result of the special danger that involves the use of animals. Wild animals that live in their natural habitat do not fall within the scope of Articles 493(1) and 502 CC. <sup>81</sup>	Yes	Yes
Slovenia	Article 158 of the Slovenian <a href="#">Obligations Code (OZ)</a> provides that the holder of a dangerous animal is liable for damage inflicted and the holder of a domestic animal is liable for damage inflicted by that animal, unless it is shown that the holder exercised the necessary care and supervision. Liability for damage caused by dangerous animals is therefore strict (Article 131(2) OZ) while liability for damage caused by domestic animals is based on fault (Article 131(1) OZ). <sup>82</sup>	Yes	Yes

Source: Author, based on Annex I.

The third, a very small group, includes two national systems: Estonia and Sweden. Sweden provides for strict liability for dogs only. This strict liability is provided by specific law. Estonian law provides for strict liability for damage caused by animals that constitute a major source of danger.

<sup>80</sup> AA – strict liability applies to all animals; DA – strict liability applies only to dangerous animals

<sup>81</sup> According to the case-law, Article 502 CC establishing the strict liability of a user of animals and Article 493(1) providing for the fault-based liability of a keeper or custodian of a thing are not mutually exclusive. The “special danger” that involves the use of animals referred in Article 502 CC does not relate only to the animal species in question. “Special danger” includes the general risk of using animals, and of their nature of living beings acting on their own impulse. The limitation contained in the final part of Article 502 CC (“provided that the damage is the result of the special danger that involves the use of animals”), excludes cases in which the damage in question could have been caused either by the animals or by something else, where there is no connection with the specific danger of using animals.

<sup>82</sup> According to Slovenian case law, dangerous animals are those where normal control is not sufficient to ensure the adequate safety of people or property. Domestic animals can also be considered to be dangerous.

Table 10 – Strict liability for damages caused by animals: Narrow systems<sup>83</sup>

Sweden	There are no specific rules in Sweden that govern non-contractual liability for damage caused by animals other than cats and dogs. Paragraph 19 of the Law on Supervision of Cats and Dogs <sup>84</sup> provides that dog owners are strictly liable for damage caused by their dogs. However, the liability of cat owners for damage caused by their cats is fault-based. This is because dogs are considered to be capable of causing more serious injuries than cats. <sup>85</sup>	No	Yes
Estonia	Liability for damage caused by an animal is a subcategory of risk-based liability. The Estonian Supreme Court has affirmed that risk-based liability applies only if the animal constitutes a major source of danger. <sup>86</sup>	No	Yes

Source: Author based on Annex I.

In conclusion, national provisions on strict liability for animals seem to generate most consensus among national systems. A clear majority of Member States include open provisions in civil codes that provide for strict liability for damage caused by animals. Only few Member States specifically limit strict liability to dangerous animals and only one Member State does not include strict liability provisions for damage caused by animals.

#### 4.2.1. Vicarious liability<sup>87</sup>

The fourth and final group of situations for which most Member States apply special provisions on liability concern vicarious liability. This type of liability covers a diverse set of situations when one person in specific circumstances is liable for an action of another person (i.e. parents for their children). Exceptions relating to vicarious liability form one of the most interesting groups as they include very diverse situations. Once again the same typology is applied to classify the national systems.

The systems in which the broadest scope of situations is covered by provisions on vicarious liability, are classified as open. This group of Member States includes national systems that include at least three grounds for vicarious liability. This is for example the case of the Hungarian national system, which provides for the liability of an employer for its employee, of a legal person for its member, of

<sup>83</sup> AA – strict liability applies to all animals; DA – strict liability applies only to dangerous animals

<sup>84</sup> Lagen (2007:1150) om tillsyn över hundar och katter; NJA 1947 s. 594: The case concerned a bicycle collision with a dog. The owner of the dog was found to be liable for the cyclist's injuries. NJA 1990 s. 80. The case concerned the impregnation of a female dog. The male dog's owner was held to be liable although the male dog acted in a predictable manner.

<sup>85</sup> Damage caused by police and military dogs while in active service for the police or the armed forces, where the victim's behaviour justified the intervention that caused the damage, is not covered by the strict liability rule. If a third party provokes a dog to bite, the owner remains liable. However, if a third party is found to be responsible for provoking the attack, the amount payable in damages can be adjusted by the court, in accordance with Chapter 6, para.1 of the Swedish tort law, *Skadeståndslag*. If the owner transfers the supervision of the dog to a third party, such as a dog hotel, strict liability shifts to that third party.

<sup>86</sup> Case No 3-2-1-85-08 of 22 October 2008. In that decision the Supreme Court held that dogs constitute a major source of danger.

<sup>87</sup> Vicarious liability is conceptually different from the type of exceptions covered by general fault-based liability and discussed in previous chapters. Vicarious liability means being responsible for someone else's fault. Provisions on vicarious liability are nevertheless a special type of exceptions to the general fault-based liability and therefore they are discussed here.

a principle for its agent, of a person with contractual obligation for the person under contractual obligation, of a guardian for a non-culpable person (including culpable minors).

Table 11: National provisions on vicarious liability: Open systems<sup>88</sup>

		M	ETS	PC	O
Bulgaria	Articles 47 to 49 of the <a href="#">Law on obligations and contracts</a> (LOC) contain the basic rules on vicarious liability including liability for a damage caused by an incapacitated person; <sup>89</sup> by minors; <sup>90</sup> or a person who has assigned work to another. <sup>91</sup> The principal is liable for the damage caused by the agent in two situations: where the damage is caused during the performance of or in connection with the work assigned. <sup>92</sup>	Yes	Yes	Yes	No
Croatia	National law provides for the vicarious liability of the supervisors of persons who are incapacitated or who have educational special needs; <sup>93</sup> parents or other supervisors for the torts of children in their care; <sup>94</sup> employers for damage caused by their employees within the scope of their employment; <sup>95</sup> of legal persons for torts committed by the bodies of that legal person. <sup>96</sup>	Yes	Yes	Yes	LP
France	The French Civil Code (CC) states: 'We are responsible not only for the damage caused by our own acts, but also for that which is caused by the <b>acts of persons for whom we are responsible</b> , or of things that are in our custody'. <sup>97</sup> The list of possible situations is open. <sup>98</sup> The case law has since been applied to sports associations; <sup>99</sup> leisure associations <sup>100</sup> and associations dealing with minors or natural persons exercising that function. The Court of Cassation has not, however, established the existence of a general principle of liability for damage caused by others. The <a href="#">Draft revision of civil liability</a> (Articles 1245 to 1249) adopts a very restrictive approach in this regard by opting for a closed list of persons and by depriving the judge of discretion. The current CC also provides for three specific types of vicarious liability: strict liability of parents for damage caused by their children, <sup>101</sup> of	Yes	Yes	No	LP

<sup>88</sup> M – exceptions to fault-based liability for damages caused by minors; ETS – exceptions to fault-based liability for employers, teachers, or supervisors; PC – exceptions to fault-based liability for damages caused by persons with limited capacities; O – exceptions to fault-based liability for other types of damages/ or damages applicable to legal persons (LP).

<sup>89</sup> Article 47.

<sup>90</sup> Article 48.

<sup>91</sup> Article 49 LOC.

<sup>92</sup> According to established case-law (following the seminal ruling of the plenary of the Supreme Court No 9 of 28 December 1966), the agent must have acted negligently, while any fault on the part of the principal is irrelevant.

<sup>93</sup> Article 1055 of the Civil Obligations Act (COA).

<sup>94</sup> Articles 1056 to 1059 COA.

<sup>95</sup> Article 1061 COA.

<sup>96</sup> Article 1062 COA.

<sup>97</sup> Article 1242, first paragraph, CC.

<sup>98</sup> In a seminal judgment ([Cass., Joined Chambers, 29 March 1991, Blieck, No 89-15.231](#)), the Court of Cassation departed from previous case law by abandoning the principle of limiting the number of such cases.

<sup>99</sup> [Cass., 2nd civ., 22 May 1995, No 92-21871](#); [Cass., 2nd civ., 20 November 2003, No 02-13.653](#); [Cass., 2nd civ., 22 September 2005, No 04-14.092](#).

<sup>100</sup> [Cass., 2nd civ., 12 December 2002, No 00-13.553](#).

<sup>101</sup> Article 1242, fourth and seventh paragraphs, CC

	masters and employers (principals) for damage caused by their servants and employees (agents) in the exercise of the functions to which they are employed <sup>102</sup> and of teachers and craftspeople for damage caused by their students and trainees during the time they are under their supervision.				
Greece	Greek Civil Code (CC) provides for vicarious liability on the part of principals for their agents. <sup>103</sup> There is also a rebuttable presumption that persons who have a duty of care towards others, such as parents, legal guardians or persons in the position of a parent or guardian by virtue of a contractual arrangement, are liable for the tortious acts of their charges, unless they show that the damage would have occurred in any event or that they exercised the requisite standard of due care. <sup>104</sup>	Yes	Yes	Yes	No
Hungary	Sections 6:544 to 6:547 of the <a href="#">Hungarian Civil Code (CC)</a> provides for the liability of an employer for its employee, <sup>105</sup> of a legal person for its member, <sup>106</sup> of a principle for its agent, <sup>107</sup> of a person with the contractual obligation for the person under contractual obligation, <sup>108</sup> of a guardian for a non-culpable person (also including culpable minors). <sup>109</sup>	No	Yes	Yes	Yes

Source: Author, based on Annex I.

The second group of national systems includes Member States that include at least two of the four possible types of vicarious liability.

<sup>102</sup> Article 1242, fifth paragraph, CC

<sup>103</sup> Article 922

<sup>104</sup> Article 923 CC

<sup>105</sup> If an employee causes damage to a third party in connection with the employment relationship, the employer is liable for damage to the injured party. (6:540 CC)

<sup>106</sup> 6:540 CC

<sup>107</sup> 6:542 CC

<sup>108</sup> 6:543 CC

<sup>109</sup> 6:544 to 6:547 CC

Table 12: National provisions on vicarious liability: Mixed systems<sup>110</sup>

		M	ETS	PC	O
Belgium	There are three types of vicarious liability under Belgian law: (1) parents for their children (para. 2); (2) masters for their servants (para. 3): strict liability, with no defence; and teachers and craftspeople for their students or trainees during the time they are under supervision (para. 4). <sup>111</sup> This is an exhaustive list.	Yes	Yes	No	No
Estonia	The Estonian Law of Obligations provides for vicarious liability for minors <sup>112</sup> and employers for the torts of their employees (persons engaged to perform economic or professional activities on a regular basis) where the damage was caused in relation to those economic or professional activities. <sup>113</sup>	Yes	Yes	No	No
Italy	The Italian <a href="#">Civil Code</a> (CC) provides for the liability of parents/tutors/guardians/teachers (principals) for damage caused by their charges. <sup>114</sup> Parents and tutors can be held responsible at all times for any damage caused by the minors in their charge, provided that they live together; guardians and teachers are liable only if the damage occurs while their charges are in their care (e.g. at school). <sup>115</sup> Furthermore, parents can also be held liable for damage for <i>culpa in educando</i> , i.e. a breach of care in the upbringing of their children (e.g. in certain cases of bullying at school, in addition to any criminal liability on the part of the child).	Yes	Yes	No	No
Lithuania	Lithuanian Civil Code (CC) provides for vicarious liability for minors <sup>116</sup> and employers. <sup>117</sup>	Yes	Yes	No	No
Malta	The guardians of minors, or of persons suffering from a mental illness or another condition rendering them incapable of managing their own affairs, are liable for any damage caused by their charge if the guardians fail to exercise the care of a <i>bonus paterfamilias</i> to prevent the act. <sup>118</sup> The law emphasises the paramount importance of fault on the part of the guardian for such vicarious responsibility to arise. If it is proved that the guardian exercised due care, he or she will avoid liability even if the charge caused harm. <sup>119</sup>	Yes	No	Yes	No

<sup>110</sup> M – exceptions to fault-based liability for damage caused by minors; ETS – exceptions to fault-based liability for employers, teachers, or supervisors; PC – exceptions to fault-based liability for damage caused by persons with limited capacities; O – exceptions to fault-based liability for other types of damage/ or damage applicable to legal persons (LP).

<sup>111</sup> [Article 1384 of the Belgian Civil Code](#) (CC) contains the basic rules on vicarious liability.

<sup>112</sup> Article 1053 (1), (2) and (3) of the Estonian Law of Obligations Act (LOA).

<sup>113</sup> Article 1054 LAO.

<sup>114</sup> Articles [2047](#) and [2048](#).

<sup>115</sup> [Article 2048](#) CC.

<sup>116</sup> Article 6.276.

<sup>117</sup> Article 6.264 CC.

<sup>118</sup> Article 1034 of [Chapter 16](#) (Civil Code (CC)) of the Laws of Malta.

<sup>119</sup> Article 1035 CC.



Netherlands	The Dutch rules on vicarious liability <sup>120</sup> cover liability for the tortious acts of children; <sup>121</sup> liability for faults of subordinates; <sup>122</sup> liability for faults of non-subordinates; <sup>123</sup> liability for faults of a representative. <sup>124</sup>	Yes	Yes	No	No
Romania	The Romanian <a href="#">New Civil Code</a> (NCC) provides for two such cases: the liability of persons (e.g. parents) who have a supervisory obligation with regard to a minor or a person without legal capacity for the tortious acts of the person under supervision; <sup>125</sup> the liability of principals for the tortious acts of agents. <sup>126</sup>	Yes	Yes	Yes	No
Spain	The principal is liable for damage caused by the agent in the following circumstances: (1) parents are liable for damage caused by children in their care; (2) guardians are liable for damage caused by minors or incapacitated persons who are under their authority and who live with them; (3) likewise, the owners or managers of an establishment or an undertaking are liable for damage caused by their employees, in the service in which they are employed or in the performance of their duties; (4) proprietors of an educational body other than a centre for higher education are liable for the damage caused by their students who are minors while they are in the control or supervision of the body's teaching staff, or during school, extracurricular or complementary activities. <sup>127</sup>	Yes	Yes	Yes	No

Source: Author, based on Annex I.

Finally, the third group of national systems, represents countries with the narrowest approach for vicarious liability.

Table 13: National provisions on vicarious liability: Narrow systems<sup>128</sup>

		M	ETS	PC	O
Czech Republic	The Czech Civil Code provides for vicarious liability regarding persons unable to assess the consequences of their acts. <sup>129</sup> A classic example of such vicarious liability is where a minor has committed a tort and is liable for the damage.	Yes	No	No	No
Germany	Vicarious liability in German law is not a matter of strict liability but rather an instrument for attributing someone else's fault or the fault of selecting or supervising someone inadequately.	No	No	No	No

<sup>120</sup> Articles 6:169 to 6:172 of the Dutch [Civil Code](#) (CC).

<sup>121</sup> Article 6:169 CC.

<sup>122</sup> Article 6:170 CC.

<sup>123</sup> Article 6:171 CC.

<sup>124</sup> Article 6:172 CC.

<sup>125</sup> Article 1372 NCC.

<sup>126</sup> Article 1373 NCC.

<sup>127</sup> Article 1903 of the Spanish [Civil Code](#) (CC).

<sup>128</sup> M – exceptions to fault-based liability for damage caused by minors; ETS – exceptions to fault-based liability for employers, teachers, or supervisors; PC – exceptions to fault-based liability for damage caused by persons with limited capacities; O – exceptions to fault-based liability for other types of damage/ or damage applicable to legal persons (LP).

<sup>129</sup> Sections 2920 to 2923.



	Vicarious liability for non-contractual damage is provided for a principal who uses an agent to perform a task and is liable for the damage inflicted by the agent when carrying out the task. The liability is fault-based (at the level of the principal: violation of the duty to select the agent diligently). <sup>130</sup> Vicarious liability for minors and other persons under supervision is provided for the supervisor. The liability is fault-based (at the level of the supervisor) but the violation of the duty to supervise is presumed (presumption of fault). <sup>131</sup> (Only under contract law is the principal liable for the fault of the agent without having the possibility to exonerate him or herself. <sup>132</sup> ) A legal person is liable for the actions of its representatives. Fault is necessary at the level of the representative insofar his or her actions are not covered by special strict-liability rules for dangerous activities where fault is not necessary. <sup>133</sup>				
Portugal	The Portuguese <a href="#">Civil Code</a> (CC) provides that a principal is vicariously and strictly liable for the torts of its agents. <sup>134</sup>	No	Yes	No	No
Slovenia	The Slovenian <a href="#">Obligations Code</a> provides that the legal or natural person for whom an employee was working at the time when the damage occurred is liable for damage caused to a third person by the employee during or in connection with his or her employment, unless the legal or natural person proves that the employee acted as was necessary under the given circumstances. <sup>135</sup>	Yes <sup>136</sup>	No	No	No
Sweden	Vicarious liability provides for the liability of an employer for damage caused by an employee to whom the employer has delegated tasks in the context of an employment relationship. <sup>137</sup> The liability of the employer is strict. <sup>138</sup>	No	Yes	No	No

Source: Author, based on Annex I.

In conclusion, national provisions on vicarious liability again generate a wide spectrum of possible approaches. All Member States provide for strict liability for at least one group of situations that fall under broader spectrum of vicarious liability. Most Member States provide at least two explicit grounds for vicarious liability, most often covering employers and damages caused by actions of minors. Five Member States limit vicarious liability to one specific type of situation.

<sup>130</sup> [Section 831](#) of the German [Civil Code](#) (BGB).

<sup>131</sup> [Section 832](#) of the German Civil Code (BGB).

<sup>132</sup> [Section 278](#) of the German Civil Code (BGB)

<sup>133</sup> [Section 30](#) of the German Civil Code (BGB).

<sup>134</sup> [Article 500](#).

<sup>135</sup> [Article 147\(1\)](#).

<sup>136</sup> Until the age of seven ([Articles 137, 142 and 143](#) of the [Obligations Code](#)).

<sup>137</sup> [Chapter 3, para. 1](#) of the Swedish tort law, [Skadeståndslag](#) (SkL); [Prop. 1972:5 p. 24](#); [Persson et al. \(2018\) 257](#).

<sup>138</sup> The Swedish High Court has interpreted what is to be expected in the ordinary course of exercising a profession extensively. However, the employee could be subject to civil liability in certain circumstances, so the liability of the employer is not completely strict ([Chapter 4, para. 1 SkL](#)). Generally, there is *culpa* on the part of the employee. In accordance with [Chapter 3, para. 1 SkL](#), an employer is liable where an employee in its service, intentionally or by negligence, causes personal injury or other damage to the person, damage to property or financial damage (as in [Chapter 2, para. 3 SkL](#)) or through a crime seriously violates a person or an object. What counts as negligence or fault varies from profession to profession. Actions or omissions by a medical doctor can be considered to be more serious than those of a cashier for example.

### 4.3. Conclusions: National rules are divergent and provide varying degrees of flexibility to adjust to the challenges of AI

The analysis of national systems provides an interesting overview of the complexity and diversity of approaches. All jurisdictions provide for some exceptions to the fault-based liability. The comparative analysis has focused on the four general groups of situations commonly covered in national law by strict liability provisions: damages caused by things, dangerous activities, animals and vicarious liability. In each of those four groups on strict liability provisions, national systems have been classified according to their flexibility or openness. The open, general clauses in national laws have been considered as providing more flexibility. On the contrary, national provisions that provide exhaustive, closed lists, or include no provisions on strict liability for the analysed group of situations have been classified as narrow.

Table 14 below provides an overall overview of this comparative analysis. National systems that belong to the 'open' group are scored with three points; the 'mixed' group with two points and the 'narrow' group with one point.<sup>139</sup> Therefore, the larger the overall score of the national system, the more flexible national provisions are designed. Conversely, a lower overall score suggests that the national system is based on rather narrow provisions relating to strict liability.

Flexibility of national legislation in a given context reflects the general lenience of national systems to adjust through interpretation and the potential for minimum adjustment costs in order to internalise possible new situations relating to claims for damages from AI systems. In the academic literature, for example, one possible solution for civil liability of AI systems currently suggested is to apply strict liability provisions to AI by analogy to the damage caused by animals. Based on the overview of national provisions, it is indeed the approach that can in principle provide a solution generally applicable to AI. Applying strict liability principles to AI systems, by analogy to damage caused by animals, provides an avenue to distinguish between types of AI systems based on their level of danger and limit strict liability only to specific types of damage attributable to an animal. All in all, in the search for an effective and workable solution for a common approach to civil liability for AI systems, national provisions on strict liability for animals provide an interesting basis for discussion.

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<sup>139</sup> As for any typology, this scoring of course provides only a very broad measure of the flexibility of national legal systems related to strict liability. As pointed out above, strict liability provisions are just one of many instruments in national legal systems related to the compensation of damage. A more nuanced approach must supplement this comparative analysis with an analysis of fault-based rules, and also of contractual liability.

Table 14 – Overview of Member States by flexibility on strict liability

Member State	'things'	'actions'	animals	vicarious	Total
Belgium	2	1	3	2	8
Bulgaria	2	2	3	3	10
Croatia	3	3	3	3	12
Czech Republic	2	3	3	1	9
Estonia	3	3	1	2	9
France	3	2	3	3	11
Germany	2	2	2	1	7
Greece	1	1	3	3	8
Hungary	2	3	2	3	10
Italy	2	3	3	2	10
Lithuania	1	3	3	2	9
Malta	1	1	3	2	7
Netherlands	3	1	3	2	9
Portugal	1	3	2	1	7
Romania	3	2	3	2	10
Slovenia	2	3	2	1	8
Spain	2	2	3	3	10
Sweden	1	1	1	1	4

Source: Author.

## 5. AI liability – How to regulate it in the future? Policy options and approaches

### 5.1. Strict and fault-based liability rules provide economic actors with two different sets of incentives

By way of introduction, before providing a quantitative assessment of the benefits of EU common action on AI liability, this chapter briefly discusses the functions and effects of liability rules on the behaviour of relevant actors. In other words, before moving onto a more detailed analysis of the added value of EU action on civil liability for AI, this chapter provides an overview of the main incentives, their effects and the accompanying costs of liability rules in general. It also helps to contextualise the existing debates by explaining how different liability regimes diverge in terms of the types of incentive, the effects and the administrative costs they are likely to generate.

An economic analysis of laws can make a helpful contribution to an understanding of the effects and costs generated by the various liability systems. This chapter is based on the seminal analysis by Kaplow and Shavell (2002) from Harvard University, which provides an in-depth analysis of the theoretical foundations supported by empirical data on the incentives and effects of liability rules.<sup>140</sup>

In order to comparatively understand the differences in terms of incentives and costs between the fault-based and strict liability regimes, the following is assumed:

$x$  is expenditure on care (or the monetary value of effort devoted to it).

$x^*$  is the optimal  $x$ .

$y$  is level of care.

$y^*$  is the optimal  $y$ .

$p(x)$  is the probability of an accident that causes harm ( $h$ ).

$h$  is a harm.

$tc$  is total expected cost.

$i$  is an injurer, i.e. a party that caused a harm.

$v$  is a victim, i.e. a party that suffered a harm.

$z$  is a level of activity by an injurer, (i.e. a scale of output by a company).

$z^*$  is an optimal level of activity.

$b(z)$  is a benefit or profit from the activity.

The overall social objective of the liability rules is then to minimise total expected costs ( $tc$ ), and may be expressed as follows  $tc = x + p(x)h$ . If consideration is given to the benefit, expenditure on care and level of activity, then the social objective of the liability rules is to maximise  $b(z) - z(x + p(x)h)$ . Therefore, an examination of how liability rules create incentives to reduce risk, requires analysis of

<sup>140</sup> L. Kaplow and S. Shavell, 'Economic Analysis of Law', in A.J. Auerbach and M. Feldstein (eds.), *Handbook of Public Economics*, North Holland Publishing, Vol. 3, 2002.

the following four elements: 'the level of care', 'the level of activity', 'risk-bearing and insurance' and 'administrative costs'.

Table 15 – Comparative analysis of the economic impacts of different liability regimes

	Strict liability	Fault-based liability
Main defining feature	<i>i</i> must always pay for <i>h</i> that he/she caused.	<i>i</i> should pay for <i>h</i> that he/she caused, only when 'level of care' was less than standard 'level of care' determined by a court.
'level of care'	<i>i</i> pays damages equal to <i>h</i> , and they bear the cost of care <i>x</i> . Thus, to minimise <i>tc</i> , <i>i</i> would choose <i>x</i> *. Courts only need to establish <i>h</i> .	<i>i</i> pays damages if <i>x</i> is less than <i>x</i> *, but will not pay if <i>x</i> is equal to or more than <i>x</i> *. Courts need to calculate <i>x</i> *, observe/evaluate the level of <i>x</i> by <i>i</i> as well as <i>h</i> . Some (limited) empirical evidence, for example in medical cases, suggests that the chance of error in determination of <i>x</i> * by courts leads to <i>i</i> choosing the incorrect level of care (usually more excessive care) to reduce of the risk of being found liable. <sup>141</sup> This leads to extra (often unnecessary costs).
'level of activity'	<i>i</i> will chose <i>x</i> * and <i>y</i> * optimally, as his/her objective = social objective, because damage payments = <i>h</i> whenever <i>h</i> occurs.	<i>i</i> will likely choose <i>x</i> * (see however consideration above) but his/her <i>z</i> is likely to be excessive. <i>i</i> will choose <i>z</i> to maximise $b(z) - zx^*$ . The cost to <i>i</i> of raising his/her <i>y</i> is less than the social cost. Fault-based systems do not adequately account for <i>y</i> as damages are defined in terms of duty of care alone.
Administrative costs	The volume of cases is likely to be high, as <i>v</i> only needs to establish <i>h</i> . Cost of administrative procedure is likely to be low, as courts only need to establish <i>h</i>	Volume of cases is likely to be less than under strict liability as <i>v</i> needs to establish fault of <i>i</i> . The cost of administrative procedure is likely to be higher, as courts need to establish a number of elements to establish a fault of <i>i</i> .

To summarise the main theoretical premises, while both fault-based and strict liability regimes aim at the reduction of risks of harm, the set of incentives, and accordingly possible actions of the parties, are different. Under the fault-based liability system, producers or suppliers of goods or services may adopt a higher level of care (and impose higher (excessive) costs) on the customer. The fault-based system, meanwhile, seems to induce the level of activity. The determination of damages in the fault-based system is based on the 'level of care' and does not account for level of activity. On the contrary, there is an argument that a strict liability system discourages the level of activity and potentially leads to a negative impact on innovation.<sup>142</sup> Gallaso and Luo however argue that 'the link between liability and innovation is more complex and nuanced than the simple view of "liability chills

<sup>141</sup> See for the theoretical foundation of this analysis e.g. Kessler and McClellan, 'Do Doctors Practice Defensive Medicine?', *Quarterly Journal of Economics*, Vol. 111, 1996, pp. 353-390. Most recently for example in the US healthcare context Michael Frakes and Jonathan Gruber found based on the quantitative empirical analysis that 'liability immunity reduces inpatient spending by 5 percent with no measurable negative effect on patient outcomes', 'Defensive Medicine: Evidence from Military Immunity', *American Economic Journal: Economic Policy*, Vol. 11 (3), 2019, pp. 197-231

<sup>142</sup> See e.g. G. Parchomovsky and A. Stein, 'Torts and innovation', *Michigan Law Review*, Vol. 107, pp. 285-315, 2008, who found based on their analysis of the US tort system that liability systems in general have a negative impact on innovation.

innovation", which ignores the potential encouraging effect of liability risk on a potentially broad set of innovations that help firms and their customers manage risk'.<sup>143</sup>

Gallaso and Luo develop this argument and support their statement with empirical evidence. In their recent study they specifically addressed the question of the impact of liability regimes on innovation using the example of medical implants.<sup>144</sup> The study concludes that 'Although liability risk may chill innovation incentives, it may also provide an incentive to develop risk-mitigating technologies that reduce the likelihood of a bad outcome'.<sup>145</sup> This is, ultimately, one of the central aims of the liability rules to mitigate the risks.

Herbert Dawid and Gerd Muehlheusser, analysing the impact of liability rules on the emergence and development of autonomous vehicles in the US, in general agree with the finding by Gallaso and Luo, that liability rules do not necessarily have a negative impact on innovation. However, in distinguishing between strict and fault base liability system, they argue that 'Inducing higher long-term product safety through a strict (partial) liability rule reduces short-term safety investments and slows down AV market penetration. By contrast, negligence-based liability fosters initial investments without hampering long-term product safety. However, too stringent liability might forestall investments in the development of AVs and their market introduction'.<sup>146</sup> Thus, this research suggests, that the interplay between liability and innovation is highly nuanced, and specificities of the liability rules (i.e. strict or fault based system) could be decisive factors impacting positively or negatively on investments in product safety and the timing of market introduction.

In discussing the interplay between liability rules and innovation, as specifically applies to robotics and AI, Gallaso and Luo, argue that in order to find a balanced liability system for AI it is necessary to address the following main four topics: allocation of liability risk between producers and consumers;<sup>147</sup> allocation of liability risk across the vertical chain, i.e. between various and often numerous suppliers of hardware and software; liability risk and market structure, including the role of the insurance and liability litigation.<sup>148</sup> Additionally the strength of intellectual property (IP) rights play a considerable role on the innovation and liability risks.<sup>149</sup>

<sup>143</sup> A. Galasso and H. Luo, Punishing Robots: Issues in the Economics of Tort Liability and Innovation in Artificial Intelligence.

<sup>144</sup> A. Galasso and H. Luo, When Does Product Liability Risk Chill Innovation? Evidence From Medical Implants, [Harvard Business School Strategy Unit Working Paper No. 19-002](#), 2018.

<sup>145</sup> Ibid. Gallaso and Luo, 2018; Galasso and Luo write: 'Empirically, the paper finds that, on average, laws that limit healthcare providers' liability exposure are associated with a significant reduction in medical device patenting. Tort reforms have the greatest impact in medical fields in which the probability of facing a malpractice claim is the highest, and they do not seem to affect the number of new technologies of the highest and lowest quality'.

<sup>146</sup> H. Dawid and G. Muehlheusser, [Smart Products: Liability, Investments in Product Safety, and the Timing of Market Introduction](#), 2020; see also H. Dawid and G. Muehlheusser, [Smart products: liability, timing of market introduction, and investments in product safety](#), CESifo Working Paper, No. 7673, Center for Economic Studies and ifo Institute (CESifo), Munich, 2019.

<sup>147</sup> 'With less room for consumers to take precautions, the relative liability burden is likely to shift towards producers, especially in situations in which producers are in a better position than individual users to control risk. [...] The cost of observing systematic, hazardous user behaviours may also become sufficiently low such that it would be more efficient for producers to take precautions through product redesign. How such a shift might affect innovation incentives would depend on how producer liability is specified, especially whether the long-term social benefits are included in the analysis of the producer's liability', A. Galasso and H. Luo, [Punishing Robots: Issues in the Economics of Tort Liability and Innovation in Artificial Intelligence](#)

<sup>148</sup> Ibid. A. Galasso and H. Luo, Punishing Robots: Issues in the Economics of Tort Liability and Innovation in Artificial Intelligence

<sup>149</sup> Ibid. A. Galasso and H. Luo, Punishing Robots: Issues in the Economics of Tort Liability and Innovation in Artificial Intelligence

## 5.2. Why regulate civil liability of AI at EU level?

The current state of development of AI systems and national law on liability of AI provide an opportunity to take common EU action that could potentially bring substantial European added value to European Union economy and consumers. A number of very recent publications, provided an extensive analysis on the adequacy of the European regime for the challenges of AI systems and discussion on the possible EU policy solutions.<sup>150</sup> This chapter will not repeat this excellent and in-depth analysis but provide only a brief account of the main arguments from the existing research on why EU action is necessary, timely and justified.

### 5.2.1. Necessity to take common EU action

The European framework of civil liability based on the combination of the EU Product Liability Directive and national liability systems, in general, provides a working solution both in terms of discouraging of risky behaviour of actors and providing victims with compensation for harm. However, this system is based on a balance that may be challenged significantly by AI systems. Those challenges, include the following:

- a substantial shift in the existing risks distribution:
  - limitations of the PLD, in terms of substantive and personal scope, will likely lead to the shift in existing risk distribution, probably to the disadvantage of the consumer;
  - emergence of grey areas for issues not specifically covered by the PLD (i.e. software) will lead to increased uncertainty, potentially higher insurance premiums and possibly higher prices for consumers;
- internal market fragmentation:
- substantial differences in the application of national liability rules to the AI systems through the EU, would potentially lead to fragmentation of single market, hinder competition, and likely cause obstacle to the producers;
- regulatory fragmentation:
- the lack of EU common regulatory approach, might create unnecessary fragmentation across the EU, creating legal uncertainty to the producers, larger workloads to the courts due to the interpretative issues and possible confusion among users.

This would potentially result not only in a suboptimal level of protection from harm, but also potentially discourage innovation, increase prices for consumers, substantially increase administrative costs for public administrations and judicial bodies and ultimately even challenge the social desirability of the overall liability system.<sup>151</sup> Thus, to avoid those externalities, it is necessary to take timely action at EU level.

### 5.2.2. Subsidiarity and proportionality

Any EU action must respect the principles of subsidiarity and proportionality. The European added value assessment in Chapter 6, focuses on an analysis of the costs and benefits of EU action. The focus is on a comparative analysis of the policy option of taking EU common action versus the status quo, i.e. no common EU action. It is beyond the scope of this EAVA to provide a comparative

<sup>150</sup> See specifically, for example, Artificial Intelligence and Civil Liability, Policy Department for Citizens' Rights and Constitutional Affairs, Directorate-General for Internal Policies, European Parliament, PE 621.926, 2020; and S. Lohsse, R. Schulze, and D. Staudenmayer (eds.), *Liability for artificial intelligence and the internet of things: Münster Colloquia on EU Law and the Digital Economy IV*, Nomos Verlag, 2019.

<sup>151</sup> For the economic and social drivers please see also the discussion in Chapter 6 below.



assessment of various more detailed policy options regarding how specific EU action could be taken.<sup>152</sup> A more detailed consideration of the principles of subsidiarity and proportionality is not therefore undertaken here.

### 5.3. How to regulate the civil liability of AI at EU level? Proposed policy options

A number of very recent publications, provided an extensive analysis on possible EU policy solutions.<sup>153</sup> Considering the specific aims of this assessment in terms of policy options analysed, this EAVA focuses on assessing the status quo against possible EU action. In terms of possible EU action, only two very broad policy directions are considered.<sup>154</sup> First, a 'baseline scenario' reflecting the status quo and requiring no additional action on the EU level and second 'EU common action.'

#### **Policy option 1: Status quo – no additional action on the EU level**

The limitations and gaps outlined in the analysis above and in the cited literature will remain and probably, with the diffusion of AI systems, grow exponentially. The delay in addressing the outstanding issues will increasingly generate costs. Therefore, this option is not preferred.

#### **Policy option 2: EU common action on liability of AI**

The quantitative assessment that follows in Chapter 6 provides a detailed assessment on the costs and benefits of common EU action. This common action can take a number of possible approaches. Those policy solutions are not quantitatively assessed in this EAVA but only briefly qualitatively discussed in Table 16 below:

Table 16 – Policy options for EU common action on liability of AI: pros and cons

	Effectiveness and efficiency	Feasibility	Economic costs	Economic benefits
Policy option 2.1. Revision of PLD + national liability rules to be revised by individual Member States	medium	medium	high	low
Policy option 2.2. EU common action on liability and insurance: fault-based liability	low	low	Medium	medium
Policy option 2.3. EU common action on liability and insurance: no-fault liability	low	low	High	medium
Policy option 2.4. EU common action on liability and insurance: mix of fault based and no-fault liability	high	high	Medium	high
Policy option 2.5. EU common action on liability and insurance: risk management approach	high	medium	Medium	high

<sup>152</sup> As a common practice, European added value does include the comparative assessment of policy options, however, considering specifically the emerging stage of the debate on the common approach to regulation of AI, this analysis focuses primarily on the assessment of EU common action versus the status quo, or non-action. Further analysis is necessary to evaluate and comparatively assess possible policy options in more detail.

<sup>153</sup> See specifically, for example, Artificial Intelligence and Civil Liability, Policy Department for Citizens' Rights and Constitutional Affairs, Directorate-General for Internal Policies, European Parliament, PE 621.926, 2020; and S. Lohsse, R. Schulze and D. Staudenmayer (eds.) *Liability for artificial intelligence and the internet of things: Münster Colloquia on EU Law and the Digital Economy IV*, Nomos Verlag, 2019.

<sup>154</sup> The more detailed qualitative analysis of policy options for common EU action are discussed in other recent publications, see e.g. Bertolini cited above.



Policy option 2.1 will be based on the already existing framework. There is increasing pressure from various stakeholders to address the existing challenges. The effectiveness and efficiency of this policy option are medium because revision of the PLD system alone (even in the best case scenario) would be unlikely to be able to address all outstanding challenges. The economic costs are medium, but could potentially with time become high, if outstanding challenges are not addressed. Accordingly, the economic benefits are not optimal either, as outstanding challenges may impede competition and create obstacles in the single market.

Policy option 2.2 and policy option 2.3 are similar as they represent extremes. On the one hand they both are based on common EU action, but policy option 2.2 would mean a shift to a fault-based system while policy option 2.3 would mean a shift to a complete strict liability system. Neither is optimal, either in terms of feasibility (as they would require substantial revision of both PLD and national legal systems) or in terms of economic costs and benefits. Strict liability for all situations, while may be preferential for a victim, is very costly for the public system (as it may generate a substantial number of cases and may be not optimal from the point of view of social desirability of the liability system) and potentially could also negatively impact innovation. A fault-based liability system only, however, could be overly restrictive to victims and could also facilitate risky products (that are equally not socially desirable). Neither extreme is optimal from economic, social, legal or political perspectives.

The closest contenders, in terms of optimal policy solutions, are policy option 2.3, which presupposes common EU action based on a mix of fault-based and strict liability provisions and policy option 2.4 which calls for a risk-based approach. Policy option 2.3 is highly feasible, as it is based on the existing understanding of regulation of liability. Difficulties may arise, in classification of situations that would fall under 'strict' and 'fault-based' liability. As practices of Member States greatly diverge it seems it would be difficult to find common ground. The current regulation of strict liability for damages caused by animals, by analogy, could provide a constructive backbone for this discussion. The level of effectiveness and efficiency could also potentially be very high, provided a socially desirable and economically optimal solution on distribution of liability could be agreed at EU level.

Policy option 2.4 is not as common as to all national systems as policy option 2.3 but is also high on the agenda and continuously discussed. This means that it is a viable policy option, but to find an EU common position would be more difficult than for policy option 2.3. One of the key obstacles (more conceptually/normative than legal) is the concept of 'electronic personhood'. This concept, initially put on the table in the 2017 European Parliament resolution on civil law rules on robotics, triggered very strong resistance from various stakeholders. Conversely, policy option 2.4 would not require a difficult balancing choice between determination of what situations should be subject to high risk and thus strict liability and low risk and thus a fault-based liability regime. In terms of economic efficiency and benefits, a risk-based approach could potentially be a favourable solution as it would allow for liability rules that are specific to a given technology and would facilitate assignment of risks to a party best positioned to manage them. This would ensure tailor-made management of risks that would be beneficial for economic actors and potentially provide an avenue for victims to receive prompt and effective compensation.

Both policy options 2.3 and 2.4 have strong potential to generate European added value, as both presume common EU action as a basis. The type of regulatory action and, most importantly, the type of liability system that each of these policy options suggest are quite different and both have open questions, in terms not only of political and economic feasibility but above all of social desirability and acceptance.

## 5.4. How to regulate liability of AI? Position of the European Parliament: Ongoing policy debates

The European Parliament turned its attention to the issue of liability and robotics and AI already in 2017. In its 2017 resolution, discussed below, Parliament already called on to the Commission to take legislation action. In 2020, the European Parliament began work on a draft legislative initiative report to further address the issue of liability and AI.<sup>155</sup> This work is still ongoing.

### 5.4.1. 2017 European Parliament resolution with recommendations to the Commission on civil law rules on robotics

In 2017, the European Parliament adopted a resolution with recommendations to the Commission on civil law rules on robotics.<sup>156</sup> This resolution was the first official position of the European Parliament on developments related to AI and robotics and the need for legislative regulation at EU level. The resolution covered a wide spectrum of topics and issues relating to AI and robotics. The issue of liability was one of the key topics addressed in the 2017 resolution. Specifically in relation to liability issues the 2017 resolution adopted the following position, summarised in Table 17 below.

Table 17 – European Parliament 2017 resolution on civil law rules on robotics: liability provisions

Main proposition	Call for action
Liability is a central issue that needs to be regulated at EU level	The resolution called for regulation of the liability of robots and AI technologies and argued that this regulation must take place at EU level. The resolution stated that regulation at EU level is necessary 'in order to ensure the same degree of efficiency, transparency and consistency in the implementation of legal certainty throughout the European Union for the benefit of citizens, consumers and businesses alike'. <sup>157</sup>
Two central interdependence relationships: predictability and directability need to be better understood in order to enable smooth human-robot joint action	The resolution argued that the human-robot interaction needed to be better understood. This would help to identify necessary information sharing requirements and smooth human-robot interaction. <sup>158</sup>
The European Commission should propose EU legislation to regulate legal questions related to the development and use of robotics and AI	The resolution asked the European Commission to come up with the legislative proposal combined with non-legislative instruments related to the development and use of robotics and AI foreseeable in the next 10 to 15 years. <sup>159</sup>
The future EU legal instrument should cover a broad range of damages that may be recovered and compensation offered	The resolution stated that the scope of damages and compensation offered to the aggrieved party should not be limited 'on the sole grounds that damage is caused by a non-human agent'. <sup>160</sup>

<sup>155</sup> European Parliament, [2020/2014\(INL\)](#) Civil liability regime for artificial intelligence

<sup>156</sup> European Parliament, [Resolution on Civil Law Rules on Robotics](#), P8\_TA(2017)0051, 16 February 2017.

<sup>157</sup> Paragraph 49, EP 2017 Resolution

<sup>158</sup> Paragraph 50, [2017 EP Resolution](#)

<sup>159</sup> Paragraph 51, [2017 EP Resolution](#)

<sup>160</sup> Paragraph 52, [2017 EP Resolution](#).

The general EU approach to liability needs to be based on an in-depth evaluation	The resolution did not provide for a preference in relation to the liability regime that should be applicable to robotics and AI. The resolution stated that 'the future legislative instrument should be based on an in-depth evaluation by the Commission determining whether the strict liability or the risk management approach should be applied'. <sup>161</sup> The resolution however pointed out that 'liability should be proportional to the actual level of instructions given to the robot and of its degree of autonomy' <sup>162</sup> and noted that 'at least at the present stage the responsibility must lie with a human and not a robot'. <sup>163</sup>
Obligatory insurance could be one of the solutions to the complexity of allocating responsibility for damage	The resolution suggested that an obligatory insurance scheme supplemented by a fund could be considered as one possible solution to the complexity of allocating responsibility for damage caused by autonomous robots. <sup>164</sup>
Implications need to be analysed	The impact assessment of a future legislative instrument should consider the implications of a wide spectrum of possible legal solutions.

The resolution lists a number of possible legal solutions that the European Commission should consider when conducting a future impact assessment on the EU legislative instrument.<sup>165</sup> Those policy options include:

- (1) a compulsory insurance scheme for producers or owners of specific categories of robots to cover for the damage potentially caused by their robots;
- (2) a compensation fund to guarantee compensation if the damage caused by a robot that was not covered by the insurance, and to allow 'the manufacturer, the programmer, the owner or the user to benefit from limited liability if they contribute to a compensation fund, as well as if they jointly take out insurance to guarantee compensation where damage is caused by a robot';
- (3) various options to create a fund should be considered, including a general fund for all smart autonomous robots or an individual fund for each and every robot category. Contributions to the fund could be either 'a one-off fee when placing the robot on the market' or 'periodic contributions' paid 'during the lifetime of the robot';
- (4) a Union register to include individual registration numbers of robots, to ensure that the link between a robot and its fund is visible and including information about the limits of its liability in case of damage to property, the names and the functions of the contributors and all other relevant details;
- (5) a legal status for robots (in the long run);
- (6) a collective redress mechanism for consumers who wish to claim compensation for damages collectively.

<sup>161</sup> Paragraph 53, [2017 EP Resolution](#).

<sup>162</sup> Paragraph 56, [2017 EP Resolution](#).

<sup>163</sup> Paragraph 56, [2017 EP Resolution](#).

<sup>164</sup> Paragraphs 57 and 58, [2017 EP Resolution](#).

<sup>165</sup> Paragraph 59, [2017 EP Resolution](#).

The European Parliament was the first EU institution to adopt a clear position and guidelines in relation to the development of the legislative rules applicable to robots and AI.

### 5.4.2. European Parliament 2020 legislative initiative draft report

In 2020 European Parliament has continued to work on the topic of civil liability and artificial intelligence.<sup>166</sup> Parliament considers it important to assess what impact the introduction of AI would have on liability rules in the Union. It also aims to consider the choice of best regime applicable in view of possible future modifications to the legal framework in this area. Parliament's legislative initiative is based on Article 225 TFEU.<sup>167</sup> This means that Parliament intends to call on the European Commission to consider and submit a legislative proposal on this topic.

## 5.5. How to regulate AI liability at EU level? Position of the European Commission: ongoing policy debates

In response to the European Parliament's 2017 resolution on civil law rules on robotics and AI, the European Commission drew attention to a number of policy documents already adopted by the European Commission acknowledging the need to assess the adequacy of civil law liability rules.<sup>168</sup> The European Commission has also stated that it will 'explore different solutions of tackling liability. Besides a possible review of the Directive 85/374/EEC on Liability for Defective Products, this could mean assessing the opportunity of devising risk-based liability regimes, for instance based on a risk-opening approach (allocating liability to market actors generating a major risk for the others and benefiting from the relevant device/ product/ service) or a risk-management approach where liability is assigned to the market actor best placed to minimize risks or avoid their realisation'.<sup>169</sup>

### 5.5.1. Expert group report on liability and new technologies

In 2018 the European Commission set up an expert group on liability and new technologies. This expert group was divided into two formations.<sup>170</sup> The first formation, a 'Product Liability Directive formation', focused specifically on questions relating to the fitness of the PLD to the challenges of new emerging digital technologies and the necessity to adjust or revise the PLD.<sup>171</sup> The second formation, 'new technologies formation', focused on the liability issues that are outside the scope of the PLD. The results of the discussions of the second formation were published in 2019 in the Report on liability for artificial intelligence and other emerging digital technologies.<sup>172</sup>

This in depth report provided a detailed assessment of existing liability regimes and their operational application to emerging digital technologies. On the overall fit of the existing liability framework the report concluded 'While existing rules on liability offer solutions with regard to the risks created by emerging digital technologies, the outcomes may not always seem appropriate, given the failure to achieve: (a) a fair and efficient allocation of loss [...]; (b) a coherent and

<sup>166</sup> See ongoing work on the file 2020/2014(INL) Civil liability regime for artificial intelligence

<sup>167</sup> [Article 225 TFEU](#) provides that 'The European Parliament may, acting by a majority of its component Members, request the Commission to submit any appropriate proposal on matters on which it considers that a Union act is required for the purpose of implementing the Treaties. If the Commission does not submit a proposal, it shall inform the European Parliament of the reasons'.

<sup>168</sup> European Commission, [Response to text adopted in plenary](#) from 16 May 2017.

<sup>169</sup> Ibid, European Commission, [Response to text adopted in plenary](#) from 16 May 2017.

<sup>170</sup> For the detailed tasks and the aims of the expert group see European Commission, [Call for Applications for the Selection of Members of the Expert Group on Liability and New Technologies](#), 2018.

<sup>171</sup> The position of the expert group does not necessarily reflect the official position of the European Commission.

<sup>172</sup> European Commission, Report from the Expert Group on Liability and New Technologies – New Technologies Formation, [Report on Liability for Artificial Intelligence and other emerging digital technologies](#), 2019.

appropriate response of the legal system to threats to the interests of individuals [...]; (c) effective access to justice'.<sup>173</sup> Therefore the expert group recommends adaptations and amendments to the existing liability regimes.<sup>174</sup>

Since the type of risks are divergent, the expert group recommends preserving the overall liability regime, providing a combination of fault and strict liability.<sup>175</sup> Strict liability should be applied to the 'risks posed by emerging digital technologies, if, for example, they are operated in non-private environments and may typically cause significant harm'.<sup>176</sup> The person who controls, decides on and benefits from the relevant technology should be strictly liable, this is an operator (frontend or backend).<sup>177</sup> Producer should be still the main liable person for damages caused by defective products.<sup>178</sup> Moreover, the existing exemptions from strict liability should be reconsidered, as they are currently closely linked to the notions of 'control by humans'.<sup>179</sup> In relation to product liability and burden of proof, 'the burden of proving defect should be reversed if there are disproportionate difficulties or costs pertaining to establishing the relevant level of safety or providing that this level of safety has not been met'.<sup>180</sup> The report also addressed vicarious liability for autonomous systems, logging by design, safety rules, burden of providing fault, causes within the victim's own sphere, commercial and technological units, redress between multiple tortfeasors, damage to data, insurance and compensation funds.<sup>181</sup>

All in all the expert group report calls for a careful overview of the existing rules and the adaption of the existing rules to the specific nature of the new digital technologies. Those adaptations, do not require a completely new liability regime, and can be built or integrated into existing liability systems. However, some new provisions or adjustments, for example in terms of the liable person, scope of application of strict liability, burden of proof, safety rules or damage to data are clearly needed.

### 5.5.2. Report on the safety and liability implications of artificial intelligence, the internet of things and robotics

In April 2018 the European Commission announced that it would submit a report assessing the implications of emerging technologies on the existing liability and safety regulatory framework.<sup>182</sup> In February 2020, the European Commission published a report on the safety and liability implications of artificial intelligence, the internet of things and robotics.<sup>183</sup> This is the latest policy

<sup>173</sup> European Commission, Report from the Expert Group on Liability and New Technologies – New Technologies Formation, [Report on Liability for Artificial Intelligence and other emerging digital technologies](#), 2019, p.5.

<sup>174</sup> Ibid, pp. 32 -36.

<sup>175</sup> Ibid, p. 36.

<sup>176</sup> Ibid. p. 39.

<sup>177</sup> Ibid pp.39-42.

<sup>178</sup> Ibid. pp. 42-44.

<sup>179</sup> Ibid. p.42.

<sup>180</sup> Ibid. pp. 42-44.

<sup>181</sup> Ibid. pp. 45-62.

<sup>182</sup> European Commission, [Communication on Artificial Intelligence for Europe](#), 25/04/2018; see also European Commission staff working document, [Liability for emerging digital technologies](#), accompanying the document Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions Artificial intelligence for Europe, SWD(2018)137 final.

<sup>183</sup> European Commission, [Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics](#), COM/2020/64 final.

document from European Commission that outlines the main policy directions that the European Commission considers possible to take on the issue in the future.

The report states that 'the characteristics of emerging digital technologies like AI, the IoT and robotics challenge aspects of Union and national liability frameworks and could reduce their effectiveness'.<sup>184</sup> The report has focused on the three broad groups of challenges and makes initial proposals on how those three main groups of challenges could be addressed at EU level.<sup>185</sup>

First, complexity of products, services and the value-chain. The report in relation to this challenge suggests considering the revision of the definition of a product under the PLD, to potentially cover software or other digital features. Also the report suggests that the revision of the burden of proof and the definition of the 'defectiveness' could be considered. Second, connectivity and openness. Under this group of challenges the report discusses the issues of cybersecurity after the product was put in circulation as well as exemptions from liability under the PLD. Third, autonomy and opacity: here the report discusses and considers possible further legislation action in relation to the notion of 'putting into circulation' under the PLD. Furthermore the report considers whether and to what extent strict liability regime (beyond PLD) should be applicable to the AI systems with a specific risk profile and whether this strict liability regime should be coupled with the compulsory insurance. Finally, adaptation on the provisions related to burden of proof concerning causation and fault might be necessary for AI applications other than 'with a specific risk'.

## 5.6. Emerging national rules on civil liability for damage caused by AI

The comparative legal analysis underpinning this EAVA, in addition to the existing provisions on liability, also focused specifically on the comparative analysis of national strategies, policy initiatives or legislative proposals on the civil liability of AI.<sup>186</sup> National initiatives relating to AI were analysed by national experts with a specific focus on liability provisions. The main aim was to identify emerging trends and national actions relating to regulation of civil liability of AI. This chapter focuses on the comparative review of national initiatives. Chapter 5.6.1 provides an overview of national AI programmes and Chapter 5.6.2. discusses emerging national initiatives in relation to specific AI applications.

### 5.6.1. National AI programmes and issues of liability

Most of the Member States have recently adopted national strategies relating to AI. These strategies diverge greatly in terms of scope, priorities and allocated budget. The specific focus of this comparative analysis is on the issues of liability. Not a single EU Member State has yet adopted national legislation in general regulating civil liability of AI. A number of Member States have, however, specifically discussed issues relating to liability in their national strategies on AI. The comparative analysis is presented in Table 18 below:

<sup>184</sup> European Commission, [Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics](#), COM/2020/64 final, p. 13,

<sup>185</sup> European Commission, [Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics](#), COM/2020/64 final, pp. 13 -16.

<sup>186</sup> See Annex I



Table 18 – National rules on civil liability for damage caused by AI

	National strategies and policy initiatives on AI	Proposals and/or national strategy provisions on liability
Belgium	Yes, <a href="#">information report on the impact, opportunities, possibilities and risks of the digital smart society</a> (2019)	<a href="#">2019 National information report</a> highlights the urgent need for a legislative framework, preferably at international/EU level and stresses that there is currently a legal deficit because there is hardly any legislation on liability in this context.
Bulgaria	Yes, <a href="#">Digital Bulgaria 2025</a> (2019)	No specific provisions related to liability
Croatia	No (expected in 2020)	No
Czech Republic	Yes, <a href="#">National AI Strategy of Czech Republic</a> (2018)	The strategy states that further research and analysis on liability questions are to be completed by 2021. On 10 February 2020, the Czech Office of the Government, the Czech Ministry of Industry and Trade and the Institute of State and Law of the Czech Academy of Sciences officially launched the expert platform and forum for law and artificial intelligence ( <a href="#">AI Observatory and Forum (AIO&amp;F)</a> ).
Estonia	Yes, national strategy for AI, <a href="#">AI Policy Estonia, Future of Life Institute</a> . (2019)	Legislative proposals on legal aspects of AI, including on non-contractual liability for damage caused by AI, are expected to be made in the course of 2020.
France	Yes, <a href="#">AI for Humanity: French Strategy for Artificial Intelligence</a> . (2018)	The national strategy is based on <a href="#">2018 Villani report</a> . In relation to civil liability, the Report proposes to (a) provide a framework for the use of predictive algorithms in such a way that a human can be held responsible at each stage of the reasoning process; (b) clarify the system of medical liability for healthcare professionals when using AI technologies; (c) define the liability regime for damage caused by the use of machine learning systems.
Germany	Yes, <a href="#">Artificial Intelligence Strategy</a> (2018)	In a <a href="#">publication of April 2019</a> , the Federal Ministry for Economic Affairs and Energy expressly rejected the need for additional rules on civil liability for AI. <sup>187</sup>
Greece	No (expected in 2020)	No
Hungary	A <a href="#">national strategy</a> is currently being developed by the Innovation and Technology Ministry and the Ministry of Justice (adoption and publication by the government is scheduled for 2020) <sup>188</sup>	In his <a href="#">statement of February 2020</a> , the Minister of Innovation and Technology announced that the artificial intelligence strategy will address ethical and legal issues.

<sup>187</sup> The Bundestag has set up a committee of inquiry on AI, [expressly tasked with](#) examining questions of liability and responsibility for AI. In the context of healthcare, [the committee has recommended](#) introducing a common certification for AI medicinal products and assessing whether there are liability gaps not covered by the general rules.

<sup>188</sup> A [national strategy](#) is currently being developed by the Innovation and Technology Ministry and the Ministry of Justice and will be published following approval by the government.

Italy	No, <a href="#">draft national strategy</a> (2019) <sup>189</sup>	No
Lithuania	Yes, <a href="#">National Strategy for AI: a future vision</a> , (2019) <sup>190</sup>	No specific provisions relating to liability
Malta	Yes, the <a href="#">National AI strategy</a> (2019)	No specific provisions relating to liability
Netherlands	Yes, <a href="#">Strategisch Actieplan voor Artificiële Intelligentie</a> . (2019)	The action plan stresses that it is necessary to tackle questions on liability concerning AI that present cross-border aspects at Union level. <sup>191</sup>
Portugal	Yes, <a href="#">AI Portugal 2030</a> (2019)	No specific provision on liability, however on ethics and safety. <sup>192</sup>
Romania	No, expected in 2020 <sup>193</sup>	No
Slovenia	Yes, 'Strategy for AI' ( <i>Strategija umetne inteligence</i> ) (2019)	There are seven elements upon which <a href="#">this strategy</a> is being developed, liability among them.
Spain	Yes, <a href="#">Estrategia Española de I+D+en Inteligencia Artificial</a> (2019)	No specific provisions related to liability
Sweden	Yes, <a href="#">National Approach for Artificial Intelligence</a> (2018)	Sweden particularly encourages legal development in the AI area in Union law. <sup>194</sup> In addition, the Swedish government is of the opinion that it would be counterproductive to adopt new laws concerning AI when the area is changing so rapidly, and proposes other normative tools. <sup>195</sup>

Source: Author's own work, based on the country chapters in Annex I.

The comparative legal analysis of national jurisdictions suggests, that there is currently no specific legislation on civil liability for damage caused by AI in any national jurisdictions. Estonia and France are expected to develop and potentially propose either revision of the existing national legislation or adoption of the new legislation with a specific focus on liability issues. National strategies or policy documents in Belgium, the Czech Republic, Germany, the Netherlands, Slovenia and Sweden address issues relating to liability. Belgium, Netherlands and Sweden specifically encourage the development of liability rules at EU level.

### 5.6.2. Main AI applications where Member States have adopted specific legislation on liability

In addition to general national legal frameworks on liability, which largely seem to be intact, and national strategies on AI, several jurisdictions have adapted or adopted a national legal framework in response to specific new technological developments. There are four main areas relating to new

<sup>189</sup> In July 2019, a group of experts from the Ministry of Economic Development issued a paper that was published [Proposte per una Strategia Italiana per l'Intelligenza Artificiale](#).

<sup>190</sup> The Ministry of Economy and Innovations approved this strategy in 2019, but the strategy was not approved at national level and therefore serves only as a report.

<sup>191</sup> The plan mentions the two European Commission expert groups on liability, and expresses a hope that the outcome of their activities would lead to more insights into questions about liability in the event of damage by AI.

<sup>192</sup> The two specific objectives of this national strategy are to ensure that artificial intelligence is safely and ethically applied in various domains and to help companies and regulators find appropriate legal frameworks.

<sup>193</sup> On 7 May 2020, the government adopted a [memorandum](#) on the establishment of measures to achieve the national objectives in the field of advanced technologies, which, among others, provides for a Romanian artificial intelligence hub. The memorandum does not address the matter of liability.

<sup>194</sup> Swedish Government Offices, 2017/18:FPM96, [Meddelande om artificiell intelligens för Europa](#) (2017).

<sup>195</sup> Ibid., 6-7.



technologies with autonomous digital systems potentially or increasingly enabled by AI systems where Member States have already taken legislative action relating specifically to liability. Those areas are:<sup>196</sup> unmanned aircraft; autonomous vehicles;<sup>197</sup> financial services, blockchain, cryptocurrencies and self-learning algorithms;<sup>198</sup> and medical devices.<sup>199</sup>

The unmanned aircrafts (UA) or drones are among the most developed and increasingly used autonomous systems. Until recently EU law only regulated UA weighing more than 150 kilograms. Smaller UA were regulated by national law, leading to divergent national rules and no centralised registration system. Considering the growing market for drones and fragmentation of national rules, in May 2019 the European Commission adopted Implementing Regulation (EU) 2019/947 of 24 May 2019 on the rules and procedures for the operation of unmanned aircraft. This implementing regulation will be binding in its entirety and directly applicable in all Member States from 31 December 2020.<sup>200</sup>

Specifically focusing on liability and insurance provisions, Greece, Lithuania, Portugal, and Slovenia include specific provisions on liability in their legislation on drones.<sup>201</sup>

For example, in **Greece** an administrative regulation on unmanned aircraft systems (UAS) (UAS Regulation)<sup>202</sup> provides for strict liability with regard to damage caused by remote pilots or operators during the execution of flights. Article 5(7D) of the UAS Regulation provides for strict liability in the case of damage caused during the execution of the flight under the operation of a remote pilot or operator. An operator is the owner, lessee or occupier (person in possession or control) of the aircraft. **Lithuanian rules** on unmanned aircraft state that 'These rules only lay down minimum safety requirements for the operation of drones and do not exempt the owner or operator of the drone from any form of legal liability vis-à-vis other persons if the rights and legitimate interests of those persons are violated'.<sup>203</sup> In **Portugal**, [Decree Law No 58/2018](#) lays down specific rules on non-contractual liability for damage caused by unmanned aircraft, namely drones. Article 10 of the decree law requires mandatory civil liability insurance for drones with a weight over 900 grams. The civil liability regime for damage is subject to strict liability: unless the operator is able to prove the accident was exclusively due to the injured party's fault, the operator is liable for damage caused to third parties by the unmanned aircraft systems, regardless of fault.

<sup>196</sup> This list includes only references to the national initiatives specifically addressing questions of liability and not generally related to the new technologies.

<sup>197</sup> Belgium, Czech Republic, Estonia, France, Hungary, Germany, Italy, Netherlands, Portugal, Spain, Sweden and UK have either proposed or already adopted legislative amendments to existing legislation relating to road transport. The amendments focus primarily on allowing research and testing in relation to autonomous vehicles. See Annex I for details on each national system.

<sup>198</sup> Malta and France.

<sup>199</sup> Romania.

<sup>200</sup> [Commission Implementing Regulation \(EU\) 2019/947 of 24 May 2019 on the rules and procedures for the operation of unmanned aircraft](#).

<sup>201</sup> Annex I provides details on each national system.

<sup>202</sup> The UAS Regulation was introduced by [a decision of the Administrator of the Civil Aviation Authority](#) (CAA).

<sup>203</sup> The [Rules for the operation of unmanned aircraft](#), adopted on 23 January 2014 by the Director of the Civil Aviation administration contain provisions on drones, point 20.

Regulatory practice relating to insurance coverage also diverges. For example, Belgium,<sup>204</sup> Germany,<sup>205</sup> Malta, the Netherlands,<sup>206</sup> Portugal,<sup>207</sup> Romania,<sup>208</sup> Slovenia<sup>209</sup> and Spain<sup>210</sup> require compulsory third party insurance coverage, while Croatia, Greece and Lithuania do not include such an obligation. Malta does not have a specific law on unmanned aircraft, however The Maltese Civil Aviation Directorate (MCAD) has, in the absence of regulation, adopted a risk-based approach, on a case-by-case basis, assessing the scope and complexity of the request and, in particular, the risk of the proposed operation. Moreover, the operators of unmanned aircraft in Malta are required to hold third-party-liability insurance, covering personal injury and damage to property as well as the scope and complexity of the drone operation.

Regulation of unmanned aircraft is instructive for other potential emerging technologies. First, Member States have begun to adopt national rules regulating definitions, safety and operational rules relating to UA. The diffusion and uptake of this technology coupled with increasingly fragmented national approaches has led to the adoption of EU level legislation that aims to provide a common approach to regulation of UA.

### 5.6.3. Conclusions

The European Parliament, the European Commission's expert group and the European Commission itself seem to agree that there is a need to adapt the PLD to the challenges of new technologies. The exact scope and design of the new liability framework remains contested.

Member States are increasingly turning their attention to the regulation of the civil liability of AI systems. A number of national AI programmes specifically address issues relating to liability. Therefore, it is very likely that in the next one or two years a number of national legislative initiatives will emerge. With the wider diffusion and uptake of AI systems, in the absence of a common EU approach on AI liability, Member States, will be increasingly pressured to adopt national solutions. This is clearly demonstrated by the legislative dynamics relating to unmanned aircraft. The lack of a common EU approach led to the emergence of divergent national rules that, with the increasing uptake of this specific technology, called for common action. As a result, the EU took action and adopted EU-level legislation.

<sup>204</sup> Article 97 of the royal decree of 10 April 2016 requires remotely piloted aircraft operators for the purpose of professional or commercial activities to hold third-party insurance covering civil liability for physical and material damage.

<sup>205</sup> Insurance (third-party liability) is required for all operations in Germany.

<sup>206</sup> Article 10(1) of the regulation requires the operator to have insurance covering civil liability for physical and material damage caused to third parties.

<sup>207</sup> Article 1 of the decree law provides that the scope of the decree is to establish mandatory registration and a mandatory insurance scheme for operators of drones. Article 9 of the decree law provides that maximum compensation for damage caused by unmanned aircraft systems where the operator is not at fault is limited to the amount of minimum capital of the mandatory civil liability insurance.

<sup>208</sup> The Romanian Civil Aeronautical Authority [requires](#) third-party liability insurance for unmanned aircraft under the conditions laid down in [Regulation \(EC\) No 785/2004](#); in the case of model aircraft weighing less than 20 kg, insurance is optional. [Government Decision No 912/2010](#), which has been [interpreted](#) by the courts to also apply to unmanned aircraft, also lays down third party liability insurance for the aircraft as a condition for flight over national air space (Article 3).

<sup>209</sup> According to Article 7 of the decree, the operator, owner of the UAS or owner of the aircraft model must take out insurance on the UAS in accordance with the regulations governing compulsory insurance in transport. Article 18(1) of the decree provides that prior to performance of aviation activity, operators must state their qualifications and that they assume responsibility for the performance of aviation activities with the UAS, that the UAS that they intend to use to perform the aviation activities meets the relevant technical requirements, and that they will perform the aviation activities in accordance with the provisions of the decree.

<sup>210</sup> Article 26(c) of the royal decree, provides that it is mandatory for the pilot to hold an insurance or financial guarantee covering third-party civil liability for damage caused during aerial specialised operations or experimental flights.

National regulatory differences, in themselves, are an integral part of the EU legal tradition and of the existing EU landscape. However, in certain cases, legal fragmentation can impact cross-border trade in the single market, creating additional costs and uncertainty for producers. The ability to calculate liability risks is crucial for any producer, especially those of innovative products such as AI systems. Therefore, fragmentation and uncertainty relating to the liability provisions applicable across EU Member States that may emerge in the absence of a common EU approach can provide negative incentives for innovation and diffusion of AI systems while also contributing to excessive costs for consumers.

## 6. European added value: Quantitative assessment

### 6.1. Analytical framework

The quantitative assessment of European added value in this study is based on two studies commissioned by the European added value unit of the European Parliamentary Research Service: the '2019 Cost of non-Europe in Robotics and Artificial Intelligence: Liability, insurance and risk, management' (CoNE 2019) and the 2018 'A common EU approach to liability rules and insurance for connected and autonomous vehicles: European Added Value Assessment' (2018 EAVA on AVs) carried out for the European Added Value Unit of the European Parliament's DG EPRS. Based on the data collected and analysed in those two studies, this study adopts a twofold analytical model to estimate the European added value of EU civil liability regime for AI.

First, based on the estimates of the direct economic impacts that could potentially be generated with additional investment in research and development (R&D) in the four economic areas, provided by CoNE 2019, this EAVA estimates what could be the overall direct economic impact for the EU economy of additional investment in research and development resulting from a civil liability regime for AI.<sup>211</sup> Second, based on the estimates from the 2018 EAVA on AVs, this EAVA estimates the broader economic value that could be generated as a result of a reduction in accidents, environmental and health impacts and impacts on users, and additional tax revenues that could be generated as a result of the clear liability framework. By combining the estimates from those two steps, an overall assessment of the European added value can be made.<sup>212</sup>

Although this approach has significant limitations, due to very limited availability of data, and high uncertainty relating to the diffusion and uptake of AI systems, this EAVA still nevertheless provides a first modest attempt and quantitative estimate to contribute to the discussion on the topic. For the same reasons, relating to the lack of data and uncertainty, this EAVA provides only a global overview of the potential macroeconomic impacts and does not comparatively discuss European added value per policy option.

### 6.2. Economic impacts based on increased R&D in robotics and AI: Macroeconomic analysis based on CoNE 2019

This chapter provides a concise overview of the quantitative assessment and the main results of the CoNE 2019.<sup>213</sup> CoNE 2019 was conducted by DLA Piper/Cambridge Econometrics at the request of EPRS. It focused on four economic markets: transport/logistics (excluding self-driving vehicles), households/domestic, hobby/entertainment, and medical-robotics and AI, and measured the economic impacts of accelerating EU action on the level of investment in R&D in AI and robotics in the four economic markets by one year (2030 instead of 2031). The impacts were measured in terms of % change in GDP and employment in 2030 compared to a baseline scenario, which presumed no additional EU action on liability, insurance and risk management relating to AI and robotics. Below is an overview of the methodology, key assumptions and main results of CoNE 2019.

<sup>211</sup> Clearly this is very rough estimation. The two studies provide only very limited and very partial estimates of European added value, and thus, cannot be considered as representative for the total added value of the European economy. More detailed, sector specific analysis is necessary to provide more accurate data.

<sup>212</sup> This twofold approach to assessing European added value has significant limitations, and needs to be further verified and assessed with sector specific studies.

<sup>213</sup> EPRS, Cost of non-Europe in robotics and artificial intelligence: Liability, insurance and risk management, 2019, pp. 43-59.

### 6.2.1. Methodology

The CoNE 2019 study was a quantitative assessment carried out within the Cambridge Econometrics E3ME Macroeconometric computer-based model.<sup>214</sup> The assessment presents a cost of non-Europe/ value-for-money approach 'to identify and quantify the foregone net benefits and the cost of not introducing EU-level action in relation to selected markets (liability, insurance and risk management) for robotics and AI'. This model depends on historical data and it is assumed in the model that behavioural responses do not change over time. Clearly, in assessing the policy areas as robotics and AI, it is a strong limiting factor. The 2019 study itself states that "the quantification of the CoNE is challenging in this context since the technology is developing rapidly globally and it is difficult to conceive what products and services will be available in 10-15 years' time. The quantification should therefore be seen as indicative, rather than a precise estimate, showing the relative importance of different effects and potential sensitivities to the outcome."

The assessment covers four markets: (1) transport/ logistics (excluding autonomous vehicles); (2) household/consumer products; (3) hobby/ entertainment and (4) medical. To estimate business expenditure on R&D, the study used Eurostat dataset NACE Rev. 2 activity [rd\_e\_berdindr2]; for gross value added (GVA), annual detailed enterprise statistics for industry (NACE Rev. 2, B-E) [sbs\_na\_ind\_r2] and for the employment shares Eurostat structural business statistics (sbs\_na\_1a\_se\_r). The sectors and Eurostat NACE codes are listed below.

Table 19 – Mapping the markets in E3ME

Market	Technology-producing E3ME sector(s) and NACE code	Technology-using E3ME sector(s) and NACE code	Investment effect by user	Productivity effect by user
Transport (not autonomous vehicles)	Computer, optical & electronic (C26) Computer programming, info serv. (J62, 63)	Land transport, pipelines (H49), warehousing and support activities for transportation (H52), postal & courier activities (H53)	Switching to AI-based investment	Yes
Household/consumer household products	Computer, optical & electronic (C26) Electrical equipment (C27) Computer programming, info serv. (J62, 63)	Households	Change in consumption pattern	No (effect reinforces change in consumption patterns)
Hobby/ entertainment	Computer, optical & electronic (C26) Computer programming, info serv. (J62, 63)	Households Creative, arts and entertainment activities (R90) Sports activities and amusement and recreation activities (R93)	Change in consumption pattern	No

<sup>214</sup> More detail on the E3ME model is available at [www.e3me.com](http://www.e3me.com) and the technical manual is available here: <https://www.e3me.com/wp-content/uploads/2019/09/E3ME-Technical-Manual-v6.1-onlineSML.pdf>.

Medical	Furniture; other manufacturing (C31, 32)* Computer, optical & electronic (C26) Computer programming, info serv. (J62, 63)	Human health activities (Q86) Residential care (Q87) Households	Switching to AI-based investment	Yes
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\* Note: Other manufacturing includes manufacture of medical instruments.

Source: Cambridge Econometrics, CoNE 2019.

### 6.2.2. Key assumptions

In order to estimate the impact of EU action on liability, insurance and risk management on the economy, based on a review of the literature, the study assumed that 'The development of a framework of liability for autonomous systems should be done with a view to maximize the net surplus for society by minimizing the costs associated with personal injury and property damage'.<sup>215</sup> Moreover, 'Since robotics and AI are still currently under development, the ethical and regulatory frameworks are assumed to foster the development of robotic and AI technology and the uptake of goods and services utilising robotics and AI by citizens and industry operators, while economic actors also need sufficient legal certainty to provide financial capital in AI technology'.<sup>216</sup> More specifically, the quantitative model was based on the following underlying economic assumptions:

Table 20 – The key assumptions for economic estimates used in CoNE 2019

A harmonised EU regulatory framework on liability and insurance in robotics and AI among the (future) 27 Member States is assumed to lead to:

- increased investment in R&D by producers since liability and insurance provisions will be similar, transparent and applicable to all agents in the single market;
- a more attractive EU for overseas producers to invest in, i.e. increase in foreign direct investment (FDI);
- faster uptake of the technologies by consumers since a common framework would inspire more trust and confidence in the two new essential emerging technologies (the effect might differ between markets);
- increased insurance premiums for producers in countries with basic or medium level of product liability protection for consumers under the current legislative framework.

In turn it is assumed these direct effects will result in:

- more confidence from third-countries to buy 'AI made in Europe' and an increased competitive position of EU producers on the world market;
- improved competitive advantage on the internal market over third-country producers that develop similar technology.

<sup>215</sup> EPRS, Cost of non-Europe in robotics and artificial intelligence: Liability, insurance and risk management, 2019, pp. 45-46.

<sup>216</sup> M. Craglia (ed.) et al, *Artificial Intelligence - A European Perspective*, EUR 29425 EN, Publications Office, Luxembourg, 2018, ISBN 978-92-79-97217-1, doi:10.2760/11251, JRC113826 as cited in EPRS, Cost of non-Europe in robotics and artificial intelligence: Liability, insurance and risk management, 2019, p.45.

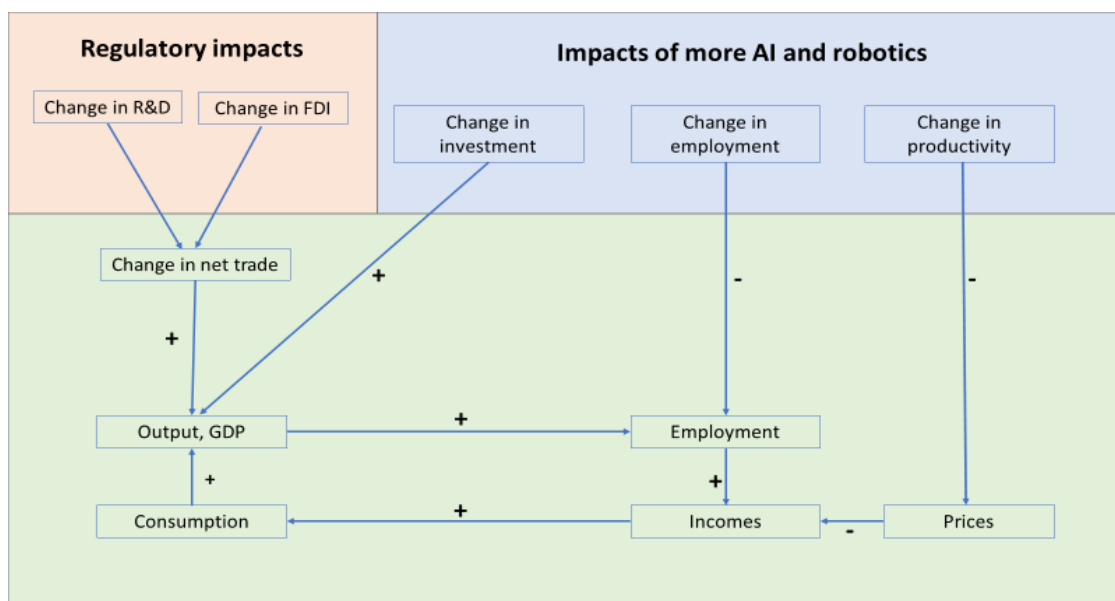
The increase in the uptake of robotics and AI in the four sectors will lead to:

- changes in productivity in the four sectors using the two new essential emerging technologies;
- changes in employment in the sectors using, insuring and producing AI products;
- more investment in the sectors producing the robotics and AI to further improve the technologies;
- better quality products bringing more consumer benefits in terms of lower prices or tailored products, resulting in higher 'real' expenditure even if nominal expenditure is unchanged;
- a change in the EU-27 GDP level by 2030.

Source: Cambridge Econometrics, CoNE 2019, p. 46.

The quantification of the impact on the EU economy of the change in legislation on liability was based on a scenario-based application of the E3ME model. The model's inputs interlink with key variables, as well as modelling assumptions, represented in Figure 1 below.<sup>217</sup> Figure 1 maps out how expected changes in the regulatory framework will likely impact on the economy. The pluses and the minuses indicate the anticipated (positive or negative) impact.

Figure 1 – How the scenarios are modelled



Source: Cambridge Econometrics, 2019 CoNE.

In terms of the expected uptake and the timeline, to quantify the impacts, the study assumed that 'the EU will invest in R&D as per its current plans by the end of 2020 and beyond and by 2030 it is expected that the technology would have been adopted (to some degree) in those markets under consideration: transport/logistics- (excluding self-driving vehicles), households/domestic; hobby/entertainment- and medical-robotics and AI'. The impacts are measured in terms of a percentage change in GDP and employment in 2030 compared to a baseline scenario, which presupposes that the current regulatory regime on liability will not change. The results presented in the study suggest that the effect of the added value would be that of *accelerating action by one year*, i.e. 'For example, levels of R&D activity or adoption that would have occurred by 2031 now occur by 2030'.

<sup>217</sup> For a detailed review of the quantification methodology and modelling assumptions, please refer to the original study, Cost of non-Europe in robotics and Artificial intelligence: Liability, insurance and risk, management (2019).



### 6.2.3. The main results of the CoNE 2019 macro-economic analysis

Table X below presents the main results of the macro-economic analysis in terms of GDP, employment and extra-EU net trade, as a percentage change compared to a baseline scenario.

Table 21 – Scenario impacts on GDP, employment and net trade in 2030, EU-27,<sup>218</sup>  
(% difference from the current regulatory scenario) based on the 2019 CoNE

Scenario name	GDP	Employment	Extra-EU net trade
Scenario (1) – Increased R&D in robotics and AI	0.04	0.01	0.45
Direct employment change	N/A	-0.37	N/A
Scenario (2) – Robotics and AI adoption with no additional investment	-0.11	-0.37	0.91
Scenario (3) – Robotics and AI adoption with additional investment	0.03	-0.23	0.77

Source: Cambridge Econometrics, CoNE 2019, p.56.

The study cautiously concludes that 'The impact on the EU economy of harmonised regulation in the markets considered is highly uncertain, with some factors providing a positive effect and others negative'.<sup>219</sup> Nevertheless, based on the analysis of the four markets, the results clearly indicate that additional investment and increased R&D in robotics and AI could have significant effect on the economy. If no EU action on civil liability and insurance is taken, those benefits could be lost.

Therefore, Scenario 1, which measured the effects of the increased R&D in robotics and AI in the four economic markets, would lead to an increase in GDP in the range of 0.04 % compared to a baseline scenario. Likewise, additional investment, analysed in Scenario 3, would lead to an increase in GDP in the range of 0.03 %, compared to the baseline scenario. This effect represents an acceleration in levels of R&D or additional investment triggered by the EU action occurring one year earlier, i.e. in 2030, than without EU action, i.e. in 2031. Table 22 below provides a comparative analysis of the main results per policy action.

Table 22 – GDP impact per policy action

Scenario (1) - Increased R&D in robotics and AI	The impact of the greater R&D effort stimulated by regulatory harmonisation is positive in terms of GDP and employment. In 2030 GDP is 0.04 % higher than it would be under the current regulatory regime, and employment 0.01 % higher. There is a direct link between R&D and investment. The effect of greater R&D effort is higher quality products from technology-producing sectors, resulting in greater market share in the export markets and the substitution of imports with domestic demand. The additional demand for technology products stimulates additional employment (although the additional employment will not be proportional to the additional demand as process innovation is likely to accompany the product innovation leading to greater labour productivity).

<sup>218</sup> Results for EU-28 are not significantly different.

<sup>219</sup> EPRS, Cost of non-Europe in robotics and artificial intelligence: Liability, insurance and risk management, 2019, pp. 43-59



Scenario (2) - Robotics and AI adoption with no additional investment	In general, the effect of robotics/AI on employment in the EU is likely to be different for different sectors and Member States depending on how they benefit from the new technologies. It is expected that <i>technology producer</i> sectors, which will produce the robotics and AI based on their R&D activities, will grow and experience an increase in employment. In <i>technology user</i> sectors, which use these products in producing and providing services, the new technologies could crowd out employment. The net employment effects of all industries are the sum of these impacts, and are calculated within the E3ME model. The scenario takes into account how productivity and employment related to new technologies in each sector affect the economy as a whole, including spillovers to other sectors and indirect effects. In 2030 GDP is 0.11 % lower than it would be under the current regulatory regime, and employment 0.37% lower.
Scenario (3) – Robotics and AI adoption with additional investment (Scenario (2) with additional investment)	If additional investment were required to achieve faster adoption of robotics and AI, then this would mitigate in part the negative impact discussed above. However, the marginal effect on overall GDP will be less than the additional investment, as some of the investment will be sourced from outside the EU, increasing imports. In 2030, GDP is 0.03 % higher than it would be under the current regulatory regime, and employment 0.23 % lower.

Source: Summary based on the Cambridge Econometrics, CoNE 2019, pp. 56-59.

### 6.3. Economic impacts of common EU approach to liability and insurance: Macroeconomic analysis based on 2018 EAVA on autonomous vehicles

This chapter provides an overview of the main findings of the 2018 EAVA on AVs. It is a quantitative socio-economic study that estimates the potential benefits of adopting a common EU approach to liability rules and insurance for connected and autonomous vehicles (CAVs). The assessment of the economic value is based on the estimation of the cost and benefits of the earlier uptake of CAVs. The assessment focuses only on CAVs and is thus narrower than the CoNE 2019 discussed above. However it considers much broader economic impacts of the liability rules, accident costs, user impacts, health and environmental impacts and tax revenues, and is thus much broader in this respect than CoNE 2019.

#### 6.3.1. Methodology

The study is a quantitative socio-economic assessment based on the cost-benefit analysis (CBA).<sup>220</sup> The latter is based on a net present value approach and quantifies the socio-economic costs and benefits of changes in the rate of roll-out and adoption of fully autonomous vehicles (FAVs) due to different legislative options. The CBA resorts to published data and expert interviews data, rather than using a formal CBA model, and necessarily makes assumptions given the uncertainty associated with the roll-out of AVs. More specifically, the CBA objective was to quantify the change in benefits from the deployment of FAVs under different liability regimes (i.e. scenarios), the roll-out rate being dependent on the liability regime. For the baseline scenario, it is assumed that existing

<sup>220</sup> For a detailed discussion on methodology see T. Evas, A Common EU Approach to Liability Rules and Insurance for Connected and Autonomous Vehicles, European Added Value Assessment, 2018, Annex II, Research Paper by RAND Europe, Socio-economic analysis of the EU common approach on liability rules and insurance related to connected and autonomous vehicles, and Appendix B: CBA Methodology, data assumptions for quantitative assessment.

regulations do not vary, without adaptation being made for FAVs. Eight scenarios (S5-S8 representing the sensitivity analysis) are considered and compared to the baseline (S0).<sup>221</sup>

### 6.3.2. Assumptions and expected impacts

The key assumptions underlying the study and the summary of main impacts by stakeholder group included in the CBA are summarised in Table 23 below.

Table 23 – Summary of impacts by stakeholder group included in the CBA 2018 EAVA

Stakeholder group	Impacts
Travellers	Travel times may decrease because FAVs may be able to make more efficient use of road space. This could be countered by more people travelling in FAVs. Moreover, because people can be more productive while travelling, the perceived cost of travelling time in a FAV will be less.
Wider population	If FAVs have fewer accidents, there will be lower numbers of injuries and deaths due to road accidents.
Transport service providers/operators	If FAVs are more attractive compared to other modes of travel, for example public transport services, people may switch more journeys to FAVs, resulting in lower revenues from public transport services.
Producers on other markets (vehicle, insurance, components)	Vehicle producers, other component providers, vehicle repair services and insurers may see changes to revenues and costs as a result of the introduction of FAVs.
Rest of economy (wider impacts)	Improvements in transport efficiency facilitated by take-up of FAVs will lead to wider economic impacts. These take account of agglomeration effects, labour market inefficiencies and product differentiation.
EU (Member States governments and EU institutions)	The introduction of FAVs may lead to lower tax revenues for governments from insurance.

Source: Table 15 in the 2018 EAVA on AVs, pp. 162-163.

### 6.3.3. Main results

The socio-economic analysis finds that the potential European added value from faster deployment (i.e. anticipation by five years) of AVs amounts to approximately €148 billion. The main benefits derive from reduced costs of travel for FAV users since FAVs would drive more efficiently and users would be productive while travelling. Travel efficiency would thus be enhanced while benefiting normal vehicle drivers due to reduced congestion.

<sup>221</sup> S1: Earlier Deployment. Deployment of FAVs takes place at the same rate as in S0 but starts five years earlier; S2: Slower Deployment Rate. Deployment of FAVs starts at the same time as S0 forecast but occurs at a slower rate so that, in 2035 and 2040, new car market penetration is half that of the baseline; S3: No Insurance Costs. No insurance is required for FAV users; S4: Fully Internalised Costs. All accident costs for FAVs are fully internalised in the insurance market; this is reflected in the insurance premium to consumers; S5: Lower Productivity. The value of time (VOT) for FAV users is 50 % higher than assumed in S0, reflecting lower levels of productivity in FAVs; S6: Higher Accident Rate. The accident rate for all vehicles has reduced more slowly and is 50% higher than assumed in S0 by 2025; S7: Increased FAV safety. FAVs are safer than assumed in S0 and reduce the accident risk by 90% (S0 50%); S8: 50% of FAVs are shared. Compared with 10% in S0. Shared vehicles cover five times more vehicle-kilometres than privately-owned vehicles.

Table 24 – CBA impacts by scenario in the EU based on the 2018 EAVA on AVs

	Insurance / liability scenarios				Sensitivity tests			
Consumer impacts (€ billion in 2015 prices)	S1: Earlier deployment	S2: Slower deployment	S3: No insurance costs	S4: Fully internalised costs	S5: Lower productivity	S6: Higher accident rate	S7: Increased FAV safety	S8: 50% shared FAVs
Transport user impacts	116.53	-35.58	35.22	-23.95	-188.14	-879.04	17.18	315.29
Health impacts	-1.99	0.00	-0.59	0.19	2.09	0.03	-0.36	-4.21
External accident cost impacts	2.34	-0.81	-22.12	6.92	0.05	-49.24	1.27	-0.10
External environmental cost impacts	8.60	-3.01	-0.20	0.06	0.71	-0.03	-0.12	-1.44
Tax revenue	6.57	0.82	-4.96	1.55	-2.67	130.85	-2.97	-26.81
Wider economic impacts	16.11	-5.55	0.75	-0.24	-226.30	-15.41	0.45	5.43
Total	148.15	-44.13	8.10	-15.47	-414.27	-812.85	15.46	288.17

\* All the impacts above are positive if they represent a benefit and negative if they represent a non-benefit relative to the baseline.

Source: Table 1 – Summary CBA impacts of scenarios for the EU (€ billion in 2015 prices), 2018 EAVA on AVs.

Similarly to CoNE 2019 the overall results of the 2018 EAVA on AVs suggest a positive impact of EU common action on liability rules and insurance, compared to the base line scenario, which assumes no additional action at EU level. The overall results of the 2018 EAVA on AVs are in line with the assumptions of the economic literature (discussed in Chapter 4), which suggest that liability rules play an important socio-economic role. As Table 24 above indicates, the biggest economic benefits of a common EU approach to liability rules and insurance will likely to come not from direct economic impacts (for example increased levels of R&D) but rather from other drivers, including user impacts.

## 6.4. European added value

This chapter will provide preliminary estimates on the potential European added value based on the results of the two studies analysed above: CoNE 2019 and 2018 EAVA on AVs. First, based on the results of CoNE 2019, this EAVA estimates what could be the overall direct economic impact for the

EU economy of additional investment in R&D resulting from a civil liability regime for AI.<sup>222</sup> Second, based on the estimates from the 2018 EAVA on AVs, this EAVA estimates the broader economic value that could be generated as a result of a reduction in accidents, environmental and health impacts and impacts on users and additional tax revenues that could be generated as a result of the clear liability framework. By combining the estimates from those two steps it is possible to arrive at overall European added value assessment.

Table 25 – European added value assessment: Basic assumptions

Assumption	Assumed value	Source
EU GDP in 2030 GDP, current prices (€ billion)	18.45	2020 European added value assessment on the European framework of ethical aspects of artificial intelligence, robotics and related technologies <sup>223</sup>
Share of four sectors (1) transport/ logistics (excluding autonomous vehicles); (2) household/consumer products; (3) hobby/ entertainment and (4) medical in the overall EU28 GVA	13.5 %	Eurostat data [nama_10_a64]
Share of direct economic impacts in the overall economic impacts that result from liability rules	11 %	Own estimate, considering the distribution of 2018 EAVA on AVs.

Source: Author's own work.

#### 6.4.1. Economic benefits of acceleration of R&D level

The results and quantitative analysis of the CoNE 2019 indicate that common EU action on liability and insurance is expected to foster producers' R&D activity and increase the speed of consumers' uptake of essential emerging technologies such as AI and robotics. The higher level of R&D would be triggered by the common EU approach to liability rules and insurance for AI. This common EU approach would also facilitate more trust and confidence in the technologies by users. This would lead to positive changes in productivity, employment, and investment, offering higher consumer benefits via lower prices or tailored products, which then would translate into higher real expenditure. Moreover, by adopting a common approach, the EU would potentially become more attractive as an investment destination to overseas producers, who would thus intensify their foreign direct investment (FDI) activity. In turn, this would strengthen EU producers' competitive position on the world market vis-à-vis third countries developing similar technologies.

Overall, common EU action on liability could have a potential economic impact in the range of 0.04 % additional GDP compared to the baseline scenario. Those results seem to be very modest. This is explained by the narrow scope of the 2019 CoNE study. The scope of the quantitative analysis was limited in two ways. First it focused only on four economic markets including: (1) transport/logistics (but excluding autonomous vehicles); (2) household/consumer products; (3) hobby/entertainment and (4) medical. Second in estimating the economic impacts, the main focus was on R&D spending (or increase in spending) for the overall economy. Moreover, the economic impacts have been measured in terms of acceleration of action by one year, in other words, the acceleration of level of R&D activity from 2031 to 2030.

<sup>222</sup> Clearly this is a very rough estimation. The two studies provide only very limited and yet very partial estimates of European added value, and thus cannot be considered as representative for the total added value of the European economy. A more detailed, sector specific analysis is necessary to provide more accurate data.

<sup>223</sup> See methodological annex to the 2020 European added value assessment on the European framework of ethical aspects of artificial intelligence, robotics and related technologies for the approach to calculating EU GDP in 2030 in current prices.

In order to better contextualise the results of CoNE 2019 and estimate the potential overall impact of the EU's common approach to liability rules and insurance on the level of R&D, this EAVA estimates the relative size of the four economic markets analysed in CoNE 2019 in the overall EU economy. To do this it uses the same NACE codes used for each specific economic market as in CoNE 2019.

Table 26 presents EU 28 gross value added (GVA) as a generic categorisation of the economy by economic sectors by NACE category.<sup>224</sup> Table 27 provides more detailed categorisation, using specific codes used in CoNE 2019.<sup>225</sup>

Table 26 – EU28 gross value added (GVA) by NACE category, current prices, € million, 2017

NACE category code	NACE category name	CoNE category	€ million	Share
B-F	Industry and construction		3 381 072	24.6%
M_N	Professional, scientific and technical activities; administrative and support service activities		1 563 834	11.4%
G	Wholesale and retail trade; repair of motor vehicles and motorcycles		1 550 103	11.3%
L	Real estate activities		1 547 141	11.2%
Q	Human health and social work activities	Medical	1 017 587	7.4%
H	Transportation and storage	Transport	670 017	4.9%
R	Arts, entertainment and recreation	Hobby/entertainment	191 573	1.4%
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	Household/transport	49 752	0.4%
O, J, P, K, I, A and other	Other economic activities		3 800 393	27.6%
TOTAL	Total – all NACE activities		13 771 472	100.0%

Source: EPRS/Giulio Sabbati, based on Eurostat data.

<sup>224</sup> Data source: Eurostat, dataset [nama\_10\_a64].

<sup>225</sup> Data source: Eurostat, dataset [nama\_10\_a64].

Table 27 – EU28 gross value added (GVA) by NACE category used in 2019 CoNE, current prices, € million, 2017

NACE category code	NACE category name	EAVA categories	€ million	Share
J62_J63	Computer programming, consultancy, and information service activities	Transport, households, hobby/entertainment, medical	359 248	2.6%
C26	Manufacture of computer, electronic and optical products	Transport, households, hobby/entertainment, medical	:	:
H49	Land transport and transport via pipelines	Transport	304 141	2.2%
H52	Warehousing and support activities for transportation	Transport	232 691	1.7%
H53	Postal and courier activities	Transport	58 241	0.4%
Q86	Human health activities	Medical	699 003	5.1%
Q87_Q88	Residential care activities and social work activities without accommodation	Medical	318 584	2.3%
C31_C32	Manufacture of furniture; other manufacturing	Medical	:	:
C27	Manufacture of electrical equipment	Households	101 458	0.7%
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	Transport	49 752	0.4%
R90-R92	Creative, arts and entertainment activities; libraries, archives, museums and other cultural activities; gambling and betting activities	Hobby/entertainment	110 909	0.8%
R93	Sports activities and amusement and recreation activities	Hobby/entertainment	80 664	0.6%
TOTAL	Total – all NACE activities		13 771 472	100.0%

Source: EPRS/Giulio Sabbati, based on Eurostat data.

Similarly Table 28 presents EU28 employment by NACE category as a generic categorisation of the economy by economic sector by NACE category.<sup>226</sup> Table 29 provides more detailed categorisation, using the specific codes used in CoNE 2019.<sup>227</sup>

<sup>226</sup> Data source: Eurostat, dataset [nama\_10\_a64\_e].

<sup>227</sup> Data source: Eurostat, dataset [nama\_10\_a64\_e].

Table 28 – EU employment 28 by NACE category, thousand persons, 2017

NACE category code	NACE category name	EAVA categories	€ million	Share
B-F	Industry and construction		51 039	21.6%
M_N	Professional, scientific and technical activities; administrative and support service activities		30.552	13.0%
G	Wholesale and retail trade; repair of motor vehicles and motorcycles		34 247	14.5%
L	Real estate activities		2 579	1.1%
Q	Human health and social work activities	Medical	24 957	10.6%
H	Transportation and storage	Transport	12 002	5.1%
R	Arts, entertainment and recreation	Hobby/entertainment	4 230	1.8%
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	Transport/Households	3 644	1.5%
O, J, P, K, I, A and other	Other economic activities		72 648	30.8%
TOTAL	Total - all NACE activities		235 900	100.0%

Source: EPRS/Giulio Sabbati, based on the Eurostat data.

Table 29 – EU Employment 28 by NACE category as applied in CoNE 2019 on liability, thousand persons, 2017

NACE category code	NACE category name	EAVA categories	€ million	Share
J62_J63	Computer programming, consultancy, and information service activities	Transport, households, hobby/entertainment, medical	4 389	1.9%
C26	Manufacture of computer, electronic and optical products	Transport, households, hobby/entertainment, medical	1 171	0.5%
H49	Land transport and transport via pipelines	Transport	6 590	2.8%
H52	Warehousing and support activities for transportation	Transport	3 021	1.3%
H53	Postal and courier activities	Transport	1 749	0.7%
Q86	Human health activities	Medical	14 293	6.1%
Q87_Q88	Residential care activities and social work activities without accommodation	Medical	10 664	4.5%
C31_C32	Manufacture of furniture; other manufacturing	Medical	2 199	0.9%
C27	Manufacture of electrical equipment	Households	1 546	0.7%



T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	Households	3 644	1.5%
R90-R92	Creative, arts and entertainment activities; libraries, archives, museums and other cultural activities; gambling and betting activities	Hobby/entertainment	2 275	1.0%
R93	Sports activities and amusement and recreation activities	Hobby/entertainment	1 955	0.8%
TOTAL	Total – all NACE activities		235 900	100.0%

Source: EPRS/Giulio Sabbati, based on the Eurostat data.

Based on the four tables above, it may be estimated that overall share of the four analysed economic markets is 13.5% as a share of EU GVA and 18.7% as share of EU employment.

Table 30 – Overall share of four markets in total EU GVA

Tech-using sector	Share of EU GVA	Share of EU employment
Transport / logistics (not autonomous vehicles)	4.3%	4.8%
Medical	7.4%	10.6%
Hobby / entertainment	1.4%	1.8%
Household / consumer products	0.4%	1.5%
Total	13.5%	18.7%

Source: Author.

The results of the 2019 CoNE are represented as a % change in GDP and employment in relation to the baseline scenario. The results are not expressed in absolute numbers. Based on the data and methodology for calculation applied in the 2020 European added value of the European framework of ethical aspects of artificial intelligence, robotics and related technologies, EU GDP could increase by up to approximately €18.45 trillion by 2030. In terms of the scenario-based analysis of CoNE 2019, this estimate can be considered as a baseline value of EU GDP. Accordingly, the potential added value from EU common action on civil liability applicable to robotics and AI in the four economic markets analysed in CoNE 2019 would generate approximately €7.4 billion. This number represents a 0.04 % GDP increase estimated in CoNE 2019.

The four sectors analysed in CoNE 2019 represent 13.5 % of EU 28 GVA. Accordingly, **the overall economic benefits for the whole EU economy of EU common action on liability and insurance that will potentially result from an acceleration of R&D levels could be in the range of €54.8 billion.**<sup>228</sup>

<sup>228</sup> This assessment represents a very rough approximation and probably represents a lower boundary of the possible economic benefits. This assessment is based on the expected benefits estimated on four economic markets. Other markets are likely to have other economic dynamics that are sector specific. Therefore, this estimate should be considered as a very preliminary proxy, rather than an exact and fully representative quantitative assessment.



## 6.4.2. Economic benefits of reduced accidents, health and environmental impacts, tax revenues and user impacts

Chapter 2 discussed the economic and social function of the liability rules. One of the main aims of the liability rules is to reduce risky behaviour and as a result the number accidents, as well as negative health and environmental impacts. The 2018 EAVA on AVs provides a very detailed economic assessment of the various types of impact that could be triggered by common EU action on liability and insurance across. The spectrum of impacts goes considerably beyond direct economic impacts. Table 31 below, based on the results of the 2018 EAVA on AVs, represents the relative size of various consumer impacts in the overall estimation of the economic benefit that could be generated as a result of common EU action on liability and insurance.

Table 31 – Distribution of economic impacts of liability rules (per category of impact)

Consumer impacts (€ billion)	Original estimation (€ billion)	% of total
Transport user impacts	116.53	78.66
Health impacts	-1.99	-1.34
External accident cost impacts	2.34	1.58
External environmental cost impacts	8.60	5.80
Tax revenue	6.57	4.43
Wider economic impacts	16.11	10.87
Total	148.15	100.00

Source: Author, based on the 2018 EAVA on AVs.

This in-depth analysis suggests that direct economic impacts, in the overall cost-benefit analysis of the expected impacts from common EU action on liability and insurance, constitute about 11 %.

While each economic sector has its own specific distribution and dynamics, based on the 2018 EAVA on AVs distribution this EAVA assumes that the direct economic benefits of the acceleration of R&D in AI and robotics, represent approximately 11 % of the overall economic benefits that may be generated by common EU action on liability and insurance. This is in line with the expectations in the economic literature discussed in Chapter 4, which assume that liability rules have an impact not only on R&D and investment but also on the reduction of risks relating to accidents, environmental and health impacts and user impacts. Based on this assumption, a rough estimation of the **added value for the whole EU economy could be in the range of €498.3 billion.**

## 7. Conclusions

The findings of this European added value assessment suggest that revision of the EU civil liability regime for artificial intelligence systems would likely generate substantial economic and social added value. Quantitative assessment of added value at the current stage of technological development of AI is inconclusive. The current analysis preliminarily suggests that the added value of EU action on liability could generate €54.8 billion by 2030 for the EU economy, in terms of acceleration of the level of R&D in AI, and in the range of €498.3 billion if other impacts, including reductions of accidents, health and environmental impacts and user impacts are also taken into consideration.

The clear and coherent system of an EU civil liability regime for AI has the potential to reduce risks and increase safety, decrease legal uncertainty and related legal and litigation costs, and enhance consumer rights and trust. Those elements together could facilitate the faster and arguably safer uptake and diffusion of AI. Member States have not yet adopted specific legislation related to the regulation of liability for AI, with some exceptions relating to drones, autonomous vehicles and medical AI applications. Thus, timely action at EU level would reduce regulatory fragmentation and costs for producers of AI, while also helping to ensure a high level of protection for fundamental and consumer rights in the EU.

Common EU action on the regulation of liability of AI is necessary because the application of current EU secondary law on liability to AI would likely be insufficient and likely provide an insufficient level of protection, both in relation to the areas already covered by EU law (i.e. defective products) and even more so in relation to the new risks that are not covered by EU law, that are particularly relevant in relation to AI.

Furthermore, the review of the national liability regimes of 19 Member States, discussed in Chapter 4 and included in full in Annex I and Annex II, indicate a great divergence among Member States in terms of determination of what is a 'dangerous thing' and 'dangerous activity'. Also national rules and case law in relation to liability for animals and vicarious liability diverge. As currently there are no specific rules on the liability of AI systems, at either national or EU levels, national liability rules provide guidance on how liability claims could potentially be settled and whether damages resulting from AI systems could potentially fall into any of the current national categories for strict liability or rather a general fault-based liability rules would apply.

The analysis in Chapter 4, focused specifically on exceptions to the fault-based liability currently provided for in national law and court practice. Strict, or no-fault liability, as an exception to a general liability rule, covers situations when an affected party could recover damage without a need to establish a fault of the party who initially caused the damage. This, significantly simplifies recovery of the damage. Those situations that fall under strict liability provisions are limited and commonly cover liability claims resulting from use of a specific (dangerous) thing, dangerous activity, action of an animal or action of a minor or an employee. The current policy debates relating to the liability of AI systems discuss whether and in what specific situations damages from AI systems should potentially also be covered by the provisions providing exceptions to fault-based liability.

Based on this comparative legal analysis, Member States are classified into three groups. This classification takes into consideration flexibility of national legislation to possibly adjust through interpretation and potentially internalise possible new situations relating to claims for damages from AI systems. The first group includes Member States that include provisions in their national law that provide either a general clause or non-exhaustive list of situations that might fall within the scope of strict liability rules exceptions relating to things, activities, animals or vicarious liability. This group of Member States is likely to be more flexible to the new situations and cases relating to claims for damages connected with AI systems. The second group of Member States has stricter rules on

the situations that fall within the scope of strict liability exceptions. Finally, a third group has very narrowly defined situations that fall within the scope of strict liability or does not provide for strict liability exceptions in some cases where other Member States do.

This comparative analysis of national law also indicates that, in the absence of common EU action, it is very likely that very divergent practices and interpretations might emerge in the Member States, potentially leading in some situations to obstacles to the functioning of the internal market. The comparative overview of national law also provides an interesting analysis of possible regulatory solutions, in terms of definitions or standards of assessment relating to the determination of, for example, what is considered to be 'dangerous' and under what conditions. Applying strict liability principles to AI systems, by analogy to damage caused by animals, provides an avenue to distinguish between types of AI system based on their level of danger and limit strict liability to specific types of damage attributable to an animal. All in all, in searching for an effective and workable solution for a common approach to civil liability for AI systems, national provisions on strict liability for animals provide an interesting basis for discussion.

Following an analysis of the PLD and national law, Chapter 6 provides a quantitative assessment of the European added value of taking common EU action on liability and insurance for AI. This quantitative European added value assessment adopts a two-step analytical model. First, based on the available data on the impact of common EU action on liability on the level of R&D the study estimates the overall economic impact. Second, it looks at wider economic impacts, resulting from reduced accidents, health and environmental impacts, tax revenues and user impacts for the EU economy.

The European Parliament, the European Commission's expert group and the European Commission itself seem to agree that there is a need to adapt the PLD to the challenges of the new technologies. The exact scope and the design of the new liability framework remains contested. Member States are turning increasing attention to the regulation of civil liability of AI systems. A number of national AI programmes specifically address issues relating to liability. Therefore, it is very likely that in the next couple of years a number of national legislative initiatives will emerge. With the wider diffusion and uptake of AI systems, in the absence of a common EU approach on the liability of AI, Member States will be increasingly pressured to adopt national solutions. The ability to calculate liability risks is crucial for any producer, especially for innovative products like AI systems. Therefore, the fragmentation and uncertainty related to the liability provisions applicable across EU Member States that may emerge in the absence of a common EU approach could provide negative incentives for innovation and the diffusion of AI systems and contribute to excessive costs for consumers.

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# Comparative study on national rules concerning non-contractual liability, including with regard to AI

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## Research paper

The European Parliament's Directorate for Legislative Acts (EP lawyer-linguists) have prepared this comparative study of national rules on non-contractual liability, annexed to the European Added Value Assessment carried out by the EPRS in the context of the legislative initiative report of the JURI committee with recommendations to the Commission on a civil liability regime for artificial intelligence (AI).

In relation to the assessment of regulatory gaps in the Union, this study presents the regulatory situation in separate reports on 18 Member States and the United Kingdom. Each report deals with the applicable legal provisions and any existing legislative proposals and planned strategies in the Member State at the time of writing. They have the same structure, based on a common questionnaire. The authors have adapted their answers to the specificities of their legal systems and, as appropriate, have emphasised particular aspects of civil liability in the Member State concerned.



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## Executive summary

The European Parliament's Directorate for Legislative Acts (EP lawyer-linguists) have prepared this comparative study of national rules on non-contractual liability, annexed to the European Added Value Assessment carried out by the EPRS in the context of the legislative initiative report of the JURI committee with recommendations to the Commission on a civil liability regime for artificial intelligence (AI).

In relation to the assessment of regulatory gaps in the Union, this study presents the regulatory situation in separate reports on 18 Member States and the United Kingdom. The first part of each report sets out specific national rules on AI, such as on (semi-)autonomous (testing) vehicles and drones, legislative proposals on AI, including any proposals relating to non-contractual liability as well as national strategies or policy initiatives in this field. Each report deals with the applicable legal provisions and any existing legislative proposals and planned strategies in the Member State at the time of writing.

The second part of each report addresses the general rules on non-contractual liability in the Member State concerned. Each report contains a thorough analysis of fault-based liability, covering its main aspects: the persons liable (tortfeasors), the requirements for a finding of liability (damage, tort, causal link, fault...), the burden of proof, the standard of proof and the types of damage covered (including *damnum emergens* and *lucrum cessans*, and material and non-material damage). Each report also addresses joint and several liability. It then presents the rules on strict liability for tangible or intangible things, including (strict) liability for damage involving motor vehicles, dangerous activities and animals, as well as vicarious liability.

Each report has the same structure, based on a common questionnaire. The authors have adapted their answers to the specificities of their legal systems and, as appropriate, have emphasised particular aspects of civil liability in the Member State concerned. In addition, some authors have suggested how non-contractual liability could apply to AI.

Links to national legislation, case-law and other background material, as well as translations, are provided where possible.

<b>I.</b> <a href="#"><u>BELGIUM</u></a>	<b>II.</b> <a href="#"><u>BULGARIA</u></a>	<b>III.</b> <a href="#"><u>CROATIA</u></a>
<b>IV.</b> <a href="#"><u>CZECH REPUBLIC</u></a>	<b>V.</b> <a href="#"><u>ESTONIA</u></a>	<b>VI.</b> <a href="#"><u>FRANCE</u></a>
<b>VII.</b> <a href="#"><u>GERMANY</u></a>	<b>VIII.</b> <a href="#"><u>GREECE</u></a>	<b>IX.</b> <a href="#"><u>HUNGARY</u></a>
<b>X.</b> <a href="#"><u>ITALY</u></a>	<b>XI.</b> <a href="#"><u>LITHUANIA</u></a>	<b>XII.</b> <a href="#"><u>MALTA</u></a>
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<b>XVI.</b> <a href="#"><u>SLOVENIA</u></a>	<b>XVII.</b> <a href="#"><u>SPAIN</u></a>	<b>XVIII.</b> <a href="#"><u>SWEDEN</u></a>
<b>XIX.</b> <a href="#"><u>UNITED KINGDOM</u></a>		

## **STRUCTURE OF THE QUESTIONNAIRE**

### **1. Specific rules, legislative proposals or strategies**

- (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?
- (b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?
- (c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

### **2. General rules**

- (a) What are the general rules on fault-based liability?
- (b) No-fault liability (strict liability/risk-based liability)
  - (i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?
  - (ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.
  - (iii) Dangerous activities
  - (iv) Liability for the keeping of animals
  - (v) Vicarious liability (parent, teacher, employer etc.)

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## I Belgium: non-contractual liability and artificial intelligence

1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES
<p><b>(a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p><b>Autonomous vehicles</b></p> <p>The Belgian road traffic legislation has <a href="#">not been adapted</a> to traffic that includes autonomous vehicles. However, <a href="#">Article 59/1 of the Road Code</a> provides that the road traffic minister or his or her delegate may, by way of exception, grant derogations from the Road Code for test vehicles used in the context of the experimental use of automated vehicles, subject to conditions and a time-limit to be determined.</p> <p><b>Drones</b></p> <p>A Royal Decree of 10 April 2016 regulates the use of remotely piloted aircraft systems (drones) in Belgian airspace (<a href="#">Koninklijk besluit van 10 april 2016 met betrekking tot het gebruik van op afstand bestuurd luchtvaartuigen in het Belgisch luchtruim</a>). This decree contains obligations regarding pilot training, drone registration and maintenance requirements, incident and accident reports, and mandatory insurance.</p> <p>Article 1(4) defines a remotely piloted aircraft (RPA) as an unmanned aircraft with a maximum take-off mass of no less than 150 kg, piloted from a ground control station.</p> <p>Articles 81 to 85 regulate the duties and responsibilities of the RPA pilot. Article 82 provides that the RPA pilot is responsible for the use of the RPA system during the flight time.</p> <p>Article 96 establishes that the RPA pilot or anyone involved in the RPAS operations should immediately notify any incident or accident that occurred during the use of the RPA to the Civil Aviation Authority of the Federal Public Service Mobility and Transport (<i>Directoraat-generaal Luchtvaart van de Federale Overheidsdienst Mobiliteit en Vervoer</i>) and to the Air Accident Investigation Unit.</p> <p>Article 97 requires RPA operators for the purpose of professional or commercial activities to hold third-party insurance covering civil liability for physical and material damage.</p> <p><b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence.</p>

**(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

On 25 March 2019, the Belgian Senate published [an information report](#) on the necessary cooperation between the federal state and the federated entities on the impact, opportunities, possibilities and risks of the digital smart society. The report contains some suggestions on non-contractual liability for damage caused by artificial intelligence (pp. 21-25). It highlights the urgent need for a legislative framework, preferably at international/Union level and stresses that there is currently a legal deficit because there is hardly any legislation on liability in this context. The report also invites the European Commission to consider an update of the legal framework on liability as regards AI.

## 2. GENERAL RULES

**(a) What are the general rules on fault-based liability?**

Articles 1382 to 1386bis of the Belgian Civil Code (CC) ([NL version](#)) ([FR version](#)) set out the principles of common Belgian tort law. The basic rule is that a person is required to compensate for all the losses caused by his or her fault (Article 1382 CC) or by his or her negligence (Article 1383 CC). Liability requires a fault, a loss and a causal link between them.

Fault can be an infringement of any statutory rule or of a duty of care. The criterion is that one should act as *bonus pater familias*: as a normally careful person would have acted in the same circumstances.

A causal link is established if the invoked act was necessary (*conditio sine qua non*) in the circumstances for the damage to have occurred, even if the damage was not a normal or foreseeable consequence of the act (doctrine of the equivalence of conditions; *equivalentieleer*; e.g., [Cass. 24 June 1977, Arr.Cass. 1977, 1101](#)).

The burden of proof is in principle on the claimant. Article 870 of the [Judicial Code](#) provides: "In legal proceedings, each party must submit evidence of the facts that it alleges." This implies that the victim has to prove the fault, the damage and the causal link.

The standard of proof is legal certainty and not 100 % certainty (e.g., Court of Appeal Liège 20 June 2013, *RGAR* 2014, 15036: "*la certitude judiciaire n'est pas une certitude absolue*"). The court appreciates the evidence on a case-by-case basis and must be convinced that the allegations are proven by consistent elements that point in the same direction.

Under tort law, the tortfeasor is liable in damages for all the losses suffered by the victim in accordance with the principle of full compensation (Article 1382 CC; e.g., [Cass. 18 November 2011, no. C.09.0521.F](#)), including the loss of opportunity ([Cass. 14 December 2017](#), AR C.16.0296.N), mitigation costs ([Cass. 22 March 1985](#), *Pas.* 1985, I, 1011) and non-pecuniary losses ([Cass. 17 March 1881](#), *Pas.* 1881, I, 163).

The principle of full compensation implies that damages should place the victim in the position in which he or she would have been had the tort not been committed. Save for loss caused by persons with a mental illness (Article 1386bis CC) and for loss resulting from a failure to comply with the duty to mitigate ([Cass. 7 February 1946](#), *Pas.* 1946, I, 53), the judge has no power to moderate the damages. The damages can, however, be reduced in proportion to the victim's contributory negligence ([Cass. 7 November 1990](#), *Arr.Cass.* 1990-91, 280).



If it is impossible to evaluate a loss *in concreto* (such as for loss of opportunity and non-pecuniary loss), the judge can evaluate such a loss *ex aequo et bono* ([Cass. 22 November 1972](#), Arr.Cass. 1973, 297). [Indicative Tables](#) provide guidelines for measuring such losses.

Under contract law, the debtor is required to compensate the creditor for actual loss and loss of profits (Article 1149 CC), and also for non-pecuniary loss. Damages should place the creditor, as far as possible, in the same position as he or she would have been had the contract been performed ([Cass. 26 January 2007](#), Pas. 2007, 183). Save in the case of clauses providing for liquidated damages (Article 1153 CC and Article 1231 CC), the judge has no power to moderate those damages.

The classical limits, contained in the Articles 1150 and 1151 CC, according to which unforeseeable and indirect losses cannot be recovered, have been hollowed out by the Supreme Court ([Cass. 23 February 1928](#), Pas. 1928, I, 85 and [Cass. 24 June 1977](#), Arr.Cass. 1977, 1101).

Article 1202 CC provides that joint and several liability is never presumed and can only be established if it is expressly established in a contract or by virtue of a legal provision (as in [Article 3:71 of Companies and Associations Code](#)).

The Supreme Court (*Hof van Cassatie*), however, also introduced joint and several liability for multiple tortfeasors who knowingly and willingly commit a common fault ([Cass. 15 February 1974](#), Pas. 1974, I, 632).

## **(b) No-fault liability (strict liability/risk-based liability)**

### **(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?**

[Article 1384\(1\)](#) of the Belgian Civil Code (CC) imposes strict liability for damage caused by a defective thing (*chose vicieuse* or *gebrekkige zaak*). A defect is defined as an abnormal characteristic or state of a thing, implying that the thing deviates from the normal model (e.g., [Cass. 13 March 2015](#), C.14.0284.N). Liability rests on the person who has the thing in his or her guard, which requires that he or she has factual control over the thing. The keeper or custodian (*gardien* or *bewaarder*) is not necessarily the owner and is liable irrespective of whether he or she has committed any fault.

Some academic writers read in a ruling of the Supreme Court ([Cass. 21 April 1972](#), Pas. 1972, I, 789) that this liability applies only to material things. Article 1384(1) CC can in any case be applied to objects that are composed of several parts to make the object function.

**(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.**

Liability for damage caused by cars is regulated by the law of 21 November 1989 on the compulsory liability insurance in respect of motor vehicles ([Wet betreffende de verplichte aansprakelijkheidsverzekering inzake motorrijtuigen](#)).

This law grants compensation to any victim who is not a driver of a motor vehicle involved in the accident (such as pedestrians, cyclists and passengers). The victim has a direct claim against the insurer of any motor vehicle involved in the accident. This compensation regime is not fault-based. The insurer is obliged to pay compensation, even where the insured person was not at fault.

It is not required that the vehicle has caused the accident. It is sufficient that it played a role in the totality of the accident. The only exception is where a victim over fourteen years old intentionally causes the injury (e.g., suicide or self-mutilation). After compensating the victim, the insurer has full recourse against the person who is liable for the accident or against that person's insurer (subrogation).

**(iii) Dangerous activities**

There is a proposal of 30 September 2017 for a general provision on strict liability of an operator (*exploitant*) of a specific and seriously dangerous activity (Articles 5.190-5.196 of the draft legislation: [Avant-projet de loi portant insertion des dispositions relatives à la responsabilité extracontractuelle dans le nouveau Code civil](#) (NCC)).

This proposal provides for a presumption of a causal link (Article 5.194 NCC) and for grounds of exoneration (Article 5.195 NCC), and specifies the types of damage recoverable (Article 5.196 NCC: only physical damage).

**(iv) Liability for the keeping of animals**

[Article 1385](#) of the Belgian Civil Code provides for strict liability for damage caused by an animal: The owner or user of an animal is liable for the damage caused by the animal, whether the animal was in the owner's or the user's custody or had strayed or escaped when the damage occurred.

It is sufficient that the damage was caused by the animal. Contrary to the rules on liability for things, where a defect is required, there is no requirement of any abnormal behaviour on the part of the animal.

**(v) Vicarious liability (parent, teacher, employer etc.)**

[Article 1384](#) of the Belgian Civil Code (CC) contains the basic rules on vicarious liability. There are three types of vicarious liability in Belgian law:

- (1) parents for their children (§ 2): parents are presumed to have committed the faults of their children and to have caused the damage, but can escape liability if they prove no to have committed any fault in supervision or education;
- (2) masters for their servants (§ 3): strict liability, with no defence;
- (3) teachers and craftspeople for their students or trainees during the time they are under supervision (§ 4): teachers can escape liability by proving that they exercised the requisite care in supervision and therefore were not at fault.

According to the Belgian Supreme Court, Article 1384 CC does not contain a general rule of vicarious liability of persons in charge of or supervising another person. The same ruling specified that the list of situations of vicarious liability is exhaustive ([Cass. 19 June 1997](#), Arr.Cass. 1997, 670).

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## II Bulgaria: non-contractual liability and artificial intelligence

1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES
<p><b>(a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p><b>Drones</b></p> <p>To date, there is no specific Bulgarian legal act that regulates the use of unmanned aircraft. However, Article 13(5) of <a href="#">Decree No 2 of the Minister of transport on flights rules</a> of 10 March 1999 requires written authorisation from the General Directorate for Civil Aviation to fly such aircraft in reserved airspace. An operator performing a flight without such an authorisation and anyone permitting such a flight is subject to a fine (Article 143(1)(20) of the Bulgarian <a href="#">Civil Aviation Act</a>).</p> <p>The legislation does not provide for a definition of unmanned aircraft or any specific provisions on civil liability. Without any specific provisions regarding liability, the general provisions on tortious liability (Articles 45 to 54 of the Bulgarian <a href="#">Law on Obligations and Contracts</a>) apply.</p>
<p><b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence.</p>
<p><b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>While there are no national strategies in regard to civil liability for AI, the official strategic document of the government, entitled "Digital Bulgaria 2025", mentions artificial intelligence as one of its objectives, namely as a follow-up to the European Commission's initiative in the sphere of AI. One of the objectives of this national numerical programme (Objective 5 – Digitalisation of Bulgarian industrial sectors and services related to them) would include as sub-objectives: (i) the widespread use of chatbots and (ii) the development of third-generation pilot electronic services which use machine learning in order to predict behaviour which should serve interactions with citizens and business.</p>

## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

#### General principles

Fault-based liability is regulated in Article 45 of the Bulgarian Law on Obligations and Contracts (LOC) ([EN version](#)) which provides: “Every person is required to redress the damage he or she has, with fault caused to another person”. According to established case-law this type of liability requires the following: (1) a human act or omission, or human behavior; (2) unlawfulness ([Supreme Court of Cassation, decision No 177 of 25.10.2016](#)); (3) fault – presumption of fault (Art.45 (2) LOC) which does not distinguish between intentional fault and negligence; (4) damage; (5) a causal link between the defendant’s action and the harm.

Only legally capable natural persons are liable for damages under the general clause for fault-based liability ([Ruling of the Supreme Court of Cassation No 7/59 of 30.12.1959](#)).

#### Burden and standard of proof

The general rule in civil procedure is that each party must prove the facts on which it bases its claims or objections (Article 154(1) of the [Code of Civil procedure](#)). According to established case-law the existence of casual link between the defendant’s action and the harm must be proved by the claimant ([Supreme Court of Cassation, decision No 228 of 19.01.2016](#)).

The tortfeasor must prove the absence of fault (presumption of fault- Article 45(2) LOC: If the victim claims that it is a certain type of fault - for example intentional fault, then it is for the victim to prove it (i.e. possible reversal of the burden of proof).

There are no specific rules in Bulgarian legislation on the standard of proof. Article 12 of the Code of Civil Procedure provides that the judge must use his or her discretion. However, there is specific case-law regarding the degree of proof of the probability of occurrence of the loss of profits (e.g., [Supreme Court of cassation No 63 of 30.11.2016](#)). The assumption that the victim would have otherwise benefited should be proved beyond doubt and not only to a particular degree of probability.

#### Scope of compensation

All losses for damage which is the direct and immediate consequence of the harm caused are recoverable (Article 51 LOC). Damages arising from death, physical injury or damage to property are recoverable, including those arising from non-material or moral damage, such as distress and mental health. The court determines damages on the basis of fairness (Article 52 LOC). Unlike contractual liability, where the compensation for loss of profits arises directly from the law (Article 82, LOC), compensation for loss of profits in the case of fault-based liability is established by the case-law (e.g., [Supreme Court of Cassation, Decision No 297 of 09.02.2016](#)). Sometimes future loss, such as the loss of future earnings, can be recovered.

There is no legislation or case-law regarding pure economic loss.

In the case of contributory negligence on the part of the victim, the compensation may be reduced but cannot be extinguished (Article 51(2) LOC).

#### Joint and several liability

<p>In the case of more than one tortfeasors liability is joint and several (Article 53 LOC). According to established case-law (<a href="#">Supreme Court of Cassation, Decision No 123 of 19.06.2012</a>) Article 122(1) LOC is applicable and each of the tortfeasors is liable for the whole amount (and not according to his or her share of liability). The apportionment of compensation paid by the tortfeasors is provided for in Article 127 LOC.</p>
<p><b>(b) No-fault liability (strict liability/risk-based liability)</b></p>
<p><b>(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?</b></p>
<p>Article 50 Bulgarian Law on Obligations and Contracts (LOC) (<a href="#">EN version</a>) provides that liability for damage caused by a thing is a strict no-fault liability. The owner is liable and the custodian is jointly and severally liable together with the owner.</p> <p>According to established case-law (<a href="#">Supreme court of Cassation, Decision No 94 of 21.07.2011</a>) this type of liability is for damage caused by the objectively inherent properties or defects of a thing. In the case of fault of a third person who is not the owner of the thing, the exclusive fault of the victim, or non-compliance with instructions or common sense with regard to the use of the thing, liability is fault-based and the tortfeasor (under Article 45 LOC) or the tortfeasor's principal (Article 49 LOC) is liable. The owner of the thing and the custodian of the thing are not liable under Article 50 LOC in the case of <i>force majeure</i> (<a href="#">Ruling of the Plenary of the Supreme Court No 7 of 30.12.1959</a>).</p> <p>According to the case-law (<a href="#">Ruling of the Plenary of the Supreme Court No 7 of 30.12.1959</a>), the employees and workers are not liable for damage caused by things that have been given to them in relation to work that has been assigned to them. Legal persons may be liable in the cases of strict liability for damage caused by things (established case-law). There is no legal definition of thing in Bulgarian legislation or case-law. Article 110 of the Law on Property distinguishes between immovable property (like land, plants, buildings and other structures) and movable property (everything that is not immovable property, including energy). Legal doctrine considers things to be autonomous, material (tangible) objects.</p>
<p><b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b></p>
<p>Liability for the ownership and the use of a car is governed by Article 477 of the Bulgarian <a href="#">Insurance Code</a> (IC). Pursuant to Article 483(1) IC, the owner of the car (natural or legal person) is obliged to hold a civil liability insurance, Pursuant to Article 477(2) IC, the insurance must cover the owner, user and keeper of the car as well as every person who legally uses or drives the car.</p> <p>For liability under the insurance to arise, a causal link between the damage and the accident must be established (Article 477(1) IC).</p> <p>Article 493 IC expressly provides for cases of fault-based liability and for cases of strict liability. The former arises for example where damage is caused by the breakdown of the car or by a sudden deterioration of the health of the driver, or where a car is considered to be a thing under Article 50 of the Bulgarian Law on Obligations and Contracts (LOC) (<a href="#">EN version</a>).</p> <p>The liability of the insurer is functional, meaning that it depends on the liability of the insured person (according to established case-law, e.g. <a href="#">Decision of the Supreme Court of Cassation No 136 of 15.10.2015, Trade college, 4th division</a>). In the case of most accidents, liability is fault-based and the driver is responsible under Article 45 LOC but there are also cases of strict liability for damage caused by cars, such as in the case of an assignment of work or of the owner or custodian of things (Article 49 or 50 LOC).</p>

<p>The damage covered by the insurance is the direct and immediate pecuniary and non-pecuniary damage caused to the victim as a consequence of physical injury or death, damage to a property, loss of profits and procedural and judicial costs (Article 493(1) IC). The victim can seek additional compensation only for damages that is not recovered from the insurer. The insurer, in turn, can seek to recoup compensation paid from the negligent driver or a driver who was not in possession of a valid driving license during the accident (Article 500 IC).</p>
<p><b>(iii) Dangerous activities</b></p>
<p>Article 29 of the Bulgarian <a href="#">Law on the Protection of Agricultural Property</a> (LPAP) provides for strict liability for damage caused by water, soil and air pollution, presenting a danger to farm animals, birds and crops. The fault of the tortfeasor is not relevant. The tortfeasor is liable for all direct and immediate damage caused by the polluting activity. Where the pollution is caused by citizens or organisations after they have adapted their activity according to instructions received from State authorities, only direct and foreseeable damage can be recovered (Article 30(2) LPAP).</p>
<p><b>(iv) Liability for the keeping of animals</b></p>
<p>Article 50 of the Bulgarian Law on Obligations and Contracts (LOC) (<a href="#">EN version</a>) provides that liability for damage caused by an animal is strict no-fault based. It is the owner of the animal who is liable. The owner remains liable where the animal has escaped or has got lost. The custodian of the animal is jointly and severally liable with the owner.</p> <p>According to established case-law, legal persons can also be liable in cases of strict liability for damage caused by animals. Custody of an animal by a legal person comprises surveillance, care and responsibility for the animal. It is not necessary that the animal has any specific qualities or that it is specifically dangerous in order for the owner or the custodian to be liable under Article 50 LOC (<a href="#">Supreme Court of Cassation, Decision № 249 of 24.09.2012</a>). In the case of the proven fault of a third person who is not the owner of the thing, or where the victim brought the damage upon him or herself, fault-based liability under Article 45 LOC applies.</p> <p>Neither the owner nor the custodian is liable under Article 50 LOC in the case of <i>force majeure</i> (<a href="#">Ruling of the Plenary of the Supreme Court No 7 of 30.12.1959</a>).</p>
<p><b>(v) Vicarious liability (parent, teacher, employer etc.)</b></p>
<p>Articles 47 to 49 of the Bulgarian Law on Obligations and Contracts (LOC) (<a href="#">EN version</a>) contain the basic rules on vicarious liability.</p> <p>Article 47 provides for liability for damage caused by an incapacitated person (a person incapable of understanding or directing his or her actions). The liability is borne by the person with obligation to supervise the incapacitated person. The supervisor may avoid liability if he or she was not in a position to prevent the occurrence of the damage.</p> <p>Article 48 provides for liability for damage caused by minors. Liability is borne by their parents, adoptive parents or guardians in the case of children under the age of 14. Those persons may avoid liability if they were not able to prevent the occurrence of the damage.</p> <p>Another type of vicarious liability is provided for in Article 49 LOC: liability of a person who has assigned work to another.</p>



The principal is liable for the damage caused by the agent in two situations: where the damage is caused during the performance of or in connection with the work assigned.

According to established case-law (following the seminal ruling of the Plenary of the Supreme Court No 9 of 28.12.1966), the agent must have acted negligently, while any fault on the part of the principal is irrelevant. The liability of the principal is secondary and cannot replace the liability of the direct tortfeasor (the agent).

According to the same case-law, the damage is considered to have been caused during the performance of the work assigned when the acts or omissions of the agent themselves constitute the work assigned. In the case of a labour contract, the performance of the work assigned does not need to have taken place during working hours.

The damage is considered to have been caused in connection with the work where the agent does not perform the work itself but performs tasks, such as preparatory or facilitating tasks, that are directly linked to the work.

Damage may also be caused by the inaction of the agent, such as by the non-fulfilment of certain legal obligations, technical rules or general rules for the performance of the work.

It is no defence on the part of the principal that the agent did not comply with the principal's instructions given or the common rules for the performance of the assigned work.

Author and date of completion: **Deliana KASAVETOVA.**

### III Croatia: non-contractual liability and artificial intelligence

1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES
<b>(a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
To date there is no Croatian legislation that regulates any aspect of non-contractual liability for damage for artificial intelligence.
<p><b>Drones</b></p> <p>The requirements for the safe use of drones and for the persons involved in their operation is regulated by the Ordinance on unmanned aircraft systems (Official gazette <a href="#">104/2018</a>), however without any specific provisions regarding liability, which leads to the conclusion that the general provisions of Croatian <a href="#">Civil Obligation Act</a> on tortious liability apply (Official gazette <a href="#">35/2005</a>, <a href="#">41/2008</a>, <a href="#">125/2011</a>, <a href="#">78/2015</a>, <a href="#">29/2018</a>, <a href="#">unofficial English translation</a>).</p> <p>In Article 2, the Ordinance on unmanned aircraft systems defines an unmanned aircraft as “aircraft used for flights without a pilot on board that is remotely controlled or programmed and autonomous” (point (1) and an unmanned aircraft system as “system that consists of an unmanned aircraft and other equipment, software or accessory that is necessary to control it remotely” (point (21)).</p>
<b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence.
<b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
A national strategy on AI is expected to be published later in 2020.

## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

The general rule is fault-based liability with a presumption of fault - liability for damage rests on the person who has caused damage (the tortfeasor who has mental and legal capacity), unless that person can show he or she was not at fault. Article 1045(1) of the Croatian [Civil Obligation Act](#) (COA) ([unofficial EN version](#)) provides that "A person who has caused damage to another person shall compensate for this damage, unless he or she can show that the damage did not occur as a result of that person's fault.". Fault is defined in Article 1049 COA in the following terms "Fault shall exist where a tortfeasor has caused damage intentionally or by negligence." For the purpose of Article 1045(1) COA, negligence is presumed and sufficient as such (Article 1045(2): "Lack of duty of care shall be presumed.").

The burden of proof is on the victim (*actori incumbit probatio*).

The standard of proof is twofold: with regard to the legal arguments, they must be proved to a degree of certainty, whereas for procedural matters probability suffices.

Damage for which a tortfeasor may be held liable includes material damage (*damnum emergens*), loss of profits (*lucrum cessans*) and a violation of privacy rights (non-material damage) (Article 1046 COA).

In the case of several perpetrators, they will be jointly liable (Article 1107(1) COA). Joint liability also applies in the case of a tortfeasor and a person who assisted or attempted to conceal the tort (Article 1107(2) COA). Independent perpetrators are also jointly liable when their share of liability for damage cannot be established (Article 1107(3) COA). Joint liability also applies when there is no doubt that one of two or more connected persons caused the damage but it is impossible to determine the tortfeasor (Article 1107(4) COA).

### (b) No-fault liability (strict liability/risk-based liability)

#### (i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?

Strict liability is provided for in Article 1045(3) of the Croatian [Civil Obligation Act](#) (COA) ([unofficial EN version](#)) with regard to dangerous things and activities as an exception to the general rule of fault liability of tortfeasor with presumed fault. The tortfeasor, who had caused damage to another with a thing or by an activity that represents an increased source of danger for the environment, is liable regardless of fault (Article 1045(3) COA: "Where damage results from things or activities representing an enhanced source of danger to the environment liability shall be imposed regardless of fault." In such a case causation is presumed (Article 1063 COA: "Damage caused by a dangerous thing or a dangerous activity shall be considered to have resulted from that thing or activity, unless it is shown that the thing or activity did not cause the damage."). See also point (iii) below.

**(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.**

Liability for damage caused by a moving motor vehicle is regulated by the Croatian [Civil Obligation Act](#) (COA) ([unofficial EN version](#)) in the section of "Liability for damage caused by a dangerous thing or activity" (Articles 1063 to 1072, in particular in Articles 1068 to 1072 COA). Liability is strict and causation is presumed. The owner of the vehicle is liable for the damage that had occurred to third persons (Article 1069(1) COA). However, if the vehicle was driven by an unauthorised user, then that person is liable (Article 1070(1) COA). The owner is jointly liable with the unauthorised user if the owner enabled the unauthorised use by his or her own fault or the fault of persons that were required to look after the vehicle (Article 1070(2) COA). In the case of damage caused by two or more operating vehicles, the owner who is at fault is liable for all the damages (Article 1072(1) COA). If in such a case, all the vehicle owners are at fault, they are each liable to compensate each other in accordance with their share of the fault (Article 1072(2) COA). Where, in such a case, there is no fault, liability of all of the owners is apportioned in equal shares, unless fairness requires a different apportionment (Article 1072(3) COA).

**(iii) Dangerous activities**

Strict liability is provided for in Article 1045(3) of the Croatian [Civil Obligation Act](#) (COA) ([unofficial EN version](#)) for dangerous things and activities as an exception to the general rule of fault-based liability. The tortfeasor who causes damage by using a thing or by engaging in an activity that represents an increased source of danger to the environment is liable regardless of fault (Article 1045(3) COA: "Where damage results from things or activities representing an enhanced source of danger to the environment, liability shall be imposed regardless of fault."). In such a case causation is presumed: Article 1063 COA provides that "Damage caused in relation with a dangerous thing or a dangerous activity shall be considered to have resulted from that thing or activity, unless it is shown that the thing or activity did not cause the damage."

The COA does not define a dangerous thing or activity, nor does it provide examples (save for moving motor vehicles), which leave the determination of what is "dangerous" to the courts on a case-by-case basis. The Supreme Court offered a "definition" of a dangerous thing in its decision Rev 190/2007-2 of 27 March 2007, saying that dangerous things are those which by their purpose, properties, position, location, method of use or otherwise constitute an increased risk of damage to the environment and must therefore be monitored and used with greater care. Dangerous activities have in practice come to be seen as activities by which, in its ordinary course of events, by their technical nature and manner of performance, the life and health of persons or property may be endangered, and that endangerment requires a higher duty of care by the persons engaged in such activities and persons in contact with them. The practice of the courts has so far dealt with "traditional dangers" and has defined dangerous things as those that are dangerous by nature (weapons, explosives, motor vehicles etc.) and those that are not usually considered to be dangerous but that can become dangerous in particular circumstances (animals, faulty constructions etc), and dangerous activities such as hunting, diving, fireworks, wood cutting, etc.

The owner of the dangerous thing and the person performing the dangerous activity is strictly liable for the damage caused (Article 1064 COA).

**(iv) Liability for the keeping of animals**

Animals can be considered to be dangerous things. According to case law, wild animals held by persons are usually considered to be dangerous things, whereas other animals may be considered to be dangerous things, depending on the circumstances.

Article 1 of the Croatian [Animal Protection Act](#) (Official gazette [102/2017](#), [32/2019](#); [unofficial English version](#)) “lays down the responsibility and obligations of natural and legal persons for the protection of animals during use, including the protection of life, health and welfare, manner of handling animals, animal protection requirements to be complied with during their handling, breeding, performing procedures on animals, at time of killing, transport, use of animals for scientific purposes, keeping animals in zoos, circuses and other performances, during the sale of pet animals and the handling of abandoned and lost animals, inspection supervision and misdemeanour provisions.”

Point (23) of Article 4 of the Animal Protection Act provides that the person in possession of an animal is any legal or natural person who is the owner, user or custodian of an animal who is responsible, on a temporary or permanent basis, for the health and welfare of the animal. Such a person is the “owner” of a dangerous thing as referred to in Articles 1063 to 1067 of the Croatian [Civil Obligations Act](#) (COA), and is liable for damage caused by the animal (Article 1064 COA: “The owner shall be liable for damage resulting from a dangerous thing.” Abandoned and lost animals are the responsibility of local municipalities, which are liable for the damage caused by such animals.

Liability for damage caused by animals is strict, and causation is presumed (Article 1063 COA: “Damage caused in relation to a dangerous thing or a dangerous activity shall be considered to result from that thing or activity, unless it is shown that the thing or activity did not cause the damage.”).

For more details on the liability resulting from dangerous things see also points (b)(i) and (b)(iii) above.

**(v) Vicarious liability (parent, teacher, employer etc.)**

Article 1055 of the Croatian [Civil Obligation Act](#) (COA) ([unofficial EN version](#)) provides for the vicarious liability of the supervisors of persons who are incapacitated or who have educational special needs. Articles 1056 to 1059 COA provide for the vicarious liability of parents or other supervisors for the torts of children in their care, Article 1061 COA provides for the vicarious liability of employers for damage caused by their employees within the scope of their employment, and Article 1062 COA for the vicarious liability of legal persons for torts committed by the bodies of that legal person.

Author and date of completion: **Sabina DIPALO and Mia NOVAKOVIĆ**

## IV Czech Republic: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

At the time of writing, there are no specific rules in Czech law on artificial intelligence (AI). Some legal experts claim that the existing civil-law liability rules are sufficiently general to cover damage caused by artificial intelligence. The prevailing opinion however is that with the technical developments and increasing autonomy of AI, the existing civil liability rules will become inappropriate. Their application might lead to inequitable results for the interested parties. This is also the position of national experts presented in the report "[Research of the potential of the development of AI in Czech Republic - analysis of the legal and ethical aspects of AI and their application in Czech Republic](#)" (EN version) and in the subsequent [national strategy paper](#) (EN version).

Further steps of the national legislator are likely to depend on the developments at Union level because there is a recognised need for harmonised pan-European rules, in particular for the industry/producers sector.

#### Unmanned aerial vehicles (drones)

The current legal framework does not allow the operation of autonomous drones. If the operation of drones were allowed, it would be possible to use the possibility to establish rules for aircraft and their parts that serve military, rescue, police, firefighting and similar purposes, or to change the Czech [Civil Aviation Act](#) (*Zákon č. 49/1997 Sb. o civilním letectví, ve znění pozdějších předpisů*).

The Civil Aviation Act does not yet implement the provisions of Regulation (EU) 2018/1139 on common rules in the field of civil aviation. The deadline for implementation is 12 September 2023 (Article 140). Legislative amendments of the Czech Civil Aviation Act are scheduled for 2020. The indicative date for its entry into force is April 2021.

In addition to complying with the Civil Aviation Act, air transport must also comply with the rules laid down by the International Civil Aviation Organization (ICAO) and implemented by the Czech Civil Aviation Authority and other organisations.

One of such rules - Aviation Rule L-2 elaborated by the Czech Civil Aviation Authority and issued by the Ministry of Transport - and in particular its [Appendix X, Unmanned Systems X-1](#), is relevant to the regulation of drones.

The definition of aircraft used in the Civil Aviation Act contains an exemption for aircraft models of less than 20 kg.

Article 1 of Appendix X to Aviation Rule L-2 defines autonomous aircraft as an unmanned aircraft that does not allow pilot intervention in the management of the flight, and unmanned aircraft (UA) as an aircraft which is intended to be operated with no pilot on-board. For the purpose of the Appendix, unmanned aircraft means all unmanned aircraft except of model aircraft with a maximum take-off mass lower than 20 kg, thereby excluding model aircraft.

In the same article, unmanned aircraft system (UAS) is defined as a system containing unmanned aircraft, control station and any other element necessary for the flight, as e.g. communication link and launch and recovery device. There may be more than one unmanned aircraft, control station or launch and recovery device within one unmanned aircraft system; and model aircraft is defined as an aircraft which is not able to carry a human being on board, which is used for competition, sport or recreational purposes, which is not equipped with any device that allows it to be flown automatically to a selected location and which in case of a free flight model aircraft is not controlled remotely during the flight otherwise than to terminate the flight or which in case of a remotely piloted model aircraft is during the flight time under direct radio-control of the pilot in his visual line of sight. The operation of "autonomous" (rather than "automatic") model aircraft is excluded, from the definition of model aircraft.

Other relevant provisions:

### **Safety**

- UAs may be operated only in such a way that no threat is posed to the safety of air navigation, persons and property on the ground and to the environment.
- The prohibition of threat posing to the safety of air navigation does not apply mutually between model aircraft, provided that there is a prior agreement between participating pilots and persons directly involved in the operation and that appropriate measures were taken to exclude safety threats to other air traffic and for protection of persons and property on the ground.

### **Visual control**

Unless otherwise approved by Civil Aviation Authority, UAs must be operated in the pilot's direct visual line of sight, i.e. in such a manner and to a maximum distance such that:

- during taxi and flight, the pilot is able to maintain continuous visual contact with the UA without visual aids other than prescription glasses and contact lenses; and
- the pilot, and also an instructed person if employed, is able to monitor and evaluate the visibility, obstacles and surrounding air traffic.

### **Liability**

Liability for the safe conduct of the flight, including the pre-flight preparation and check, rests on the person that remotely pilots the UA (regardless of the flight control system automation level) or, in the case of a model aircraft with maximum take-off mass lower than 20 kg that is not remotely piloted, on the person that launched it into the airspace.

Appendix X further divides drones into categories with different individual authorisations and obligations.

Article 7.6 of Appendix X excludes the use of autonomous drones in the common airspace.



**(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

In 2018, a draft amendment to the [Act on Traffic on Roads No 361/2000 Sb](#) was prepared but [has not yet been submitted](#) to the Chamber of Deputies). The proposed amendment redefines the “driver” and defines a “motor vehicle with a highly or fully automated driving function”. The current definition of “driver” is supplemented by a provision that the driver also means a “person who activates a highly or fully automated steering function and uses it to drive a vehicle even if he is not driving the vehicle him or herself”. This definition suggests that the driver must be present even in a fully autonomous vehicle, at least in the sense that the driver activates the automated steering function. This interpretation is also supported by the proposed wording of Section 5(4) of the draft amendment, which imposes an obligation to take over the steering function immediately if requested by the vehicle or if the driver recognises or should recognise that the steering function should be taken over because the conditions for using highly or fully automated driving functions in compliance with the intended purpose are not fulfilled. The amendment does not allow the operation of autonomous vehicles, it only allows the operation of so called level-3 cars. This means that the driver must be competent at all times.

**(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

On 10 February 2020, the Czech Office of the Government, the Czech Ministry of Industry and Trade and the Institute of State and Law of the Czech Academy of Sciences officially launched the Expert platform and forum for law and artificial intelligence ([AI Observatory and Forum \(AIO&F\)](#)). The AI Observatory and Forum of the Czech Republic is established in accordance with the National Artificial Intelligence Strategy of the Czech Republic (NAIS). The aim of the AIO&F is to contribute to the creation of a favourable social and legal environment for research, development and use of beneficial and responsible AI. The particular objectives of the AIO&F are to:

- identify legislative obstacles to research, development and use of AI and offer recommendations on their removal;
- produce ethical and legal recommendations for practice (one of the short-term objectives which is to be accomplished by 2021 is the preparation of an analysis of Czech legal regulations and implementing Union principles of liability for damage in relation to AI, especially for the operation of autonomous and collaborative systems and for phases of experimental and live operation with a special emphasis on continuously self-learning systems, including the possible introduction of compulsory insurance);
- provide space for public debate and the sharing of best practices; and
- involve the Czech Republic in the international debate on the regulation of AI and data economics through cooperation with foreign organisations.

## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

The main source for the provisions on the rules on civil liability is the Czech Civil Code (CC) ([EN version](#)):

Sections 2894 to 2971 CC provide for rules on the prevention of damage, rules governing liability for breach of contractual obligations (contractual liability) and rules on the compensation for damage that may not necessarily have been caused by breach of a contractual provision (tortious liability). While tortious liability is based on fault, contractual liability is qualified as strict liability.

One of the topical concepts in the CC, which plays a fundamental role in the law on damage, is the concept of prevention laid down in Section 2900 CC. Preventing damage arises from the obligation to "act so as to prevent unreasonable harm to freedom, harm to life, bodily harm or harm to the property of another".

#### **Tortious/fault-based liability**

Provisions for non-contractual liability are laid down in Sections 2904, 2909 and 2910 CC. They establish liability for accidents, breaches of good morals and breaches of law.

For the application of the obligation to compensate for harm, it is necessary to show an unlawful act or omission, damage, a causal link between the unlawful act and the damage and fault.

Causation must be proved by the injured party.

To prove fault, there must be an internal relationship between the act or omission of the tortfeasor and the damage (so-called subjective or fault-based liability).

#### **Presumption of negligence**

The regulation of tortious liability is based on the principle that anybody who causes damage as a result of a breach of their legal duty is obliged to compensate for the damage. If the injured party proves other conditions for the establishment of the wrongdoer's liability, the fault of the wrongdoer is presumed, even if only in the form of negligence.

There is no definition of fault, but the CC qualifies negligence as a violation of the required standard of care, which is stipulated in Section 2912 CC. The rebuttable presumption of fault is formed in such a way that a person is considered to be negligent if he or she acts carelessly and without the knowledge and skills typically expected of a person with average abilities. If a person has specialised knowledge, skills or accuracy, the person is held to a higher standard and found to be at fault if he or she does not make use of such qualities.

Causation must be proved by the victim. Judicial practice does not insist on establishing a causal link with "absolute" or "100%" certainty. It is sufficient to show "practical certainty", thus leaving the courtroom for a free evaluation of the evidence and rational discretion without imposing unenforceable requirements on the victim (resolution of the Supreme Court of the Czech Republic file No 25 Cdo 1788/2017, dated 31 January 2019).

Compensation for damage is based on the concept that proprietary damage is compensated for, whereas non-material harm is subject to compensation only in special cases determined by law. Under this rule, damage means harm to the assets of the injured party whilst any other harm considered to be

non-pecuniary damage, which is subject to specific provisions on compensation for damage to health (pain and suffering, worsening of social position and other harm), interference with the natural rights of an individual etc.

As regards the scope and manner of compensation, the CC is based on the approach that restitution in kind must take precedence over monetary compensation. If restitution in kind is not possible or if so requested by the injured party, the wrongdoer is obliged to provide damages in money. Hence, if restitution in kind is possible, the type of compensation depends on the victim and the court cannot consider whether the chosen method of compensation is “useful” or “usual”.

Damages are also recoverable in cases of non-material harm and include damage as a result of any interference with natural rights of an individual (specified in Book 1 to the CC).

The reimbursement of the costs of reasonable and useful medical treatment, funeral costs, loss of earnings and pension payments, and compensation for the maintenance of survivors are provided by the provisions on compensation for bodily harm and death (Section 2958 et seq. CC).

Section 2953 CC provides the court with discretionary power to limit damages. The court’s power arises only where the wrongdoer is an individual and did not cause the damage intentionally. Judicial consideration of any reasonable reduction of damages must take into account any exceptional circumstances justifying such a solution, in terms of how the damage occurred and the personal and financial circumstances of the wrongdoer and of the victim. A reduction of damages is, however, excluded in the case a breach of professional care by a tortfeasor who claimed to have special knowledge or ability as a member of a particular profession ([Jirí Hrádek Regulation of Liability for Damage in the New Czech Civil Code](#)).

Under Sections 2915 and 2916 CC, if more than one person commits a separate unlawful act, each of which could cause a harmful result with a probability approaching certainty, and it is not possible to establish who caused the damage, each of them is jointly and severally liable for the full amount.

#### **(b) No-fault liability (strict liability/risk-based liability)**

In cases specifically provided for by a statute, a tortfeasor is liable in damages regardless of fault. With regard to AI, in Czech law in particular the following cases are applicable: damage resulting from operating activities (Section 2924 of the Czech Civil Code (CC) ([EN version](#))), damage caused by a particularly hazardous operation (Section 2925 CC), damage caused by the operation of a means of transport (Section 2927 et seq. CC), damage caused by a thing (Section 2937 CC), damage caused by a product defect (Section 2939 et seq. CC) and damage caused by information or advice (Section 2950 CC).

#### **(i) Is there strict liability for ‘things’? If so, does it cover intangible things (such as software/AI)?**

Provisions on “damage caused by a thing” are to be found in Sections 2936 to 2938 of the Czech Civil Code (CC) ([EN version](#)), preceding provisions on “damage caused by a product defect”. Sections on damage caused by a thing include a provision on damage caused by a defective thing and a particular provision for a thing that causes damage itself. In the case of the damage caused by the thing itself, the person who had supervision over the thing is liable for the damage. If that person cannot be determined, the owner of the thing is presumed to be liable. A person who proves not to have neglected due supervision is released from the duty to provide compensation.

<p>The person who is obliged to provide a performance to someone and, in doing so, uses a defective thing is liable in damages for the damage caused by the defect of the thing. This also applies in the case of the provision of health care, social, veterinary and other biological services.</p> <p>A thing can be tangible or intangible (Section 489 CC).</p>
<p><b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b></p>
<p>The liability regime applicable to cars in Czech law is part of a strict liability regime for the damage caused by the operation of a means of transport and is laid down in Section 2927 of the Czech Civil Code (CC) (<a href="#">EN version</a>). The rights and obligations of road users (drivers) are laid down in the <a href="#">Act on Traffic on Roads No 361/2000 Sb.</a></p> <p>The operator of the means of transport is liable. An operator is not released from liability if the damage was caused by circumstances originating from the operation. However, the operator can escape liability if the damage could not have been prevented even if he or she had exercised all reasonable care. If the operator cannot be determined, the owner of the means of transport is presumed to be the operator (Section 2930 CC).</p>
<p><b>(iii) Dangerous activities</b></p>
<p>Section 2925 of the Czech Civil Code (CC) (<a href="#">EN version</a>) provides for strict liability for damage caused by particularly hazardous activities.</p> <p>A person who operates a hazardous activity (the provision itself uses the expression an “enterprise” or another hazardous facility) is strictly liable for damage resulting from such an activity. The provision further explains that an activity is considered to be particularly hazardous if the possibility of serious damage cannot be reasonably excluded in advance even by exercising due care.</p> <p>The view of academia is that since some AI applications are able to reach a certain degree of autonomy and make their own decisions, their operation can be considered to be hazardous.</p> <p>The CC does not define the operator in this case.</p>
<p><b>(iv) Liability for the keeping of animals</b></p>
<p>Sections 2933 to 2935 of the Czech Civil Code (<a href="#">EN version</a>) relate to damage caused by an animal.</p> <p>The owner of an animal is strictly liable for damage caused by the animal, regardless of whether the animal was in the owner’s custody, whether it was in the custody of another person to whom the owner entrusted its supervision, or whether the animal stayed or escaped.</p> <p>A person to whom the owner has entrusted custody of the animal or a person who keeps or otherwise uses an animal is jointly and severally liable with the owner for damage caused by the animal.</p> <p>If the law on damage caused by animals were applied in the case of AI, the owner would be strictly liable for damage caused by AI. In such a case, however, the owner could not claim compensation for damage caused by a defect in the thing/goods from the AI manufacturer (or other liable entity).</p>

**(v) Vicarious liability (parent, teacher, employer etc.)**

Sections 2920 to 2923 of the Czech Civil Code ([EN version](#)) provide for vicarious liability regarding persons unable to assess the consequences of their acts.

A classic example of such vicarious liability is where a minor has committed a tort and is liable for the damage (subject to other legal conditions), and is jointly and severally liable for the person who has neglected the proper supervision of the minor (typically a parent). Since AI could not be responsible for a tort due to the absence of legal personality, the supervisor alone would be liable. Just as a child matures and becomes solely responsible for his or her torts, it is conceivable that AI could reach a stage of development at which it might no longer be justified to hold the supervisor liable.

As in the case of the liability for the keeping of animals, if the law on vicarious liability were applied to AI, the owner would be strictly liable for damage caused by AI. In such a case, the owner could not claim compensation for damage caused by a defect in the thing/goods from the AI manufacturer (or other liable entity).

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## V Estonia: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

At the time of writing, there are no specific rules on non-contractual liability for damage caused by artificial intelligence (AI). The general rules on civil liability apply.

There is no obligation to take out insurance for objects applying AI.

#### Self-driving cars

The Estonian [Traffic Act](#) sets out a definition for self-driving delivery robots and the requirements and traffic rules for self-driving delivery robots (Chapter 7 of the Act).

§2, point 68 of the Act provides that: “a self-driving delivery robot is a partially or fully automated or a remotely controlled vehicle which moves on wheels or another chassis that is in contact with the ground, which uses sensors, cameras or other equipment for obtaining information on the surrounding environment and, based on the information obtained, is able to move partially or fully without being controlled by a driver.”

There is no specific legislation on other objects applying AI, such as drones or autonomous cars.

The use of autonomous cars is not permitted under Estonian law. However, it is possible to obtain permission to test autonomous cars, on condition that the driver is present in the car during the whole journey and is capable of taking control of the vehicle at all times. In summer 2019, self-driving public mini-busses were successfully tested on a short route in Tallinn. A legislative initiative on autonomous cars is expected.

General rules on civil liability apply. Either the user or the controller (the person adjusting the moving speed or direction) of a self-driving delivery robot could be considered to be liable, depending on the circumstances of the case.

Since the general rules on civil liability apply, it depends on the circumstances of the case whether strict liability or fault-based liability is applicable to damage caused by a self-driving delivery robot or any other object applying AI.

Since the maximum allowed speed of a self-driving delivery robot is only 6 km/h, it is questionable whether a self-driving delivery robot could be regarded to be a major source of danger, with the consequence that fault-based liability would apply.

**(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

Legislative proposals on legal aspects of AI, including on non-contractual liability for damage caused by AI, are expected to be introduced during 2020. According to the preparatory materials, a sector-specific approach is unlikely to be taken in civil law matters. Basic acts in the field of civil law are expected to be adjusted and supplemented as necessary, in order to take into account the specificities of AI.

**(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

In May 2019, the Estonian government released a national strategy for AI ([AI Policy Estonia, Future of Life Institute](#)), which focuses on accelerating AI in the private and public sectors throughout the country. Although Estonia had previously [considered](#) introducing a separate legislative act on AI, the report concluded that there is no need at this time; instead, the report suggested that some changes be made to existing laws. The strategy prioritises the role of AI in government processes and services, and includes plans to carry out pilot projects from which to learn.

**2. GENERAL RULES****(a) What are the general rules on fault-based liability?**

If damage is caused in a non-contractual context, fault-based liability applies, except in cases in which damage caused by a major source of danger, which triggers no-fault liability/risk-based liability. However, the culpability of the tortfeasor is presumed. In other words, if the victim is able to prove the existence of the damage, the existence of an unlawful act and the causal link between them, the culpability of the person causing the damage is presumed (reversal of burden of proof).

The relevant provisions are §§1043 and 1050 of the Estonian Law of Obligations Act (LOA) ([EN translation](#)):

“§1043. Compensation for unlawfully caused damage

A person (tortfeasor) who unlawfully causes damage to another person (victim) shall compensate the victim for the damage if the tortfeasor is culpable of causing the damage or is liable for causing the damage pursuant to law.”

“§1050(1) Culpability as a basis for liability

Unless otherwise provided by law, a tortfeasor is not liable for causing damage if he or she proves that he or she is not culpable of causing the damage.”

In a contractual relationship, the party who is in breach of contract is liable for the damage caused, unless the breach was due to *force majeure* (§103(1) and (2) LOA). In other words, there is no fault-based liability in a contractual context, unless the parties have agreed otherwise.

§103. Excused non-performance

“(1) An obligor shall be liable for non-performance unless that non-performance is excused. There is a presumption that non-performance is not excused.

- (2) The non-performance by an obligor is excused in the case of *force majeure*. *Force majeure* comprises circumstances which are beyond the control of the obligor and which, at the time the contract was entered into or the non-contractual obligation arose, the obligor could not reasonably have been expected to take into account, avoid or overcome the impediment or the consequences of which the obligor could not reasonably have been expected to overcome."

As a rule, each party must prove the facts on which his or her claims and objections are based (§230(1) of Estonian Code of Civil Procedure (CP) ([EN translation](#))).

There is a reversal of the burden of proving causation in the following cases:

- liability of a health care service provider: §770(4) LOA: "If there is an error in the diagnosis or treatment of a patient and the patient develops a health disorder which could probably have been avoided by ordinary treatment, the damage is presumed to have resulted from the error.";
- risk-based liability of the owner of dangerous construction or thing: §1058(2) LOA: "If a dangerous construction or thing is a potential cause of damage, it shall be presumed that the damage is caused as a result of particular danger arising from the construction or thing. This does not apply if the construction or thing is operated according to requirements and if the operation thereof is not disturbed."

Where damage is caused in a non-contractual context, the culpability of the tortfeasor is presumed (§1050 (1) LOA).

The conviction of the judge (court) following an analysis of the evidence, provided for in §232 CP could be regarded as a concept similar to the standard of proof. The notion of "standard of proof" is unknown in Estonian law.

"§232. Evaluation of the evidence

- (1) The court shall evaluate all the evidence pursuant to law from all perspectives, thoroughly and objectively and shall decide, in accordance with its conscience, whether or not an argument presented by a party to the proceedings is proven considering, among other things, any agreements between the parties concerning the provision of evidence."

Regarding pure economic loss, Estonia's highest court *Riigikohus* held, in Case No [3-2-1-19-11](#) of 20 April 2011, that in a non-contractual context, compensation can be claimed, as a rule, only for damage caused to certain protected legal interests, rather than for pure economic loss as such. However, there are exceptions to this principle, especially if the purpose of a legal provision is to protect third parties from pure economic loss. In *Riigikohus*, the court ruled that the purpose of the prohibition of abuse of dominant market position is to protect third parties from pure economic loss.

In light of that judgement, it is not excluded that in the context of AI, pure economic loss could be claimed on the basis of §1045(1), point (5) or (6) LOA:

"§1045. Unlawfulness of causing of damage

- (1) The causing of damage is unlawful if, above all, the damage is caused by:

...

- (5) a violation of the right of ownership or a similar right, or of the right of possession of the victim;
- (6) interference with the economic or professional activities of a person..."

General rules on damage subject to compensation are provided for in §128 LOA:

"§128. Types of damage subject to compensation



<p>(1) Damage subject to compensation may be patrimonial or non-patrimonial.</p> <p>(2) Patrimonial damage includes, primarily, direct patrimonial damage and loss of profit.</p> <p>(3) Direct patrimonial damage includes, primarily, the value of the lost or destroyed property or the decrease in the value of property due to deterioration even if such decrease occurs in the future, and reasonable expenses which have been incurred or will be incurred in the future due to the damage, including reasonable expenses relating to prevention or reduction of damage and receipt of compensation, including expenses relating to establishment of the damage and submission of claims relating to compensation for the damage.</p> <p>(4) Loss of profit is loss of the gain which a person would have been likely to receive in the circumstances, in particular as a result of the preparations made by the person, if the circumstances on which compensation for damage is based would not have occurred. Loss of profit may also include the loss of an opportunity to receive gain.</p> <p>(5) Non-patrimonial damage primarily involves the physical and emotional distress and suffering caused to the victim.”</p> <p>§137(1) LOA provides that where several persons are liable for the same damage caused to a third party on the same or on different grounds, they are jointly liable for the payment of compensation (joint liability).</p> <p>§138(1) and (3) LOA provides that where several persons may be liable for damage caused and it has been established that any of those persons could have caused the damage, compensation may be claimed from all such persons. Compensation may be claimed from each person in proportion to the probability that the damage was caused by that person (several liability).</p>
<p><b>(b) No-fault liability (strict liability/risk-based liability)</b></p>
<p><b>(i) Is there strict liability for ‘things’? If so, does it cover intangible things (such as software/AI)?</b></p>
<p>The Estonian Law of Obligations Act (LOA) (<a href="#">EN translation</a>) includes specific provisions on risk-based liability for damage caused by things or activities that are a major sources of danger (§§1056 to 1060), including for persons managing such a thing or activity, the possessor of a motor vehicle, the owner of a dangerous structure or thing and the keeper of an animal. The most relevant provision in relation with things is § 1058 LOA on the liability of an owner of a dangerous construction or thing. In this case, strict liability is, however, excluded if the construction or thing is operated according to the requirements and if the operation thereof is not disturbed. Several defences are also provided for.</p> <p>“§1058. Liability of the owner of dangerous construction or thing</p> <p>(1) The owner of a construction shall be liable for damage caused as a result of particular danger arising from it due to the production, storage or transmission in the construction of energy, substances which are flammable, involve a radiation hazard or can cause combustion, or toxic, caustic or environmentally hazardous substances, and for damage caused as a result of particular danger arising from the construction for any other reason. The owner of a thing shall be liable for damage caused as a result of particular danger arising from the thing due to its flammable, radiation, combustible, toxic, caustic or environmentally hazardous characteristics, and for damage caused as a result of particular danger arising from the thing for any other reason.</p>

<p>(2) If a dangerous construction or thing is a potential cause of damage, it shall be presumed that the damage is caused as a result of particular danger arising from the construction or thing. This does not apply if the construction or thing is operated according to requirements and if the operation thereof is not disturbed.”</p> <p>Things are tangible or corporeal objects, unless otherwise provided for by law. A robot is a thing under Estonian law. Software as such is not considered to be a thing in the context of non-contractual obligations. If the software is part of a robot, it is considered to be a relevant part of that robot and it shares the same legal regime/qualification as the main thing (the robot).</p> <p>The general rules on risk-based liability are provided for in §1056 LOA. They are applicable in the event of damage caused by major source of danger. The provision covers both dangerous things and dangerous activities and could therefore also cover software/AI in the event that it constitutes a major source of danger. (See §1056 LOA, which is referred to in point (iii) below).</p>
<p><b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b></p>
<p>The risk-based liability of the driver for the operation of a motor vehicle is provided for in §1057 of the Estonian Law of Obligations Act (LOA) (<a href="#">EN translation</a>).</p> <p>The direct possessor of a motor vehicle is liable for the damage caused by means of the operation of the motor vehicle. The liability is limited or excluded in certain circumstances, such as where the damage is caused by <i>force majeure</i> or by an intentional act on the part of the victim (this defence is not applicable if the damage is caused by means of the operation of an aircraft), if the victim participates in the operation of the motor vehicle or if the victim is carried without charge and outside the economic activities of the carrier.</p>
<p><b>(iii) Dangerous activities</b></p>
<p>Dangerous activities are expressly covered by strict liability (§1056 of Estonian Law of Obligations Act (LOA) (<a href="#">EN translation</a>)). To date, there is no case-law on strict liability for software/AI.</p> <p>Where damage results from an extremely dangerous activity, the person who manages the source of the danger is liable for the damage regardless of his or her culpability. He or she is liable for death, personal injury or damage to the health of the victim and for damage to the victim’s property, unless otherwise provided by law.</p> <p>“§1056. Liability for damage caused by major source of danger</p> <p>(1) If damage is caused resulting from characteristic of a thing constituting a major source of danger or from an extremely dangerous activity, the person who manages the source of the danger shall be liable for causing the damage regardless of his or her culpability. A person who manages a major source of danger shall be liable for causing death, personal injury or damage to the health of the victim and for damage to a tangible object belonging to the victim, unless otherwise provided by law.</p> <p>(2) A thing or an activity is deemed to be a major source of danger if, due to its nature or the substances or means employed in connection with the thing or activity, major or frequent damage may arise therefrom even if it is handled or performed with due diligence by a specialist. If liability for causing damage by means of a source of danger is prescribed by law, any thing or activity similar to such source of danger is also deemed to be a source of danger, regardless of whether the person who manages the source of danger is culpable.”</p>

**(iv) Liability for the keeping of animals**

Liability for damage caused by an animal is a subcategory of risk-based liability provided for in §§1056 to 1060 of the Estonian Law of Obligations Act (LOA) ([ENtranslation](#)) and is specifically set out in §1060 LOA:

“§1060. Liability of the keeper of an animal

The keeper of an animal shall be liable for damage caused by the animal.”

The notion of strict liability is unknown in Estonian law. The fact that culpability is irrelevant if other conditions are met, is provided for in §1056 LOA, which is a general provision on liability for damage caused by major source of danger.

**(v) Vicarious liability (parent, teacher, employer etc.)**

If it is considered to be necessary to limit the liability for AI, the liability of parents for children older than 14 could serve as an example. Liability is excluded if the parent has done everything that could be reasonably expected to prevent the damage. However, it should be borne in mind that the child remains liable, whereas AI would not be capable of liability in tort.

§1053(1), (2) and (3) of the Estonian Law of Obligations Act (LOA) ([ENtranslation](#)) provides that parents, guardians and teachers are liable for the torts of children under the age of 14.

Parents, guardians and teachers are liable for damage unlawfully caused by children between the ages of 14 to 18 unless they prove that they have done everything that could be reasonably expected in order to prevent the damage. However, such children remain jointly and severally liable for the damage caused.

§1054 LAO provides for the vicarious liability of employers for the torts of their employees (persons engaged to perform economic or professional activities on a regular basis) where the damage was caused in relation to those economic or professional activities:

“(1) If a person engages another person in the [first] person's economic or professional activities on a regular basis, that person shall be liable for any damage unlawfully caused by the other person on the same basis as for damage caused by the [first] person, if the causing of damage is related to the [first] person's economic or professional activities.”

In Estonian law there is no restriction to mirror §831 of the German Civil Code (BGB), which provides that the principal can escape liability by proving that he or she exercised reasonable care in selecting the agent or that the damage would have occurred even if such care had been exercised.

§132 of the Estonian General Part of the Civil Code ([EN translation](#)) provides for vicarious liability in civil law:

“(1) A person shall be liable for the conduct of and circumstances arising from another person as if that person had him or herself been responsible for that conduct and those circumstances, if that person uses the other person on a continuous basis in his or her economic or professional activity and the conduct of and circumstances arising from the other person are related to that economic or professional activity.

(2) A person shall be liable for the conduct of and circumstances arising from another person if that person uses the other person in the performance of his or her obligations and the conduct of or circumstances arising from the other person are related to the performance of those obligations.”

## VI France: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

Vehicles with partial or complete driving delegation (*véhicule à délégation partielle ou totale de conduite* (VDPTC))

Law No 2015-992 of 17 August 2015 on the energy transition for green growth, *JORF* No 0189 of 18 August 2015, p. 14263 (Article 37, IX) ([Loi n° 2015-992 du 17 août 2015 relative à la transition énergétique pour la croissance verte](#)); Order No 2016-1057 of 3 August 2016 relating to experimentations of vehicles with driving delegation on public roads, *JORF* No 0181,5 August 2016, text No 8 ([Ordonnance n° 2016-1057 du 3 août 2016 relative à l'expérimentation de véhicules à délégation de conduite sur les voies publiques](#)); Decree No 2018-211 of 28 March 2018 relating to experimentations of vehicles with driving delegation on public roads, *JORF* No 0075 of 4 May 2018 ([Décret n° 2018-211 du 28 mars 2018 relatif à l'expérimentation de véhicules à délégation de conduite sur les voies publiques](#)); Order of 17 April 2018 relating to experimentations of vehicles with driving delegation on public roads, *JORF* of 4 May 2018, text No 3 ([Arrêté du 17 avril 2018 relatif à l'expérimentation de véhicules à délégation de conduite sur les voies publiques](#)): these texts allow the circulation on public roads of vehicles with partial or complete driving delegation for experimental purposes, subject to authorisation, and regulate the conditions for issuing such an authorisation. The authorisation covers both private passenger cars and vehicles for transportation of goods or commercial passenger transport.

The Order of 17 April 2018 defines a vehicle with partial or complete driving delegation as follows:

“Article 2<sup>1</sup>

1° “DPTC vehicle”: a vehicle with partial or complete driving delegation is a vehicle which is of the international category M, N, L, T or C or of a national type, equipped with one or more functionalities allowing the vehicle to be delegated all or part of the driving tasks during all or part of the vehicle's journey.

Delegation is partial when the driver delegates to the vehicle's electronic system some of the driving tasks but retains at least one physical driving action.

<sup>1</sup> “Véhicule DPTC”: un véhicule à délégation partielle ou totale de conduite est un véhicule qui se rattache à la catégorie internationale M, N, L, T ou C ou qui relève d'un genre national, muni d'une ou plusieurs fonctionnalités permettant de déléguer au véhicule tout ou partie des tâches de conduite pendant tout ou partie du parcours du véhicule.

La délégation est partielle lorsque le conducteur délègue au système électronique du véhicule une partie des tâches de conduite mais conserve à minima une action physique de conduite.

La délégation est totale lorsque le conducteur délègue complètement au système électronique du véhicule l'ensemble des tâches de conduite.

Cette définition exclut les aides à la conduite, qui ne dispensent pas le conducteur d'exercer les tâches de conduite. Elle exclut également les dispositifs de sécurité légaux, qui font l'objet d'une homologation et d'une obligation d'équipement au sens de la réglementation en vigueur.

Les véhicules DPTC circulant à des fins expérimentales ne sont pas des systèmes de transports au sens de l'[article L.1612-2](#) du code des transports”.

Complete delegation occurs when the driver fully delegates all driving tasks to the vehicle's electronic system.

This definition excludes driving aids, which do not relieve the driver from performing the driving tasks. It also excludes legal safety devices, which are subject to type-approval and equipment requirements under the regulations in force.

DPTC vehicles circulating for experimental purposes are not transport systems within the meaning of [Article L. 1612-2](#) of the Transport Code, [Law No 2019-486 of 22 May 2019 on the growth and processing of enterprises](#), *JORF* No 0119 of 23 May 2019, text No 2, known as the PACTE Law (Articles 125 and 209): This law extends the scope of experimentation and clarifies the regime of criminal liability in the event of an accident during such experimentation. The decree implementing the PACTE Law has yet to be adopted.

The criminal provisions of the Highway Code (*Code de la route*) on the criminal liability of the driver ([Highway Code, Article L 121-1](#)) are not applicable to the driver during the activation of the system of driving delegation (Ord.2016-1057, Art. 2-1, second para. 1 new; PACTE Law, Art 125, I-3). If a driving offence is committed when the driving delegation system is activated, the holder of the authorisation is financially responsible for the payment of the fines; in the event of an accident, the holder is criminally liable for any offence of involuntary harm to the life or the integrity of the person provided for in Articles [221-6-1](#), [222-19-1](#) and [222-20-1](#) of the Criminal Code where a fault has been established within the meaning of [Article 121-3](#) of the Criminal Code in the implementation of the system of driving delegation (Ord.2016-1057 new Art. 2-2; PACTE Law, Art 125, I-3). However, the driver of the vehicle is criminally responsible ([Highway Code, Article L 121-1](#)) before and after the activation of the driving delegation system. Similarly, the driver remains responsible if he or she has ignored the obvious fact that the conditions of use of the driving delegation system, defined for testing, were not or no longer fulfilled (Ord. 2016-1057 new Art. 2-2; PACTE Law, Art 125, I-3). In cases where the driver is criminally liable, however, it is necessary to prove that he or she has committed an offence linked to, for example, carelessness or negligence, for liability to arise. Any other person who has contributed to the damage may also be prosecuted.

As regards compensation for victims, the Law No 85-677 of 5 July 1985 on improving the situation of victims of road traffic accidents and the speeding up of compensation procedures ([Loi n° 85-677 du 5 juillet 1985 tendant à l'amélioration de la situation des victimes d'accidents de la circulation et à l'accélération des procédures d'indemnisation](#)) (the Badinter Law) is applicable. The Badinter Law provides for the speedy compensation of victims by the insurer of the "driver" or "keeper" of the vehicle. If the damage occurred in driving delegation mode, the holder of the authorisation should therefore compensate the victims. The person whose civil liability is held can subsequently take action against all those who may have played a role in the occurrence of the damage: the manufacturer, the supplier, the software supplier, other vehicles, infrastructure.

Law No 2019-1428 of 24 December 2019 on the orientation of mobility, *JORF* No 0299 of 26 December 2019 ([Loi n° 2019-1428 du 24 décembre 2019 d'orientation des mobilités](#)) (LOM) (beyond the framework of experiments)

The Government is empowered to adopt, by means of an order within a period of 24 months of the enactment of that law, any measure to adapt legislation, in particular the Highway Code, in order to take account of circulation on public roads of vehicles with driving delegations, in particular by establishing the applicable liability regime. It is also empowered to take, by means of an order within a period of 12 months of the enactment of the law, any measure in order, in particular, to make available, inter alia, in the event of a road accident, the data that are strictly necessary to determine whether the driving delegation was activated for the purpose of compensating the victims in accordance with the [Badinter Law](#).

### Autonomous vessels

The Law No 2016-816 of 20 June 2016 on the blue economy, *JORF* No 0143 of 21 June 2016, text No 1 ([Loi n° 2016-816 du 20 juin 2016 pour l'économie bleue](#)) introduced provisions in the Transport Code, which would make it possible to link the remote-controlled drone from a French vessel to the liability regime of the vessel on which it is based (Article L. 5111-1-1).

In accordance with the Law No 2019-1428 of 24 December 2019 on the orientation of mobility, *JORF* No 0299 of 26 December 2019 ([Loi n° 2019-1428 du 24 décembre 2019 d'orientation des mobilités](#)) (LOM), the navigation of autonomous or remotely controlled boats, floating craft or floating sea surface or underwater crafts and vessels may be authorised on the sea, lakes or water bodies, under certain conditions, on an experimental basis, for a period not exceeding two years. The conditions of the experimentation are laid down by means of regulations (Article 135, X). The Government is also empowered to adopt, by means of an order, measures to amend the Transport Code in order to allow the navigation of such craft or vessels and to specify inter alia the corresponding liability and insurance regime (Article 135(III)(1)).

### Civil drones

In France, a drone is primarily considered to be an unmanned aerial vehicle (UAV) integrated into an unmanned aircraft system (UAS) or remotely piloted aircraft system (RPAS), in which, in most cases, it is possible to identify a remote pilot. In French law, autonomous drones, when they are authorised, are submitted to the same rules as remotely piloted aircraft. The circulation of autonomous drones is currently largely prohibited for safety reasons.

Basic rules are encompassed in two Orders of 17 December 2015: the first on the use of airspace by unmanned aircraft<sup>2</sup> and the second on the design of unmanned civil aircraft, the conditions of their use and their operator capacities<sup>3</sup>. Also applicable are the Order of 18 May 2018 on the requirements applicable to remote pilots using unmanned civil aircraft for purposes other than leisure<sup>4</sup> and Decree No 2018-375 of 18 May 2018 on the training required for remote pilots of unmanned civil aircraft used for leisure purposes<sup>5</sup>. Moreover, Decree No 2018-882 of 11 October 2018 on the registration of unmanned civil aircraft<sup>6</sup> and Order of 19 October 2018 on the registration of unmanned civil aircraft<sup>7</sup> are also relevant. [Commission Delegated Regulation \(EU\) 2019/945 of 12 March 2019 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems](#)<sup>8</sup> and [Commission Implementing Regulation \(EU\) 2019/947 of 24 May 2019 on the rules and procedures for the operation of unmanned aircraft](#)<sup>9</sup> have also entered into force and are applicable to the operation of drones in France.

<sup>2</sup> [Arrêté du 17 décembre 2015 relatif à l'utilisation de l'espace aérien par les aéronefs qui circulent sans personne à bord.](#)

<sup>3</sup> [Arrêté du 17 décembre 2015 relatif à la conception des aéronefs civils qui circulent sans personne à bord, aux conditions de leur emploi et aux capacités requises des personnes qui les utilisent.](#)

<sup>4</sup> [Arrêté du 18 mai 2018 relatif aux exigences applicables aux télépilotes qui utilisent des aéronefs civils circulant sans personne à bord à des fins autres que le loisir.](#)

<sup>5</sup> [Décret n° 2018-375 du 18 mai 2018 relatif à la formation exigée des télépilotes d'aéronefs civils circulant sans personne à bord utilisés à des fins de loisir.](#)

<sup>6</sup> [Décret n° 2018-882 du 11 octobre 2018 relatif à l'enregistrement des aéronefs civils circulant sans personne à bord.](#)

<sup>7</sup> [Arrêté du 19 octobre 2018 relatif à l'enregistrement des aéronefs civils circulant sans personne à bord.](#)

<sup>8</sup> OJ L 152, 11.6.2019, p. 1.

<sup>9</sup> OJ L 152, 11.6.2019, p. 45.



The Transport Code (in particular Articles [L.6214-1 to L.6214-5](#), which refer specifically to unmanned aircraft) is applicable to the operation of drones. Articles [L.6131-1 à L.6131-4](#) of the Transport Code contain liability rules. No specific rules govern the liability of drones for damage to third parties on land or in the air or for losses or damage to cargo. Article L.6131-1 of the Transport Code refers in this regard to the provisions of the French Civil Code: "In the event of damage caused by a flying aircraft to another flying aircraft, the liability of the pilot and the operator of the aircraft is governed by the provisions of the French Civil Code". In that regard, liability for the act of things (Article 1242, first paragraph, of the French Civil Code) will be preferred as it is a strict liability regime whereas Article 1240 of the French Civil Code would require the injured party to prove the causal link between the damage and the movement of the drone. Article L.6131-2 of the Transport Code provides further that the aircraft operator is strictly liable for damage caused by the aircraft or parts thereof to the people or to the goods. Only contributory negligence on the part of the victim can mitigate the liability of the pilot or relieve him or her from any liability. *Force majeure* is not a ground for exemption from liability.

Article L.6214-1 of the Transport Code defines a remote pilot (*télépilote*) as follows: "The remote pilot is the person who controls manually the movement of an aircraft moving without any person on board or, in the case of an automatic flight, the person who is at all times able to act on his or her course or, in the case of an autonomous flight, the person who directly determines the flight path or crossing points of that aircraft."

The person responsible for planning a flight could be regarded as the pilot of the aircraft for the purpose of determining liability in the event of a collision, for example. However, this Article does not contain any liability rule in relation to cases where the operation of a drone would be guided entirely by the aircraft's algorithm (developed by the manufacturer of the aircraft).

The penalties provided for in general criminal law apply. In addition, specific administrative and criminal penalties are laid down in the Transport Code (see Articles [L.6142-4 to L.6142-6](#) and Articles [L.6232-12 and L.6232-13](#)).

### Self-learning algorithms

[Article L.311-3-1](#) of the Public Administration Relations Code inserted by Law No 2016-1321 of 7 October 2016 for a Digital Republic (*Loi n° 2016-1321 du 7 octobre 2016 pour une République numérique*) provide that where an individual decision is taken on the basis of algorithmic processing, the person concerned is informed thereof by means of an express indication in the decision. The rules defining that processing and the main characteristics of its implementation must be communicated by the administration to the person concerned, if he or she so requests. The terms of application of the article are laid down by Decree No 2017-330 of 14 March 2017 on the rights of persons subject to individual decisions taken on the basis of algorithmic processing. In a [Decision No 2018-765 of 12 June 2018](#), the Constitutional Council (*Conseil constitutionnel*) ruled that "... Algorithms that can revise the rules they apply may not be used as the exclusive basis for an individual administrative decision without the control and validation of the controller".

### (b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

[Act No 2019-1428 of 24 December 2019 for the orientation of mobility](#), *JORF* No 0299 of 26 December 2019 (LOM): orders under the LOM Act have yet to be adopted as regards the issue of civil liability in respect of autonomous vehicles and vessels, beyond the context of experimentation (see also point (a) above).

The [Draft revision of civil liability](#) presented in March 2017 by the *Garde des Sceaux*, Minister for Justice, J.J. Urvoas, contains the following provision that could be relevant in the context of artificial intelligence, where it is difficult to distinguish the actor behind the operative event: "Where personal injury

<p>is caused by an undetermined person from among identified persons who act together or carry out a similar activity, each of those persons shall be liable for the whole of the damage, unless it is shown that a particular person cannot have caused it. The persons liable must contribute in proportion of their probable share of liability" (Article 1240). This is an application of alternative causality i.e. members of a "group" may be jointly and severally liable in respect of personal injury caused by an unidentified member of that "group".</p>
<p>The <a href="#">Draft law No 2658 on Bioethics</a> inserts (by means of Article 11) in the Public Health Code a new Article L.4001-3, which deals with the use of algorithmic treatment by healthcare professionals. A decree of the Council of State, adopted after consulting the National Commission for Information Technology and Freedoms, will specify the detailed rules for implementing that law.</p>
<p><b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p>
<p>The Commission's AI Watch, which monitors the development, uptake and impact of Artificial Intelligence for Europe, has the following information about the <a href="#">French AI Strategy</a>.</p> <p>The Villani report, <a href="#">Donner un sens à l'intelligence artificielle</a> (Parliamentary mission from 8 September 2017 to 8 March 2018 requested by then Prime Minister Edouard Philippe, AI budget: 1,5 billion euros during a five-year period) identifies four strategic sectors — health, transport and mobility, environment and defence and security — in which AI should be developed. However, it contains few concrete proposals as regards any rules of civil liability for damage caused by artificial intelligence in those sectors. The report proposes, in particular, to:</p> <ul style="list-style-type: none"> <li>- provide a framework for the use of predictive algorithms (in the area of court decisions, administrative decisions, and police activities) in such a way that a human being can be held responsible at each stage of the reasoning process (individual liability or "cascading liability" (<i>responsabilité en cascade</i>);</li> <li>- clarify the system of medical liability for healthcare professionals when using artificial intelligence technologies;</li> <li>- define the liability regime for damage caused by the use of machine learning systems, adapting the Law No 78-17 of 6 January 1978 on Information Technology, data files and civil liberties, <i>JORF</i>, 7 January 1978, p. 227 (<a href="#">Loi n° 78-17 du 6 janvier 1978 relative à l'informatique, aux fichiers et aux libertés, JORF, 7 janvier 1978, p. 227</a>);</li> <li>- adapt the Highway Code in view of future changes to the international framework so that from 2022 onwards, level 3 autonomy functions (the driver does not monitor the system, but he or she is ready to take control of the vehicle, if necessary) and from 2028 onwards, level 4 autonomy functions (no need for drivers in some cases) can be authorised.</li> </ul>
<p><a href="#">Development of autonomous vehicles - Strategic orientations for public actions - summary document</a></p>



## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

The general rules on fault-based liability are contained in the following provisions of the French [Civil Code](#) (CC) ([EN version](#); alternative translation at: <https://webgate.ec.europa.eu/etranslation/translateDocument.html>).

[Article 1240 CC](#): “Every act whatever that causes damage to another person, obliges the person by whose fault the damage occurred to repair it.”<sup>10</sup>

[Article 1241 CC](#): “We are responsible not only for the damage occasioned by our own acts, but also by that occasioned by our own negligence or recklessness.”<sup>11</sup>

Fault includes any violation of a rule of conduct imposed by law but also any breach of the general duty of care and diligence (principle of generality as to fault).

Three conditions are necessary for fault-based liability to arise: an operative event giving rise to liability (fault), damage and a direct causal link between the fault and the damage.

#### **Burden of proof**

In principle, the burden of proof is on the party making the claim:

[Article 1353 CC](#): “Anyone claiming performance of an obligation must prove it.

Reciprocally, a person who claims to be released from an obligation must prove the payment or the fact that caused the extinction of the obligation”.

It is therefore up to “each party to prove, according to the law, the facts necessary for the success of the claim” ([Article 9](#) of the Code of Civil Procedure (CCP)). Therefore, the victim bears the burden of proof of the fault, the damage and the causal link between the fault and the damage.

However, the judge has the power to order, *ex officio*, all legally admissible investigative measures. The parties are obliged to assist in the investigative measures and the judge may draw any consequences from a failure or refusal to do so. Where a party holds evidence, the judge may, at the request of the other party, order that party to produce the evidence, where necessary under a periodic penalty payment. The judge may, at the request of one of the parties, request or order, where necessary in the same decision, the production of any documents held by third parties, if there is no legitimate impediment to so doing ([Articles 10 and 11](#) CCP).

#### **Causation**

French law does not refer to a standard of proof. The Court of Cassation adopted a flexible approach in the assessment of the causal link, taking into account considerations of equity with a view to promote compensation for the victims. There are two conflicting theories regarding causality: the theory of equivalence of conditions and the theory of adequate causality. According to the theory of equivalence of conditions, the legal cause of the damage

<sup>10</sup> The [Draft revision of civil liability](#) maintains this principle in Article 1241: “One is responsible for the damage caused by one’s fault”; this principle has been established as a constitutional standard (see also [Conseil Constitutionnel, 26 September 2014, No 2014-415, QPC](#); priority issue of constitutionality).

<sup>11</sup> The [Draft revision of civil liability](#) reaffirms that the judge is free to identify new non-contractual duties the infringement of which is likely to constitute a fault.

is any event without which the damage would not have occurred. According to the theory of adequate causality, the legal cause of the damage is the event which made the damage objectively foreseeable.

The Court of Cassation is pragmatic in terms of causality, in the sense that it will apply either the theory of equivalence of conditions or the theory of adequate causality depending on the desired result: when it wishes to find a perpetrator at all costs, it will adopt a broad concept of causality, which will lead the Court to apply the theory of equivalence of conditions (e.g. [Cass., 2nd civ., 27 March 2003, No 01-00850](#)). When, on the other hand, the Court of Cassation wishes to rule out the liability of an agent, it will apply a rather restrictive concept of causality, which will lead the Court to resort to the theory of adequate causality ([Cass., 3rd civ., 19 February 2003, No 00-13253](#)).

Moreover, in order to make things easier for the victim, the judges may consider that the reported evidence is sufficient to give rise to a presumption of causality. It is then for the defendant to rebut that presumption.

The case-law allows the use of judicial presumptions to prove legal causality in the event of doubt on the basis of scientific causality<sup>12</sup>. According to [Article 1382 CC](#), “presumptions which are not established by law are left to the discretion of the Court, which must accept them only if they are serious, precise and consistent, and only where the law allows proof by any means”.

The case-law has also recognised the use of legal presumptions in order to exempt the victim from proving the legal causality: it is for the blood transfusion centre to show that contamination of a patient with hepatitis C was not due to a blood transfusion ([Cass. 1st civ., 9 May 2001, Bull. civ. I, No 130](#)); it is for the driver of a vehicle to show that he or she is not liable for damage suffered as a result of a traffic accident ([Cass. 2nd civ., 19 February 1997, Bull. civ. II, No 41](#)).

Certain legal presumptions are provided for by law (special schemes): [Law No 2002-303 of 4 March 2002 on the rights of the sick and the quality of the health system](#), JORF of 5 March 2002, p. 4118, text No 1, Article 102 (imputability of contamination with the hepatitis C virus); [Law No 2010-2 of 5 January 2010 on the recognition and compensation of victims of nuclear tests in France](#), JORF No 0004 of 6 January 2010, page 327, text No 1; [Social Security Code, Article L.461-2](#) (compensation for occupational diseases).

### Damage covered

French law does not provide for a predetermined list of types of damage for which a victim can recover damages<sup>13</sup> (the principle of the generality of damage). The principle of full compensation for damage applies. According to that principle, compensation must aim to place the victim as far as possible in the situation in which he or she would have been had the harmful event not occurred. The victim should not make a loss or profit from the compensation (Cass. 2nd civ., 28 oct. 1954: Bull. civ. II, n° 328: “*La réparation doit avoir pour objet de replacer la victime autant qu’il est possible dans la situation où elle se serait trouvée si le fait dommageable n’avait pas eu lieu. Il ne doit en résulter pour elle ni perte ni profit*”<sup>14</sup>). There is no legislative text providing for that principle. The case-law links the principle of full compensation, as appropriate, to the general rules of Articles [1240](#), [1217](#) and [1231-1](#)

<sup>12</sup> Judgment of the Court of Justice (Second Chamber) of 21 June 2017, *N. W and Others v Sanofi Pasteur MSD SNC and Others*, [C-621/15](#), ECLI:EU:C:2017:484, paragraph 55; ECHR, 27 January 2009, No 67021/01, *Tătar v Romania*.

<sup>13</sup> This principle is reaffirmed in Article 1235 of the [Draft revision of civil liability](#): *Est réparable tout préjudice certain résultant d’un dommage et consistant en la lésion d’un intérêt licite, patrimonial ou extrapatrimonial*; B. Waltz-Teracol, “L’intérêt protégé, le dommage et le préjudice”, in: *La réforme du droit de la responsabilité en France et en Belgique. Regards croisés et aspects de droit comparé, les dix ans du GRERCA*, 7-8 décembre 2018, [online version](#).

<sup>14</sup> See also Article 1258 of [Draft revision of civil liability](#).

CC, but it has also raised that principle to the rank of an autonomous principle. The principle has not, however, been clearly established by the Constitutional Council. The scope of application of the principle is therefore limited to general law. Exceptions are allowed, in particular in *lex specialis*, such as legislation on accidents at work, which often entitles the claimant only to a lump-sum or capped compensation, or on intellectual property ([Article L 615-7 of the French Intellectual Property Code](#)), as well as in contractual clauses. Legal limitations to the principle of full compensation for damage in contract law are contained in [Articles 1231-3](#) and [1231-4](#) CC, which provide for the debtor to be liable only for damages that were provided for or that were foreseeable at the time of the conclusion of the contract, except where the non-performance of the contract is due to gross negligence or wilful misconduct. In the event that non-performance of the contract is due to gross negligence or wilful misconduct, damages include only what is an immediate and direct consequence of the non-performance of the contract.

Recoverable damages includes those relating to physical injury, such as loss of amenity, aesthetic and sexual harm, material damage (damage to personal property, be it actual loss or loss of profits), as well as non-material damage (including physical pain, damage to privacy or honour and damage to feelings). The damage must fulfil three conditions for a claim in damages to arise: it must be certain, it must be personal and it must consist of harm caused to a legally protected legitimate interest. Future damage which is certain and direct also gives rise to a claim for damages but hypothetical damage is not ([Cass., 2nd civ., 13 March 1967, N 121](#); [Cass., 1st civ., 14 January 2016, No 14-27.250](#)). The loss of a real and serious opportunity gives rise to a right to compensation ([Cass., 2nd civ., 3 December 1997, No 96-11816](#); [Cass., 2nd civ., 24 June 1999, No 97-13.408](#); [Cass., 1st civ., 4 April 2001, No 98-11.364](#); [Cass., 1st civ., 14 October 2010, No 09-69.195](#); loss of opportunity is direct and certain whenever the disappearance of a positive opportunity is observed). However, the victim is entitled only to a proportion of the expected gain from that opportunity, depending on the probability that it would have arisen ([Cass., 1st civ., 9 April 2002, No 00-13.314](#)). Compensation for a loss of opportunity must be measured in relation to the opportunity lost and cannot be equal to the benefit that would have accrued had such an opportunity been seized). The requirement that the damage must be personal is laid down in [Article 31](#) of the Code of Civil Procedure: "A right of action is available to all those who have a legitimate interest in the success or dismissal of a claim, without prejudice to cases where the law confers the right of action solely upon persons whom it authorises to raise or oppose a claim, or to defend a particular interest". Moreover, the Court of Cassation has ruled that the harm caused to the immediate victim's relatives, as a consequence of the harm suffered by the immediate victim (*dommage par ricochet*), gives rise to a claim for damages provided that there is an immediate victim and that the harm caused to the indirect victim is certain and personal<sup>15</sup>. As to the condition of legitimacy, some rulings of the Court of Cassation gave the impression that the condition had been abandoned ([Cass., 2nd civ., 19 February 1992, No 90-19237](#); [Cass., 2nd civ., 7 July 1993, No 92-11.318](#); [Cass., 2nd civ., 2 February 1994, No 92-14.005](#): all concern physical injury), but more recent judgments point in the opposite direction ([Cass., 2nd civ., 24 January 2002, No 99-16-576](#)).

Joint and several liability is governed by [Articles 1310 to 1319 CC](#).

The obligation *in solidum* is a legal mechanism that does not exist in legal texts. It was created by case law<sup>16</sup> in order to allow the victim of damage caused by several persons to request any of the co-authors to pay the entire debt. This mechanism applies very broadly and is primarily used in the field

<sup>15</sup> In the particular case of damage caused to the indirect victim of a traffic accident, Article 6 of the [Badinter Law](#) provides that "the prejudice suffered by a third party as a result of the damage caused to the direct victim of a traffic accident shall be compensated taking into account any limitations or exclusions applicable to the compensation for such damage".

<sup>16</sup> The [Draft revision of civil liability](#) introduces the obligation *in solidum* into the French Civil Code (the new Article 1265 CC provides that, "Where several persons are liable for the same damage, they shall be jointly and severally liable towards the victim.

of civil liability. The obligation *in solidum* is justified by the existence of a single damage caused to the victim, which would then result in a single debt. In the event of multiple or shared causation, the principle of full compensation for damage entails that all co-authors are jointly and severally (*in solidum*) liable towards the victim, regardless of their contributory role in the occurrence of the damage, regardless of the nature of the liability incurred (whether relating to tort, contract or a special regime) ([Cass. 3rd civ, 11 June 1976, No 75-10491](#); [Cass. com. 19 April 2005, No 02-16676](#)) and of the basis of the liability in question (objective or subjective). Since 1939, the Court of Cassation has held, in matters of personal fault-based liability, that “each of the joint perpetrators of the same damage, as a consequence of their respective faults, shall be condemned *in solidum* to the reparation of the whole damage, each of these faults having contributed to causing it in its entirety” (e.g. [Cass. 1st civ, 19 November 2009, No 08-15.937](#)). The same solution was adopted with regard to liability for damage caused by things, where several persons have been designated as custodians of the thing that caused the damage (Cass. civ. 29 November 1948). That legal mechanism applies frequently among the various actors involved in a construction process (architects, contractors, technicians, etc.) ([Cass. 3rd civ, 21 December 2017, No 16-22.222 and 17-10.074](#)). The Court of Cassation also uses that mechanism to facilitate the victim’s action against a person responsible and his insurer against whom it has direct action.

The injured party may therefore claim compensation for the whole damage to any of the co-authors. The co-author who has paid compensation for the whole damage has then a claim against the other co-authors. In the field of fault-based liability, the contribution of each of the co-authors to the compensation depends on the seriousness of the fault committed by each of them or on the causal role played by the event attributable to each of them in the occurrence of the damage (e.g. [Cass. Civ. 2nd, 9 June 2016, No 14-27.043](#)). If the co-perpetrators of the same damage have committed a fault of equivalent seriousness, their contribution to the debt shall be in equal parts. It shall also be in equal parts where the co-authors are all under strict liability. Those principles are enshrined in Article 1265(2) of the [Draft revision of civil liability](#).

In the case of single, but doubtful, causality, where one of the defendants alone, who cannot be identified, caused the whole damage, the case-law uses the fiction of alternative causality to ensure compensation for the victims (e.g. collective actions in cases of hunting accidents, children’s games or collective sports; in the case of doubt regarding the identity of the health professional who caused the damage, manufacturer of the medicinal product ([Cass. 1st civ., 24 September 2009, No 08-10081](#) and [No 08-16305](#) (*Distilbène*)) or health establishment ([Cass. 1st civ., 17 June 2010, No 09-67011](#); [Cass., 1st civ., 28 January 2010, No 08-18837](#)). This approach makes it possible to give rise to joint and several liability (*in solidum*) of all the members of the group in question, each of them being able to escape liability by proving that he or she did not cause the damage. The contribution of each of the co-authors to the compensation depends on the causal role which each of the co-authors had in the occurrence of the damage. In this respect, some courts have taken into account probabilities for the assessment of causality at the level of the contribution to the debt<sup>17</sup>. Article 1240 of the [Draft revision of civil liability](#) confirms this extensive case-law, which has not, to date, been endorsed by the Court of Cassation (“Where personal injury is caused by an indeterminate person from among persons identified who are acting together or carrying on a similar activity, each of them shall be liable for the whole damage, unless it is shown that it cannot have caused it. The liable persons contribute in proportion to the probability that each person has caused the damage”).

If all or some of them have committed a fault, they shall contribute between themselves in proportion to the seriousness and the causal role of the event that is attributable to them. If none of them has committed a fault, they shall contribute in proportion to the causal role of the event which is attributable to them or, in the absence thereof, in equal parts.”

<sup>17</sup> S. Hocquet-Berg, Répartition de la dette de réparation des dommages causés par le DES en fonction des parts de marché, CA Versailles, 14 April 2016, RG n° 16/00296 in: Revue générale du droit *on line*, 2017, numéro 25012 (Contribution to the debt for damage caused by DES according to market share).

**(b) No-fault liability (strict liability/risk-based liability)****(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?**

Liability for damage caused by things (*responsabilité du fait des choses*) ([Cass., 2nd civ., 23 March 2000, No 97-19.991](#); [Cass., 2nd civ., 21 July 1982, n° 81-12.850](#))

[Article 1242, first paragraph](#), of the French [Civil Code](#) (CC) provides that “We are responsible not only for the damage caused by our own act, but also for that which is caused by the act of persons for whom we are responsible, or of things that are in our custody” [emphasis added].

According to the case-law, liability for damage caused by things is subject to three conditions, namely the existence of a thing, an act of a thing (*fait de la chose*) and a keeper of the thing.

Only things which are subject to a special status (animals, Article 1243 CC; buildings in ruin, Article 1244 CC; defective products, Article 1245 et seq. CC) and motorised land vehicles (the [Badinter Law](#)) do not fall within the scope of Article 1242, first paragraph, CC. The principle of liability for damage caused by things is very general. It includes moving and unmoving things and movable and immovable property, whether or not dangerous, whether or not defective and whether or not operated by a person ([Cass., Joined Chambers, 13 February 1930, Jand'heur](#)). The question whether intangible things are covered by Article 1242, first paragraph, CC is highly discussed in legal literature. The provision is very general and does not distinguish between tangible and intangible things. The case-law has applied the provision to matters such as liquids, fumes, or smoke ([Cass., 2nd civ., 26 June 1953 \(liquid\)](#), [Cass., 2nd civ., 10 February 1967, N 66](#) (industrial fumes); [Cass., 2nd civ., 11 June 1975, No 73-12.112](#) (smoke from the chimney of a heating system)). Damage caused by intangible things such as artificial intelligence does not seem to be excluded *per se*. However, in the [Draft revision of civil liability](#) and in the [Report on the reform of French civil liability law and the economic relations of the Working Group of the Court of Appeal of Paris](#), this liability principle is expressly limited to tangible things (*choses corporelles*) (Article 1243, first paragraph, of the [Draft revision of civil liability](#) provides that “We are strictly liable for the damage caused by the acts of tangible things that are in our custody”).

According to the case-law, it is necessary, first, that the thing was materially involved in the occurrence of the damage, i.e. either the thing has come into contact with the victim or, in the absence of contact, the victim must prove that the thing was in an abnormal situation. Second, the thing must have been the instrument of the damage, i.e. it must have played an active role in the occurrence of the damage: if there has been movement of the thing and contact with the victim, the active role of the thing is presumed ([Cass., 2nd civ., 28 November 1984, No 83-14.718](#)). Otherwise, the victim must prove the active role played by the thing. If there has been no movement or contact, such proof is difficult or even impossible. When there has been movement but no contact, the victim must prove the abnormal behaviour of the thing ([Cass., 2nd civ., 3 April 1978, No 76-14819](#)). In the case of contact with an inert thing, the case-law seems hesitant but appears to require from the victim that he or she also proves the abnormality of the thing ([Cass., 2nd civ., 24 February 2005, No 03-13.536](#); [Cass., 2nd civ., 10 November 2009, No 08-18.781](#); [Cass., 2nd civ., 13 December 2012, No 11-22.582](#)).

Custody is defined by case-law as the “actual power of use, control and direction of the thing”. This definition refers to a notion of “material custody” in which the owner is presumed to be the keeper of the thing. The owner can rebut that presumption by demonstrating a transfer of custody. The transfer of custody may occur by contract, provided that the person with custody by virtue of the contract has the power of use, control and direction of the thing. The transfer of custody may also take place outside of a contract (e.g. loss or theft of the thing) ([Cass., Joined Chambers, 2 December 1941, Franck](#);



[Cass., 2nd civ, 17 March 2011, No 10-10232](#)). The case-law has also decided that the qualities of keeper and servant/employee are incompatible ([Cass., 2nd civ, 20 April 2000, No 97-20.132](#)). Custody is not cumulative but alternative ([Cass., 2nd civ, 19 June 2003, No 01-17.575](#)).

When faced with a thing that has “a dynamism of [its] own” or “which is likely to manifest itself dangerously”, the case-law makes a distinction between custody of the structure and custody of the behaviour ([Cass., 2nd civ, 5 January 1956, No 56-02.126 and 56-02.138](#) (*Oxygène liquide*); [Cass., 2nd civ, 5 June 1971, No 70-10668](#); [Cass., 2nd civ, 24 mai 1984, No 83-10342](#); see e.g. damage caused by aerosol cans ([Cass., 2nd civ, 29 April 1982, No 80-11.139 and 80-11.176](#)), carbonated beverages ([Cass., 2nd civ, 4 June 1984, inédit](#)), butane bottles ([Cass., 2nd civ, 4 November 1987, No 86-14.476](#)), petrol slick ([Cass., 2nd civ, 11 April 2002, No 00-15.314](#)), aircraft ([Cass., 1st civ, 27 February 2007, No 03-16.683](#)), forklift trucks ([Cass., 1st civ, 30 September 2009, No 08-12.625](#)); see also: G. Goldman, *La détermination du gardien responsable du fait des choses inanimées*, préf. P.Roubier, Sirey, 1947 mentioned in: M. Bacache, “Intelligence artificielle et droits de la responsabilité et des assurances” in: *Droit de l’intelligence artificielle*, dir. A. Bensamoun and G. Loiseau, LGDJ, Les Intégrales 15, 2019, p. 77).

Depending on whether the damage is caused by the behaviour of the thing or by its structure, liability lies either with the person who has custody of the thing’s:

- behaviour (the user); or
- structure (the owner: [Cass., 2nd civ, 5 January 1956, op.cit.](#); [Cass., 2nd civ, 24 May 1984, op. cit.](#); [Cass., 11 April 2002, op. cit.](#); the manufacturer: [Cass., 2nd civ, 5 June 1971, op. cit.](#); [Cass., 1st civ, 12 November 1975, No 74-10.386](#); [Cass., 2nd civ, 4 June 1984, op. cit.](#); [Cass., 2nd civ, 4 November 1987, op.cit.](#); [Cass., 2nd civ., 20 March 1989, No 88-11.044](#); or even the professional seller or renter: M. Bacache, op. cit., p. 77).

Liability for damage caused by things is a form of strict liability: as soon as the three conditions mentioned above are met, the keeper is presumed to be liable for the damage caused without the need to prove fault. Nor can the keeper escape liability by providing evidence of the absence of fault.

The keeper may be exempt from any liability on the ground of *force majeure*. He or she must prove that the event in question was inexorable, unpredictable and external. He or she may also be exempt from any liability by the act of a third party under the same conditions as *force majeure*. Finally, the keeper may be found not to have been liable where the victim alone caused the damage, or partly liable where the victim contributed to the occurrence of the damage ([Cass., 2nd civ, 21 July 1982, n° 81-12.850](#)).

When the joint exercise of an activity caused damage, the case-law considers there to be joint custody of the thing, in accordance with which all the persons involved in the activity are jointly and severally liable (*in solidum*). However, where the victim had joint custody with the perpetrator of the damage, he or she cannot obtain compensation as the qualities of victim and keeper cannot be combined ([Cass., 2nd civ, 20 November 1968, N 277](#)).

**(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.**

The [Law No 85-677 of 5 July 1985 on improving the situation of victims of traffic accidents and on speeding up procedures for compensation](#) (Badinter Law) establishes an autonomous system of compensation. It applies to victims of road accidents in which a motorised land vehicle is involved (Article 1).

The concept of motorised land vehicle is interpreted widely in the case-law, in the sense that it can refer to cars, motorcycles, lorries, etc. and to agricultural machinery. The concept of road traffic accidents is also very widely interpreted. It is not required that the accident takes place on a public highway. The concept of involvement is the most difficult to define. It was adopted by the legislature which wished to draft a law on compensation

rather than liability, and therefore to evacuate any reference to causality. Thus, the Court of Cassation holds that a vehicle is involved as soon as it has been able to play a part in the occurrence of the accident.

- Compensation for personal injury: the system makes a distinction depending on whether the victim has the status of driver or not, it being specified that the concept of driver is linked to the control of the vehicle:

Compensation for victim non-drivers: according to Article 3(1) of the Badinter Law, victims who are non drivers are compensated unless they have committed a *faute inexcusable* that is the sole cause of the accident. For the Court of Cassation, a *faute inexcusable* is the wilful misconduct of exceptional seriousness, exposing its author, without any valid reason, to a risk of which he or she should have been aware (for example, a pedestrian climbing over the safety barriers and crossing a motorway). This very restrictive definition favours the victim. Article 3(2) of the Badinter Law, on the other hand, provides special protection for certain victims, namely children under the age of 16, persons over the age of 70 and persons in possession at the time of the accident of a qualification which entitles them to a rate of disability at least equal to 80 %. Such victims will be compensated, unless they voluntarily acquiesced in the damage suffered (Article 3(3) of the Badinter Law) which in practice refers to cases of suicide.

Compensation for victim drivers: according to Article 4 of the Badinter Law, the fault committed by the driver of the motorised land vehicle has the effect of limiting or excluding compensation for the damage which he or she has suffered. This means that any fault committed by the driver can lead to reduction or even exclusion of his or her right to compensation, where the driver has contributed to the occurrence of the damage.

- Compensation for damage to property: Article 5 of the Badinter law does not make any distinction between victims who are drivers and those who are not. The fault committed by the victim has the effect of limiting or excluding compensation for damage to property. However, supplies and appliances supplied on medical prescription give rise to compensation in accordance with the rules applicable to compensation for personal injury.
- Where the driver of a motorised land vehicle is not the owner, the fault of that driver may be invoked against the owner for compensation for damage to the vehicle. The owner has recourse against the driver.
- No exemption from liability: the driver or the keeper of the vehicle involved in the accident cannot invoke *force majeure* or an act of a third party against the victim (Article 2 of the Badinter Law).
- Burden of compensation: the obligation to compensate lies with the driver of the vehicle.

Where several vehicles are involved in an accident, the victims who are drivers can be compensated for damage to their vehicles by the other drivers, according to the case-law. All the drivers are jointly and severally (*in solidum*) liable towards victims who are non-drivers. The person who has compensated the victim has, at the level of the contribution to the debt, recourse against the other debtors, which is governed by complex rules. That action is based on a subrogation of the victim's rights and on general law. Thus, the distribution of the final burden of debt is calculated in proportion to the fault of each driver. If all the drivers are at fault, the responsibility is shared equally. The non-responsible driver has recourse against the offending driver for the whole amount. The latter has no recourse against the non-responsible driver.

**(iii) Dangerous activities**

The [Draft revision of civil liability](#) does not introduce liability for (abnormally) dangerous activities, in contrast with a similar proposal in Belgium. This choice can be explained by the fact that the general principle of liability for the act of things is maintained. The introduction of liability for dangerous activities often goes hand in hand with the absence of a general principle of liability for the act of things.

However, French law contains a number of special regimes related to dangerous activities, in particular the [Law No 003-699 of 30 July 2003 concerning the prevention of technological and natural risks and compensation for damage](#), which inserts provisions concerning compensation for damage in the Insurance Code in a new chapter entitled 'Technological Disaster Risk Insurance' (Articles L 128-1 to 128-4 of the Insurance Code (Legislation), and [Decree No 2005-1466 of 28 November 2005 on compensation for victims of technological disasters and amending the Insurance Code](#) (Articles R 128-1 to R 128-4 of the Insurance Code).

Technological disaster is defined as a (non-nuclear) accident occurring either in a classified installation (i.e. installations subject to declaration or authorisation and Seveso sites), or in an underground storage of hazardous products, or during the transport of hazardous materials and causing damage to a large number of properties. In the event of a technological disaster, the administrative authority takes a decision recognising the state of technological disaster. That decision must be taken jointly by the ministers responsible for the economy, civil security and the environment ([Article R 128-1 of the Insurance Code](#)). The order must specify the areas and period of occurrence of the damage to which a 'technological disaster' guarantee applies (Article L.128-1 of the Insurance Code). All insurance contracts for damage to property for residential use or to goods located in such property as well as damage to land motor vehicles must include or are deemed to include a 'technological disaster' guarantee. Such a guarantee may be triggered if the accident renders at least 500 dwellings uninhabitable and a technological disaster order specifying the areas and period of occurrence of the damage is published in the Official Journal within 15 days of the disaster. The insured parties must report the loss as soon as possible and in any case within the time limit specified in the contract.

The insurer must guarantee full compensation for damage to property covered by the contract, without any ceiling or deductions, within the limit, for movable property, of the declared values or capital insured in the contract (Article L.128-2 of the Insurance Code). Where the extent of the damage makes it impossible to repair the property, the compensation must enable the insured party to recover ownership of an equivalent property in a comparable area. The insurer shall also bear the cost of repair or replacement of land motor vehicles. Compensation must be awarded within three months of the date of the submission of the estimate of the damaged property (or of the technological disaster order, if it is published later). The rules also provides for a simplified procedure for assessing quantum.

**(iv) Liability for the keeping of animals**

**Liability for damage caused by animals** (*responsabilité du fait des animaux*)

[Article 1243](#) of the French [Civil Code](#)

"The owner of an animal, or the person using it, while he or she uses it, is liable for the damage the animal has caused either because the animal was in his or her custody or because the animal strayed or escaped."

Conditions ([Cass., 2nd civ, 15 April 2010, No 09-13.370](#) ; [Cass., 2nd civ, 9 January 1991, No 89-15.489](#))



- act of the animal: such an act exists wherever the animal has played a causal role in the occurrence of the damage;
- person responsible: the owner or the user of the animal, even when the animal is lost or has escaped. However, the owner of the animal may rebut the presumption if he or she establishes that control of the animal was assigned to another person (the keeper). As in the case of liability for damage caused by things, the case-law designates as keeper the person who has the power to use, direct and control the animal.

### Liability

It is a strict liability regime. The keeper may be exempt from liability on grounds of *force majeure* or because of fault on the part of a third party or of the victim. In the [Draft revision of civil liability](#), strict liability for damage caused by animals is included in the liability regime for damage caused by things (Article 1243).

### (v) Vicarious liability (parent, teacher, employer etc.)

#### (1) Liability for damage caused by others (*Responsabilité du fait d'autrui*)

[Article 1242, first paragraph](#), of the French [Civil Code](#) (CC) "We are responsible not only for the damage caused by our own acts, but also for that which is caused by the *acts of persons for whom we are responsible*, or of things that are in our custody" [emphasis added].

Vicarious liability is the obligation to make good the damage caused by the persons whom we are responsible for because we are responsible for organising, leading and controlling either their activity or their way of living. In a seminal judgment ([Cass., Joined Chambers, 29 March 1991, \*Blieck\*, No 89-15.231](#)), the Court of Cassation departed from previous case-law by abandoning the principle of limiting the number of such cases. That case-law has since been applied to sports associations ([Cass., 2nd civ., 22 May 1995, No 92-21871](#); [Cass., 2nd civ., 20 November 2003, No 02-13.653](#); [Cass., 2nd civ., 22 September 2005, No 04-14.092](#)), leisure associations ([Cass., 2nd civ., 12 December 2002, No 00-13.553](#)), and associations dealing with minors or natural persons exercising that function. The Court of Cassation has not, however, established the existence of a general principle of liability for damage caused by others. The [Draft revision of civil liability](#) adopts a very restrictive approach in this regard by opting for a closed list of persons and by depriving the judge of discretion (Articles 1245 to 1249).

#### Conditions

- Supervision: The conditions for liability for damage caused by others seem now to be settled case-law. Liability is based on the concept of "supervision". It presupposes a certain power of direction and control of the person who caused the damage. The supervisor is a natural or legal person who exercises legal authority over the person subject to supervision. The supervision concerned is legal supervision, having its source in a judicial decision or a legal provision, without it being necessary for that supervision to be reflected in an effective power exercised over the person ([Cass., 2nd civ., 6 June 2002, No 00-15.606](#)). Certain decisions seem to accept that legal supervision can also be based on a contract, while others do not. The different categories of vicarious liability set out in Article 1242 CC are not cumulative but alternative ([Cass., 2nd civ., 18 March 1981, No 79-14.036](#); [Cass., crim., 26 March 1997, No 95-83.956](#)). The application of Article 1242, first paragraph, CC is not subject to the identification of the member of an association who caused the harmful act ([Cass., 2nd civ., 20 November 2003, No 02-13653](#)).
- Fault: For sports or leisure associations to be held liable for damage caused by their members in the course of the activity they are responsible for organising, directing and controlling, a fault must have been committed by the member who caused the harmful act ([Cass., 2nd civ., 20 November 2003, No 02-13.653](#); [Cass. Joined Chambers, 29 June 2007, No 06-18.141](#)). A mere causal event is therefore not sufficient.

## Liability

Persons who are vicariously liable are subject to a form of strict liability which they can escape only if they can show *force majeure* or fault on the part of the victim ([Cass., 2nd civ., 13 January 2005, No 03-12.884](#)).

### (2) Particular cases of liability for damage caused by others: strict liability of parents, masters and employers and teachers and craftspeople

[Article 1242, fourth to eight paragraphs](#), CC

"Fathers and mothers, in so far as they exercise parental authority, are jointly and severally liable for the damage caused by their minor children residing with them.

Masters and employers (principals), for the damage caused by their servants and employees (agents) in the exercise of the functions to which they are employed;

Teachers and craftspeople, for the damage caused by their students and trainees during the time they are under their supervision.

Liability arises unless the parents or craftspeople can prove that they have not been able to prevent the conduct that gave rise to such liability.

As regards teachers, the fault, recklessness or negligence invoked against them as having caused the harmful event must be proved, in accordance with the general law, by the claimant at the trial."

### 2.1. Liability of parents for damage caused by children ([Article 1242, fourth and seventh paragraphs](#), CC):

#### Conditions

- minority;
- objective harmful event attributable to the child: in order for parents to be held liable, it is sufficient that the child has committed an act which is the direct cause of the damage invoked by the victim. No fault is required on the part of the child ([Cass. Joined Chambers, 13 December 2002, No 00-13.787](#)). Parents may be held liable whether or not the child is capable of forming his or her own views ([Cass., Joined Chambers, 9 May 1984, No 79-16.612](#));
- residence: the child must habitually reside with one of his or her parents (flexible assessment by the case law) ([Cass. civ. 2nd, 20 January 2000, No 98-14.479](#); [Cass. crim. 6 November 2012, No 11-86.857](#)). Strict liability of parents rests solely with the parent with whom the child's habitual residence has been determined ([Cass. crim. 29 April 2014, No 13-84.207](#)). However, in the absence of a judicial decision or an amicable agreement with respect to the terms of the child's residence, there is a legal presumption of joint and several liability of parents who are separated ([Cass. crim. 21 August 1996, No 95-84.102](#)).

#### Liability

According to case-law, the parent can escape liability only in the case of *force majeure* or fault on the part of the victim ([Cass., 2nd civ., 19 February 1997, No 94-21.111, Bertrand](#); [Cass., 2nd civ., 17 February 2011, No 10-30.439](#)). This means that liability arises unless the parents can prove that they have not been able to prevent the act giving rise to liability (Article 1242, seventh paragraph, CC); [Cass., 2nd civ., 19 February 1997, No 94-21.111](#)). It is therefore a form of strict liability.

**2.2. Liability of masters and employers (principals)** ([Article 1242, fifth paragraph, CC](#))**Conditions**

- relationship of subordination (*lien de préposition*): it is settled case-law that this link exists where the master/employer (principal) is entitled to give the servant/employee (agent) orders or instructions as to how to perform the duties to which he or she is employed<sup>18</sup>. In the case of a plurality of principals, there may be a shift of the subordination link, distributive application of this link or addition of several subordination links; the relationship of subordination may arise from a legal relationship between the principal and the agent (contract of employment ([Cass., crim., 5 March 1992, No 91-81.888](#)); contract of enterprise ([Cass., crim., 22 March 1988, No 87-82802](#)); contract of mandate ([Cass., 1st civ., 27 May 1986, No 84-16420](#))) or from the facts ([Cass., crim., 14 June 1990, No 88-87.396](#));
- harmful event attributable to the agent: a fault on the part of the agent is necessary ([Cass., 2nd civ., 8 April 2004, No 03-11.653](#)). A principal cannot be held liable where the liability of his or her agent is incurred only on the basis of Article 1242, first paragraph, CC as, according to case-law, the qualities of supervisor and agent are incompatible;
- link between the harmful event and the relationship of subordination: the Court of Cassation held that the principal can escape liability only if the agent has acted (1) outside his or her duties as an agent, (2) without authorisation, and (3) for purposes other than those of his or her duties ([Cass., Joined Chambers, 19 May 1988, No 87-82.654](#)). Three cumulative conditions are therefore necessary to establish abuse of office and ensure that the principal is not held liable for the act of the agent. The agent is not liable if the damage arose due to an act performed within the limits of the tasks assigned to him or her by the principal ([Cass., Joined Chambers, 25 February 2000, Costedoat, No 97-17.378](#)). Even employees with a certain degree of independence, such as an employed doctor, can benefit from this rule. However, the agent convicted for an intentional criminal offence or a qualified non-intentional criminal offence will be held liable even if he or she acted on the principal's instructions ([Cass., Joined Chambers, 14 December 2001, Cousin, No 00-82.066](#); [Cass., 2nd civ., 20 December 2007, No 07-13.403](#)). The mere finding of the commission of such an intentional criminal offence is insufficient to establish the existence of an abuse of office that would enable the principal to escape liability ([Cass., 2nd civ., 12 May 2011, No 10-20.590](#)).

**Liability**

The principal cannot escape liability by proving that there was no fault on his or her part. He or she can avoid strict liability only by demonstrating that the damage was due to *force majeure*, the constituent elements of which must be assessed in relation to the agent. It is therefore a form of strict liability.

Author and date of completion: **Martine HÉBETTE**

<sup>18</sup> Article 1249 of the [Draft revision of civil liability](#) defines the relationship of subordination as "the power to give orders or instructions in relation to the performance of the duties of the agent".

## VII Germany: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

##### Autonomous vehicles

Germany integrated specific provisions relating to civil liability arising from the operation of autonomous vehicles by amending the German [Road Traffic Act](#) (*Straßenverkehrsgesetz* (StVG)) by means of the [eighth act amending the Road Traffic Law](#). The amendments are the first legal measures with regard to automated driving functions in Germany. The StVG provides for the holder of a vehicle to be strictly liable for damage to third parties arising from the operation of a motor vehicle (*Gefährdungshaftung*, section 7(1) StVG). The driver is also liable unless there is proof that the damage was not caused by the driver (see section 18 StVG). The amendment introduced by section 1a StVG extends in its paragraph 4 the definition of “driver” to the operator of automated driving functions even if that operator does not control the vehicle manually. The rules of the StVG apply only to “highly and fully automated driving functions”, which allow the driver to take over the control of the vehicle. Section 1a(1) StVG provides that the operation of motor vehicles by means of a highly or fully automated driving function shall be permissible if this function is used for its intended purpose. Fully automated vehicles, which do not allow the driver to take over control of the vehicle, are not covered by this provision and remain prohibited on public roads in Germany. Section 1a(2) StVG: “Motor vehicles with a highly or fully automated driving function within the meaning of this Act are vehicles equipped with technology that:

1. when activated, is able to control the motor vehicle – including longitudinal and lateral control – to perform the driving task (vehicle control);
2. is able, while the vehicle is being controlled in the highly or fully automated mode, to comply with the relevant traffic rules and regulations for operating a vehicle;
3. can be overridden or deactivated manually by the driver at any time;
4. is able to identify the need for the driver to retake manual control of the vehicle;
5. is able to indicate to the driver – by means of a visible, audible, tactile or otherwise perceptible signal – the need to retake manual control of the vehicle with a sufficient time buffer before it returns control of the vehicle to the driver; and
6. indicates that use is running counter to the system description.”

Extension of the definition of “driver”:

Section 1a(4) StVG: “A person who activates a highly or fully automated driving function within the meaning of subsection (2) and uses such a function to control the vehicle manually within the framework of the use of these functions as intended, shall also be deemed to be a driver.”

For background on the legal framework see: <a href="#">Study of the Research Service of the German Bundestag</a> .
<p><b>Drones</b></p> <p>On 7 April 2017, the regulation on drones (<a href="#">Drohnen Verordnung</a>) entered into force. It provides for weight-based rules on flying such flight models (private use for sports or leisure) or UAV (especially commercial use) and for the obligatory marking (permanent badge) of UAVs. Insurance (third-party liability) is required for all operations in Germany.</p> <p>There are currently no regulations on the operation of autonomous drones as their use is prohibited.</p>
<b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
At the time of writing, there were no legislative proposals on non-contractual liability for damage caused by artificial intelligence.
<b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
<p>The German Federal Government presented a <a href="#">national strategy on AI in November 2018</a> (jointly developed by several ministries). It sets out a framework for a holistic policy on the future development and application of AI. The strategy of the Federal Government on AI, under “adapting the regulatory framework” (point 3.9, p. 37), refers to the application of an “ethics by, in and for design”-approach. The strategy states that the “existing regulatory framework already provides a sound basis and high standards for this. The Federal Government will review whether the legal framework covers all aspects related to algorithm-based and AI-based decisions, services and products and, if necessary, adapt it in order to make it possible whether there is any undue discrimination or bias”. The strategy plans to assess the regulatory framework on AI related, inter alia, to data protection, transparency, non-manipulation, non-discrimination and copyright, but does not mention the assessment of civil liability. In a <a href="#">publication of April 2019</a>, the Federal Ministry for Economic Affairs and Energy expressly rejected the need for additional rules on civil liability for AI (at page 14 et seq.). The Bundestag has created a committee of inquiry on AI, which has been <a href="#">expressly tasked with</a> examining questions of liability and responsibility for AI. In the context of healthcare, <a href="#">the committee has recommended</a> introducing a common certification for AI medicinal products and assessing whether there are liability gaps not covered by the general rules.</p>
<b>2. GENERAL RULES</b>
<b>(a) What are the general rules on fault-based liability?</b>
<p>The general rules on civil liability are set out in the German Civil Code (<a href="#">Bürgerliches Gesetzbuch</a> (BGB)) (<a href="#">EN version</a>). The Civil Code generally requires fault by a contracting party or tortfeasor. The main provision relating to tort is <a href="#">section 823(1) BGB</a>. For contractual liability, the rules depend on the type of contract: for example, section 433 et seq. BGB (purchase contract) provide for contracts relating to the purchase of standard software and section 631 et seq. BGB (contract to produce a work) provides for contracts relating to the purchase of individual software.</p>

[Section 823\(1\)](#) BGB provides that a person who intentionally or negligently commits an unlawful act or omission which causes death, personal injury or damage to the health, freedom or property of another is liable to pay damages to that other person if the victim can show a causal link between the act or omission and the damage suffered.

The burden of proof is on the claimant, who has to prove all elements needed to fulfil the claim. The party opposing the claim has to prove all elements that might invalidate or hinder the claim. Under [section 823\(1\)](#) BGB the claimant has to prove:

- (1) damage to life, body, health, freedom, property or another right,
- (2) that the injury was caused by the defendant,
- (3) that the action was culpable (intentional or negligent),
- (4) that the act caused damage (material or non-material).

The defendant must prove any exclusion, defence or mitigation that is relied on.

Case-law has developed an reversal of the burden of proof in the case of defective products (*Produzentenhaftung*), with regard to which the manufacturer must prove the absence of fault for the defect of the product.

In German law, the standard of proof is “full conviction”. With regard to the question of whether the defendant has injured the claimant, the judge must be personally fully convinced that this is indeed true (*Vollbeweis*, [section 286](#) of the [Code of Civil Procedure \(Zivilprozessordnung\)](#) (ZPO)). This is a somewhat higher threshold than the concept of “balance of probabilities”. With regard to the award and quantum of damages, the standard of proof is very close, if not identical, to the “balance of probabilities” ([section 287](#) ZPO)<sup>1</sup>.

The following heads of damages are provided for in [section 823](#) BGB: death, personal injury and damage to the health, freedom and property of another. There is no provision for pure economic loss. Damages are awarded to place the victim in the position he or she would have been in but for the damage (*Integritätsinteresse*).

The assessment of damages is provided for in [section 249](#) et seq. BGB. [Section 253](#) BGB provides for damages for non-pecuniary loss. [Section 252](#) BGB provides for loss of profits (*lucrum cessans*). [Section 253\(2\)](#) provides that compensation in money can be claimed for non-pecuniary loss relating to personal injury, or injury to the health, freedom or sexual self-determination of the victim (*pretium pro doloribus; Schmerzensgeld*).

The rules on joint and several liability for torts are provided for in [section 840](#) BGB, which establishes the relationship between the tortfeasors and the injured party as well as the relationship between tortfeasors and provides for the recouping of damages between tortfeasors.

<sup>1</sup> Further details: [Standard of Proof in German Civil Litigation](#).

<b>(b) No-fault liability (strict liability/risk-based liability)</b>
<b>(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?</b>
<p>German civil law does not provide for a general strict liability regime for things. Strict liability is the exception and the German <a href="#">Civil Code (BGB)</a> therefore contains no general provision for strict liability. One of the few examples of a strict-liability rule is that for pets (domesticated animals are exempt) (<a href="#">section 833</a> BGB; see also point (iv) below). However, a number of special acts outside the BGB provide for strict liability for dangerous activities, such as operating a motor vehicle (see point 1(a), and 2 (b)(ii) or the operation of air traffic, rail traffic, nuclear power and energy plants (see point 2(b)(iii)). As regards (fault-based) liability for things, German civil law does not distinguish between damage arising as a result of the use of a tangible or intangible thing, or directly by the person. The question is whether there is a breach of a duty (<i>Verkehrssicherungspflicht</i> or <i>Sorgfaltspflicht</i>) and whether the defendant committed the breach intentionally or negligently. The rules on what constitutes a breach has been developed by the case-law (depending on the circumstances, the owner, keeper or supervisor may be responsible).</p> <p>However, the liability of the owner of a plot of land pursuant to <a href="#">section 836</a> BGB arises from a presumption of fault. It provides that if the collapse of a building or other structure attached to land, or the breaking off of parts of the building or structure, causes death or personal injury or damage to a person's health or property, then the possessor of the land (the owner-occupier) is liable for the damage to the injured person to the extent that the incident was a consequence of the defective construction or inadequate upkeep of the building. Liability in damages does not arise if the possessor took reasonable care to avoid danger.</p> <p>In a recent judgment (Judgment of 9.2.2018, <a href="#">Az. V ZR 311/16</a>), the Federal Court of Justice (<i>Bundesgerichtshof</i>) introduced no-fault-liability not provided for in the BGB for neighbours by analogy with <a href="#">section 906</a> BGB (escape of imponderable (risky) substances) in a case in which a fire caused by works on the roof of one building damaged the neighbouring property (<i>verschuldensunabhängiger nachbarrechtlicher Ausgleichsanspruch</i>).</p>
<b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b>
<p>Under the German <a href="#">Road Traffic Act (Straßenverkehrsgesetz (StVG))</a>, the vehicle holder (<i>Fahrzeughalter</i>) is strictly liable for damage arising from the operation of a motor vehicle: section 7 StVG.</p> <p>If during the operation of a motor vehicle or a trailer intended for use with a motor vehicle, a person suffers death or personal injury or damage to health or property, the vehicle holder (not necessarily identical to the owner, can be a lessee) has an obligation to pay compensation to the injured person for the resulting damage (section 7 StVG). The obligation to pay compensation is excluded if the accident was caused by <i>force majeure</i> or where the owner can show that the operator the vehicle used the vehicle without the owner's knowledge or consent.</p> <p>Pursuant to section 8 StVG, the provisions of section 7 do inter alia not apply if the injured party was active in the operation of the motor vehicle or the trailer.</p> <p>Section 18(1) StVG provides that the driver is jointly and severally liable for any damage caused. Liability for damages is excluded if the damage was not caused by a fault on the part of the driver (presumption of fault).</p>



Under section 823 BGB, the manufacturer of a defective motor vehicle or trailer must prove that he or she was not at fault (reversal of the burden of proof in cases of product liability).
<b>(iii) Dangerous activities</b>
<p>Strict liability is regulated in special legislation on dangerous activities, such as the operation of a motor vehicle, air traffic, rail traffic, nuclear power and energy plants.</p> <p>An example of strict liability is section 1 of the Liability Act (<a href="#">Haftpflichtgesetz</a> (HpflG)), which provides for strict liability of operators of railways and cable cars are strictly liable for death, personal injury and damage to health and property. The injured party must establish a causal link between the damage and the operation of the railway. 'Operation' does not cover only damage caused by a moving railway, but also damage to persons boarding or exiting a train at a station. The operator is exonerated only in the case of <i>force majeure</i>.</p>
<b>(iv) Liability for the keeping of animals</b>
<p><a href="#">Section 833(1)</a> of the German <a href="#">Civil Code</a> (BGB) provides that the keeper of an animal (of every type, whether tame, wild, dangerous or not) is strictly liable in damages for death or personal injury or damage to health or property caused by the animal. However, liability is limited to damage caused by the danger, which is specific to an animal, in other words strict liability is not applicable if the damage would also have occurred if the animal had been an inanimate object.</p> <p>Under <a href="#">section 833(2)</a> BGB, where the animal is domesticated and held for the purpose of the keeper's profession, livelihood or income, the keeper is not liable if he or she exercised the necessary care in the supervision of the animal or if the damage would have occurred even if the keeper had done so (presumption of fault).</p> <p>Under <a href="#">section 834</a> BGB, the custodian of an animal, who by contract assumes the supervision of an animal on behalf of the keeper, is liable in damages for death or personal injury caused by the animal. The custodian can avoid liability if he or she exercised the necessary care in the supervision of the animal or if the damage would have occurred even if the keeper had done so (presumption of fault).</p> <p><a href="#">Section 840(3)</a> BGB provides that where a third party is responsible for the damage caused by an animal as well as the person who is liable under sections 833 to 838, the person liable can recoup the full amount from the third party.</p>
<b>(v) Vicarious liability (parent, teacher, employer etc.)</b>
<p>Vicarious liability is not a matter of strict liability in German law: it is, rather, an instrument for attributing fault or for the fault to select or supervise someone insufficiently. Fault is therefore always necessary:</p> <ul style="list-style-type: none"> <li>- <a href="#">Section 831</a> of the German <a href="#">Civil Code</a> (BGB): a principal who uses an agent to perform a task is liable for the damage inflicted by the agent when carrying out the task. The principal is not liable if he or she exercised reasonable care when selecting the agent or if the damage would have occurred even if reasonable care had been exercised (presumption of fault at the level of the principal). The agent is also liable in addition under <a href="#">section 823 BGB</a> (see also point 2(a) above).</li> </ul>

- [Section 832](#) BGB: the supervisor of minors and other persons under supervision is vicariously liable.. The liability is fault-based (at the level of the supervisor) but a violation of the duty to supervise is presumed (presumption of fault).
  - [Section 278](#) BGB: a principal is liable for the fault of an agent only on the basis of a contract, with no possibility of exoneration.
- [Section 30](#) BGB: a legal person is liable for the actions of its representatives. Fault is necessary at the level of the representatives insofar as their actions are not covered by special strict-liability rules for dangerous activities where fault is not necessary.

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## VIII Greece: non-contractual liability and artificial intelligence

1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES
<p><b>(a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>There is no general framework for rules on non-contractual liability for damage caused by AI, but a specific sector is subject to regulations (not legislation).</p> <p><b>Drones</b></p> <p>The Administrative regulation on Unmanned Aircraft Systems (UAS) (UAS Regulation), which was introduced by <a href="#">a decision of the Administrator of the Civil Aviation Authority</a> (CAA), provides for strict liability with regard to damage caused by remote pilots or operators during the execution of the flight. The scope of the flight regulation includes all categories of UAS except for model aircraft, which are regulated by CAA Regulation on "model aircraft flight" (Article 2a of the UAS Regulation)<sup>1</sup>, UAS used for military or other government purposes by the respective government agencies (armed forces, security forces, etc., Article 2b of the UAS Regulation) and tethered or free-flying balloons. However, government agencies responsible for UAS for flights relating to government business may opt, upon request, to comply with the CAA Regulation.</p> <p>Article 3 of the UAS Regulation defines "unmanned aircraft" as an aircraft that is operated or is designed to be operated without a pilot (operator being synonymous with pilot).</p> <p>Article 5(7D) of the UAS Regulation provides for strict liability in the case of damage caused during the execution of the flight under the operation of a remote pilot or operator. An operator is the owner, lessee or occupier (person in possession or control) of the aircraft.</p>
<p><b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence, and there is no relevant case-law. However, civil liability for damage in tort and contract are the subject of lively academic debate, with most commentators proposing different interpretations of the existing legal civil liability framework.</p>

<sup>1</sup> Article 1 of the CAA Regulation on model aircraft flight includes a definition for a model aircraft: "Model Aircraft is a flying device of limited dimensions, with or without a propulsion system, which cannot transport humans, and which is used for sports or entertainment. Models can be in the form of an airplane, a glider, a helicopter, a self-propelled plane, a seaplane, an amphibian plane, a parachute, a balloon, an airship, or any other form. The air models can be remote controlled, capable of free flight, or of circular flight."

Article 922 of the Greek [Civil Code](#) (CC)<sup>2</sup> on the liability of principals for the acts of their agents can be interpreted as the legal basis for liability by AI, according to what seems to be the prevailing academic opinion.

Pursuant to that Article, a person who appoints another to perform a function is bound to make reparations to a third party for the harm caused by a tort committed by the agent (auxiliary person) in the execution of his or her function. As a condition for vicarious liability, the agent must have committed a prohibited act or omission with culpability. The burden of proof falls on the person claiming damage.

In a [widely cited academic article](#), it is proposed that, rather than regulating civil liability for AI in separate legislation, a shift in the interpretation of vicarious liability for damage caused by an agent (Article 922 CC) would be sufficient to deal with AI-related cases.

According to the same academic article, artificial intelligence could be an occasion to revive an older theory pursuant to which the use of autonomous agents exacerbates the risk of damage to third parties, since the interference of an autonomous agent generates an uncontrollable, unpredictable, but somehow planned risk to third parties. Hence, the intensity of that risk would justify an interpretation of Article 922 CC that allows for the implementation of a strict liability regime, limited to the area of artificial intelligence (*mutatis mutandis* application by interpretation).

**(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

At the time of writing, there are no national strategies on non-contractual liability for damage caused by artificial intelligence.

The Minister for Digital Governance has declared that Greece's national strategy for artificial intelligence will be announced as soon as the first paper on digital transformation has been released. However, the paper on digital transformation which was originally planned to be published and presented in the end of March 2020, [was delayed due to the COVID-19 outbreak](#) and is now expected to be [presented for public consultation](#) mid-June 2020.

The obligation to present a digital transformation paper stems from Article 49 of [Law No 4623/2019](#)<sup>3</sup>.

<sup>2</sup> No EN translation is available free of charge.

<sup>3</sup> "The Digital Transformation Paper updates and replaces the National Digital Strategy. The Digital Transformation Paper is issued and published by a decision of the Minister of Digital Government and includes the basic principles, framework and guidelines for the digital transformation of the Public Administration, but also the private sector of the economy, sets out the specific principles governing any horizontal or sectoral initiative for this purpose and incorporates the recording of all relevant procedures and actions with measurable objectives and measurable results per quarter. It is binding on all stakeholders in the public and the wider public sector. If necessary, the Digital Transformation Paper can be adapted every five years from its issuance, by decision of the Minister of Digital Governance."

## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

In accordance with Article 914 of the Greek [Civil Code](#) (CC)<sup>4</sup>, a person responsible for damage is liable, provided that the act was unlawful, the person was at fault and causation is proven. The general rule on burden of proof in Greek law is the principle of fault-based liability (*casum sentit dominus*), according to which the injured party has the burden of proving the culpability of the person who caused the damage, in accordance with Article 338 of the Greek [Code of Civil Procedure](#). The burden of proof is reversed only in cases where the law specifically provides for a presumption of fault. The CC provides for two cases in which the burden of proof is reversed: Article 923 CC, on vicarious liability for a person who has a duty of care (such as a parent or an employer) and Article 924(2), on the liability of an animal owner. Furthermore, [Act No ΓΤ Ν/1911](#) concerning the liability regime for cars provides in Article 5(2) for the reversal of the burden of proof and for the presumption of the liability of the owner/driver/occupier (the person in control).

As regards evidence Greek law follows the principle of party prosecution, meaning that the court acts only on the application of a party and decides on the basis of the claims made and demonstrated by the parties and of the applications that they submit. The court assesses the evidence freely, decides on its veracity at its own discretion, and gives reasons for its conclusions. Where the law provides for determination on a balance of probabilities alone, for example in the case of applications for interim measures, the court is not obliged to apply the usual rules governing the taking of evidence, admissibility or the weight of particular evidence, but may take into consideration anything that it deems to be appropriate in order to determine the facts.

Damages for personal injury and death are provided for, respectively, in Articles 928 and 929 CC.

Article 298 CC provides for compensation for pure economic loss and *lucrum cessans* (loss of profits).

In accordance with Article 299 CC (damages for non-pecuniary harm are recoverable only in cases provided for by law) and Article 932 CC, the courts may decide to award damages for non-material (moral) damage. Such damages may also be awarded to the family of a victim who has died as a result of a tort.

Articles 926 and 927 CC provide for joint and several liability. Co-perpetrators are jointly and severally liable to the victim and any co-perpetrator who has compensated the victim can recoup damages from the other co-perpetrators in accordance with their share of liability.

### (b) No-fault liability (strict liability/risk-based liability)

#### (i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?

There is no general provision on liability for damage caused by things in the Greek Civil Code (CC). However, Article 925 (CC) introduces strict liability for the owner or occupier (person in possession) of a building or other construction which might collapse, unless they can prove that it was kept in good condition. Furthermore, since in Greek property law an animal is considered to be a thing, Article 924 CC on the liability of animal owners could fall into

<sup>4</sup> No EN translation is available free of charge.

<p>this category. The owner of the animal is strictly liable for any damage caused by the animal. This strict liability can be reversed in the case of damage by a domestic animal used for the purpose of the owner's profession or to guard or help of the owner, where the owner can prove that he or she exercised the normal duty of care.</p>
<p><b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b></p>
<p>There are two possible legal bases as regards liability for cars; the common rules in the Chapter on tort-based liability in the Greek Civil Code (CC) (Articles 914 to 938 CC) and a legal act of 1911 on vehicles, ΓΤΝ/1911. Article 4 of the latter introduces a strict liability regime and a presumption of liability on the part of the owner/driver/occupier (person in control) of the car in case of an accident. Article 5 of the legal act, however, provides for an exemption where the person who caused the damage proves that all the appropriate measures of care were taken. Article 10 of the legal act provides for the general rule of fault-based liability in accidents involving two or more cars. Fault on the part of the driver of drivers of who caused the damage must be proved. In addition, Article 2 of <a href="#">Law No 489/76 (EN version)</a><sup>5</sup> requires the owners or keepers of motor vehicles in circulation in Greece to hold third-party liability insurance for their motor vehicle.</p>
<p><b>(iii) Dangerous activities</b></p>
<p>There is no general clause of liability linked to dangerous activities in Greek law. Only two specific provisions in the Greek Civil Code (CC) could give rise to strict liability for certain dangerous activities: Article 924 CC on the liability of the owners or keepers of dangerous animals (see also point (iv) below) and Article 925 CC on the liability of the owner or occupier (person in possession) of a building or other construction (see also point (i) above). Nevertheless, specific legal acts may provide a strict liability regime for certain activities. One such example is <a href="#">Law No 1815/1988</a> (Code of Aviation Law), which, in Articles 106 to 121, provides for the air carrier's strict liability for death, personal injury or damage to property.</p>
<p><b>(iv) Liability for the keeping of animals</b></p>
<p>Article 924 of the Greek Civil Code provides that the owner of an animal is strictly liable for any damage caused by the animal. Where the damage is caused by a domestic animal used for the purpose of the owner's profession or to guard or help the owner and the owner exercised the normal level of duty of care, the owner can avoid liability.</p>

<sup>5</sup> Article 2(1) thereof. "Owners or keepers of motor vehicles circulating in Greece on road, are obliged to have covered their third party liability arising therefrom, in accordance with the provisions of this law. Circulation of such vehicles in areas accessible to the public or to a number of persons entitled to use such areas shall be deemed as road circulation."

**(v) Vicarious liability (parent, teacher, employer etc.)**

Article 922 of the Greek Civil Code (CC) provides for vicarious liability on the part of principals for their agents. The case-law provides an example of vicarious liability of a medical clinic for the medical error of a junior doctor who was under the direct supervision of the clinic. Article 922 CC could be applicable in the field of AI as it concerns the designers of automatic machines such as robots, provided that they are used in a manner equivalent to an agent. The principle is liable for the damage caused by technological means unless the principal can show that the requisite duty of care in supervision was exercised.

Under Article 922 CC, the term agent (auxiliary) describes a person who is appointed by the principal to perform a function and the latter is bound to make reparations to a third party for the harm caused by a negligent act or omission committed by the agent. To establish liability, no contract or fee agreement is required. The agent need not be an employee *stricto sensu*: the relationship can be fortuitous. However, the agent should be dependent upon the principal and there must be a causal link between the agent's act in the context of work under the control and in accordance with the directions of the principal and the principal's business. Both conditions must be fulfilled for the principal to be strictly liable for the damage caused.

In accordance with Article 923 CC, there is a rebuttable presumption that persons who have a duty of care towards others, such as parents, legal guardians or, as in the second subparagraph of that Article, persons in the position of a parent or guardian by virtue of a contractual arrangement, are liable for the torts of their charges, unless they show that the damage would have occurred in any event or that they exercised the requisite standard of due care.

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## IX Hungary: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

##### Introduction

At the time of writing, there are no specific rules on non-contractual liability for damage caused by artificial intelligence or legal definition of artificial intelligence.

##### Road transport

Under [Decree No 5/1990. \(IV. 12.\)](#) of the Minister of Transport, Communication and Construction on the technical inspection of road vehicles, an autonomous vehicle for development purposes is one that serves the development of partially or fully automated operations, and in which a test driver is present and, depending on the level of automation or in any situation presenting a risk to road safety, exercises, to the extent possible, manual control during the operation, or can take over manual control of the vehicle at any time (§2 (3b)(b) of the Decree).

[Decree No 6/1990. \(IV. 12.\)](#) of the Minister of Transport, Communication and Construction on the technical conditions of entry into service and circulation in traffic of road vehicles provides for the classification of vehicles for development purposes according to their level of automation (Annex 18 to the Decree).

The developer of the vehicle is liable for the operation of vehicles for development purposes (§16/B. (8) of Decree No 5/1990 (IV. 12.)).

According to case-law, the liability of the operator of a vehicle for damage caused by the vehicle is covered by the general rules of strict (objective) liability under [Act V of 2013](#) on the Hungarian Civil Code (CC; for the English version, click [here](#)) (judgments: BH2002.306, BDT2010.2236, BDT2012.2661) (see also point 2(b)(iii) below).

In the case of autonomous vehicles for development purposes, compulsory third-party insurance corresponding to the registration number or temporary registration number of the vehicle is required for the entire duration of the testing. In the absence of such a registration number, an equivalent liability insurance is required (Annex 17(7) of the Decree No 6/1990 (IV. 12.)).

<p><b>Air transport</b></p> <p>The main act regulating unmanned aircraft, such as drones, in accordance with <a href="#">Regulation (EU) 2018/1139 of the European Parliament and the Council</a> is <a href="#">Act XCVII of 1995</a> on air transport. Under that act, an unmanned aircraft is defined as a civil aircraft designed and operated without on-board pilots. There are no specific provisions in Act XCVII of 1995 on the liability of the person carrying out an activity with a drone for damage caused by the drone. According to existing case-law, such liability is covered by the general rules of strict (objective) liability (sections 6:535-6:539 CC). See also judgments: BH2002.306, BDT2010.2236, BDT2012.2661 and point 2(b)(iii) below.</p>
<p><b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p>
<p>At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence.</p>
<p><b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p>
<p><a href="#">Act LXXVI of 2014</a> on Scientific Research, Development and Innovation provides that the government will initiate programmes and measures in order to support the challenges and the dissemination of artificial intelligence (§4(1)(g) of the Act).</p> <p>A <a href="#">national strategy</a> is currently being developed by the Innovation and Technology Ministry and the Ministry of Justice and will be published following approval by the government.</p> <p>Based on <a href="#">Instruction No 4/2019 (II. 28.)</a> of the Ministry of Innovation and Technology on its organisational and operational rules, the Ministry manages and supports artificial intelligence based solutions, operates, via the <i>Digitális Jólét Nkft</i> (Digital Wellbeing Non-profit Limited Liability Company), the <i>Mesterséges Intelligencia Koalíció</i> (Artificial Intelligence Coalition) and carries out its tasks. The Ministry takes part in the elaboration and implementation of the European Digital Europe Programme relating to artificial intelligence, supervises the Artificial Intelligence Coalition, is responsible for the creation and implementation of a national strategy promoting research, innovation and application of artificial intelligence at national level (§54/A and Annex 2).</p> <p>Based on <a href="#">Government Decree No 127/2017 (VI. 8.)</a> on specific tasks relating to the implementation of the Digital Well-being Programme and on the amendment of Government Decree No 268/2010 (XII. 3.) on the Government Informatics and Development Agency, Digital Wellbeing Non-profit Limited Liability Company, within its public tasks, operates the Artificial Intelligence Coalition, carries out the tasks related to the Artificial Intelligence Strategy of Hungary and takes part in the implementation of the tasks specified in that strategy (§4(2)(f) and (g)).</p>

## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

The Hungarian Civil Code (CC) ([EN translation](#)) provides for the general rules on fault-based liability.

Causing damage unlawfully is prohibited by law. A person causing damage unlawfully to another is liable in damages for the damage caused. The person causing the damage is exempt from liability if he or she proves that he or she was not at fault, namely if he or she acted with the care that is generally expected under the given circumstances (sections 6:518-9 and 1:4 CC).

The injured party must prove the damage and the causal link between the damage and the conduct of the person causing damage. It is not necessary to prove that the damage was caused unlawfully as the CC expressly provides that causing damage is always unlawful. The person causing damage must prove the absence of his or her fault and that the injured person contributed to the damage by being at fault (sections 6:520 and 6:525 CC).

Causing damage is unlawful, except if the damage was caused:

- with the consent of the injured party,
- to the attacker for the purpose of averting an unlawful attack or a threat assumed to be an unlawful and imminent attack, and the person causing the damage exceeded the limits of what was necessary,
- insofar as it was caused in an emergency situation and was proportionate,
- by conduct allowed by law, and that conduct does not harm the interests of others protected by law, or the law obliges the person causing damage to provide recompense.

No causal link can be established if the person causing the damage did not foresee or should not have foreseen the damage (sections 6:520-1 CC).

The person causing the damage is liable alone for all the damage, including:

- loss sustained in property (*damnum emergens*),
- loss of profits (*lucrum cessans*),
- costs necessary to eliminate the pecuniary losses of the injured party,
- compensation for the violation of personality or non-material damage (damages for pain and suffering).

Damages for pain and suffering are governed by the general rules on liability for damages, save that the injured party need only prove that there was a violation, but not that there was a loss under the first three heads of damages (sections 2:52 and 6:522 CC).

Joint and several liability

- If several persons cause damage jointly, they are jointly and severally liable towards the injured party.
- The court may decide not to apply joint and several liability if the injured party contributed to the damage, or where justified on grounds of special circumstances. If the court decides not to apply joint and several liability, it awards damages in proportion to the fault (subjective) of each co-

perpetrator or, if this cannot be established, in proportion to their contribution (objective). If neither the proportion of fault nor the proportion of contribution can be established, the court finds against the co-perpetrators of the damage in equal shares.

The rules on joint and several liability also apply where the damage could have been caused by any of several simultaneous acts or omissions alone, or if the conduct that caused the damage cannot be identified (section 6:524 CC).

#### **(b) No-fault liability (strict liability/risk-based liability)**

##### **(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?**

The Hungarian Civil Code (CC) ([EN translation](#)) does not provide for a general strict (objective) liability regime for things, but it does provide for fault based liability for damage caused by defective buildings and for damage caused by things thrown, dropped or spilled.

Liability of the owner of a building

- The owner of the building is liable for damage caused to another person by parts falling off the building, or by the defects of the building, except if he or she proves that the rules on constructions and maintenance were complied with, and he or she was not at fault in connection with preventing the damage during the construction or maintenance.
- This rule applies to liability for damage caused by falling objects which are placed on the building and provides for joint and several liability with the owner of a building and the person in whose interests the object was placed on the building.
- The rule is without prejudice to the right of the owner to recoup damages from a third party who caused the damage (section 6:560 CC).

Liability for damage caused by things thrown, dropped or spilled

- The tenant of a residence or other premises, or the person using those premises under another legal title, is liable towards the injured party for damage caused by things thrown, dropped or spilled from those premises.
- The tenant or the user of the premises is liable as a surety if he or she names a third party as having caused damage. The tenant or other user escapes liability if he or she proves that the person causing the damage was staying at the premises unlawfully.
- The owner of the building is liable towards the injured party for the damage caused by things thrown, dropped or spilled from a building designed for collective use. The owner is liable as a surety if he or she names the person causing damage.
- These rules are without prejudice to the right of the tenant, other user or owner of the premises or building to recoup damages from the person who caused the damage (section 6:561 CC).

Regarding strict (objective) liability with regard to dangerous things, see also point (iii) below.

**(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.**

According to the Hungarian Civil Code (CC) ([EN translation](#)) and case-law, cars are subject to a strict (objective) liability regime (sections 6:535-9 CC and judgment: BH 2002.306).

The operator (usually the owner) of the car is liable for the damage caused by the car unless he or she can prove that the damage was caused by an unavoidable event outside the scope of the hazardous activity. The operator is not required to compensate for damage to the extent that it resulted from the victim's faulty behaviour. While apportioning liability for damages, the hazardous nature of the activity is taken into account against the operator. The liability of the operator of the car is taken over by the third-party insurance company that is liable for the damage caused by a car to a third party. For more details on the strict (objective) liability provisions, see also point (iii) below.

**(iii) Dangerous activities**

The Hungarian Civil Code (CC) ([EN translation](#)) provides for a general strict (objective) liability regime (liability for hazardous activities), which covers liability for things, such as machinery and equipment.

**Liability for hazardous activities**

- A person carrying out hazardous activities is liable for the resulting damage, unless he or she proves that the damage was caused by an unavoidable circumstance outside the operation of the hazardous activity.
- A person who causes damage by his or her activity endangering the human environment is liable in accordance with the rules on liability for hazardous operations.
- Liability cannot be avoided or limited, save with regard to liability for damage to property (section 6:535 CC).

**The operator**

- The person in whose interest the hazardous operations are carried out is considered to be a person carrying out the hazardous activity.
- If the hazardous operations are linked to several operators, they shall be considered to be persons causing damage jointly (section 6:536 CC).

**Rules on the contribution by the injured party**

- The operator is not required to compensate for damage to the extent that it resulted from the fault of the injured party. While apportioning liability in damages, the hazardous nature of the activity is taken into account against the operator.
- If a non-culpable person has contributed to causing the damage by his or her avoidable conduct, the operator has full liability towards the non-culpable person who suffered damage. The operator may enforce a claim for reimbursement against the caregiver of the non-culpable person (section 6:537 CC).

**Statute of limitations**

The claim for damages arising from the liability for hazardous operations lapses after three years (section 6:538 CC).

Concurrence of hazardous operations and the relationship between co-perpetrators

- If the hazardous activities of co-perpetrators cause damage to each other, the operators are liable in proportion to the degree of their fault. If damage was caused *de facto* by a person other than the operators, the operators are liable for damages based on the fault of the person causing damage *de facto*.
- If neither party is at fault, damages are payable by the person under whose control the irregularity of the hazardous activities which led to the damage occurred.
- If the damage can be traced back to an irregularity that occurred under the control of the hazardous activities of both parties, or if no such irregularity can be established with regard to either of the parties, then, in the absence of fault, each party is liable for his or her own damage.
- This provision also applies to the relationship between operators if the damage is caused by several hazardous operations. However, in the absence of fault or irregularity, liability is borne in equal shares (section 6:539 CC).

That general strict (objective) liability regime does not expressly cover software or AI and there are no definitions in Hungarian law of hazardous activities or artificial intelligence. According to existing case-law an activity is hazardous where a relatively minor disorder occurring during an activity could create a situation threatening to cause serious injury, such as a life-threatening injury, injury causing a permanent disability, a permanent deterioration of health or substantial damage to property, or where even a minor fault - minor negligence - of the person carrying out the activity could create such a situation, risking serious injury (judgment: BDT 2012.2661). According to the case-law a person is not exempt from liability for reason of an irregularity which is due to an unidentifiable reason where such irregularity occurred within the hazardous activity itself. Such a reason could be the faulty, irregular operation of the software of the AI where it causes extra-contractual damage.

#### **(iv) Liability for the keeping of animals**

The Hungarian Civil Code (CC) ([EN translation](#)) provides for liability for the keeping of animals:

The keeper of an animal is liable for the damage caused by the animal, unless the keeper proves that he or she was not at fault in connection with keeping the animal (section 6:562 CC) (fault-based liability).

Keepers of dangerous animals are liable in accordance with the rules on liability for hazardous operations (section 6:562 CC) (strict (objective) liability).

The person entitled to hunt and in whose hunting area the damage was caused is liable for the damage caused by the game. The person entitled to hunt is exempt from liability if he or she proves that the damage was caused by unavoidable circumstances outside his or her control (section 6:563 CC) (strict (objective) liability).

For more details about fault-based liability, see also sections 518-534 CC, and for more details about strict (objective) liability, see also point (iii) above.

**(v) Vicarious liability (parent, teacher, employer etc.)**

The following cases of vicarious liability in the Hungarian Civil Code (CC) ([ENtranslation](#)), which do not fall under the regime of strict (objective) liability per se, unless the person causing the damage would be liable under the rules of strict (objective) liability, could be a source of inspiration for AI related liability:

- If an employee causes damage to a third party in connection with the employment relationship, the employer is liable for damage to the injured party. If a member of a legal person causes damage to a third party in connection with his or her membership relationship, the legal person is liable for damage to the injured party. The employee and the member have joint and several liability with the employer or the legal person, respectively, if the damage was caused intentionally (section 6:540 CC).
- If an agent causes damage to a third party in his or her capacity as an agent, the agent and the principal are jointly and severally liable for damage to the injured party. The principal is exempt from liability if he or she proves that he or she is not at fault with respect to selecting the agent and in providing the agent with instructions and supervision (section 6:542 CC).
- A person under a contractual obligation is liable for damage caused to a third party by the person with the contractual obligation within the framework of the performance of the contract, unless he or she names a third party who caused the damage and who is unknown to the injured party (section 6:543 CC).
- A person who is incapacitated to the extent that he or she is unable to evaluate the consequences of his or her actions in connection with causing damage is not liable for the damage caused. The person who is considered by law to be the guardian of the non-culpable person is liable in the place of the non-culpable person. The person exercising supervision over the non-culpable person at the time when the damage was caused is also considered to be a guardian. The guardian is exempt from liability if he or she proves that he or she was not at fault with regard to the education and supervision of the charge (section 6:544 CC).

If the damage has been caused by a culpable minor who has a guardian who is required to exercise supervision, and the injured party proves that the guardian was at fault, the guardian and the minor are jointly and severally liable for the damage caused (section 6:547 CC).

Author and date of completion: **Andrea BOCSKAI-LÁNG.**



## X Italy: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

##### Drones

Provisions on non-contractual liability are provided for both in a regulation ([ENAC](#)) issued by the *Ente Nazionale per l'Aviazione Civile* (the Italian Civil Aviation Authority) and in the Navigation Act (Royal Decree 327/1942). Rules on civil liability *vis-à-vis* third parties arising from operating such vehicles are enshrined in the Italian Navigation Act. Article 965 of that Act refers to operators' liability by reference to the 1952 Rome Convention on damage caused by foreign aircraft to third parties on the surface: an individual suffering damage has the right to compensation. The burden of proof can be met by providing evidence that the damage was caused by an aircraft during a flight. If such damage is not a direct consequence of the incident, the injured person has no right to compensation. It is prohibited to fly an Unmanned Aircraft System (UAS) without insurance (Article 32 ENAC). There is a distinction between remotely piloted aircraft (RPA) and UAS. While RPAs are controlled by a remote operator, in the case of a UAS the pilot cannot intervene in the operation of the aircraft in real time.

UAS is an umbrella term that includes all unmanned systems.

The distinction between model aircraft and RPA in the ENAC Regulation seems to focus on the purpose of the aircraft (an aircraft used for recreational or sports purposes is considered a model aircraft, whereas an aircraft used for other purposes is considered an RPA).

In particular, Articles 1.2, 1.3 and 1.4 ENAC provide for the following: "This Regulation, implementing Article 743 of the Italian Navigation Code, divides remotely piloted aerial vehicles into remotely piloted aircraft systems and model aircraft for the purpose of the application of the Code.

Remotely piloted aerial vehicles operated or intended to be operated for specialised operations or for experimental, scientific or research activities, are considered to be remotely piloted aircraft systems or RPAS and the provisions of the Italian Navigation Code apply, in accordance with this Regulation.

Model aircraft shall not be regarded as aircraft for the purposes of the application of the provisions of the Italian Navigation Code and can be used for recreational and sporting activities only. Nevertheless, this Regulation sets out specific provisions and limitations applicable to the use of the model aircraft to ensure the safety of persons and property on the ground and of other airspace users."

Moreover, Article 35.1 ENAC provides that "[t]he model aircraft operator is responsible for operating the aerial vehicle in a manner such as not to endanger persons or property on the ground and other airspace users, to maintain separation from obstacles, to avoid collisions during flights and to give way to any other airspace users."

Article 5(1) ENAC sets out the following definitions:

<ul style="list-style-type: none"> <li>- a model aircraft is defined as a remotely piloted aerial vehicle, used exclusively for recreational and sports purposes, without people on board, without equipment on board that might enable its autonomous flight, and used under the direct and continuous visual control of the model aircraft operator, without visual aids.</li> <li>- a RPA is defined as a remotely piloted aerial vehicle without persons on board, not used for recreation and sports.</li> </ul>
<p><b>Self-driving cars</b></p> <p>The Ministerial Decree of 28 February 2018 on the testing of connected and automated vehicles on public roads provides for the experimentation or testing of autonomous vehicles on a protected site or public roads to be performed by a human driver (supervisor) possessing certain specific qualifications in addition to the required insurance cover, including:</p> <ul style="list-style-type: none"> <li>- possession for at least five years of a driver's license for the specific vehicle being tested;</li> <li>- successful completion of either a safe driving course or a specific course for self-driving vehicles testers at an accredited body in a Member State;</li> <li>- completion of tests for at least 1000 kilometres on self-driving vehicles on a protected site or public road, including abroad, provided that such testing takes place in a country where such experimentation is regulated;</li> <li>- possession of the required expertise, adequately documented, for taking part in the testing as supervisor.</li> </ul> <p>The existing regulations require that the human driver be able to switch promptly from automatic to manual control of the vehicle and vice versa.</p>
<p><b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p>
<p>At the time of writing, there are no specific legislative proposals on non-contractual liability for damage caused by artificial intelligence.</p>
<p><b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p>
<p>No specific policy initiatives specifically refer to damage caused by AI.</p> <p>Nevertheless, the Agency for Digital Italy published a White Book on Artificial Intelligence in March 2018, outlining the state of play of AI in Italy, calling on stakeholders to improve access to AI in Europe and Italy. The White Book sets forth a new common culture for innovation in public services, as well as various challenges related to AI for the Three-Year Plan for Information Technology in the Public Administration, published in 2017. Additionally, the Book suggests the establishment of a National Competence Centre and a Trans-disciplinary Centre on AI for the promotion of data collection and of measures to spread AI-related competences within the public administration.</p> <p>In its judgments no 2936/2019 and o 8474/2019, the Italian Council of State extended the legitimacy of algorithms to the public administration's discretionary activity, outlining the binding principles which should guide the use of such algorithms and requiring that they comply with the GDPR. These judgments also outline new scenarios possibly involving a relationship between smart homes and public administration.</p> <p>Furthermore, the Italian government issued a call for experts in September 2018, aiming to create a think tank of high-level experts to be entrusted with the preparation of a National Strategy on AI, focusing on "developing policies and tools on the various issues related to the development and adoption of AI systems".</p>

<p>In July 2019, a group of experts from the Ministry of Economic Development issued a paper that was published <a href="#">Proposte per una Strategia Italiana per l'Intelligenza Artificiale</a> (Proposals for an Italian AI strategy), which provides general recommendations and outlines various aspects of AI in different sectors.</p>
<h2>2. GENERAL RULES</h2>
<h3>(a) What are the general rules on fault-based liability?</h3>
<p>With regard to torts, <a href="#">Article 2043</a> of the Italian <a href="#">Civil Code</a> (CC) provides that victims of unjust damage caused by a third party, whether intentionally or negligently, are entitled to compensation.</p> <p>As for the burden of proof, the victim must prove the damage and the causal link between the act and the damage. A reversal of the burden of proof is permitted if agreed between the parties to a contract on disposable rights, or when imposed by law (e.g. in tax law).</p> <p>A causal link is established where it was “more likely than not”, namely where the nexus between the act and the damage is proven on a balance of probabilities.</p> <p>Extra-contractual liability (<a href="#">Article 2043</a> CC) can cover both pure economic loss and <i>lucrum cessans</i> (<a href="#">Article 1223</a> CC), as well as non-patrimonial damage (<a href="#">Article 2059</a> CC), which includes personal injury as well as psychological and moral damage.</p> <p>With reference to joint and several liability, an example can be found in <a href="#">Article 2054(3)</a> CC, pursuant to which the owner of a vehicle is jointly liable with the driver for damages, unless the former can prove the latter took control of the vehicle against his or her will.</p>
<h3>(b) No-fault liability (strict liability/risk-based liability)</h3>
<h4>(i) Is there strict liability for ‘things’? If so, does it cover intangible things (such as software/AI)?</h4>
<p>Italian law is historically oriented towards forms of fault-based liability. The Italian <a href="#">Civil Code</a> (CC) only provides for a few cases of strict liability (<i>responsabilità oggettiva</i>) for things, through a reversal of the burden of proof: liability for dangerous activities (<a href="#">Article 2050</a> CC; see also point (iii) below); liability for damage caused by things in a person’s custody, subject to a defence of <i>force majeure</i> (<a href="#">Article 2051</a> CC); liability for damage caused by the total or partial collapse of a building, unless the custodian or supervisor can show that the building or structure was maintained flawlessly (<a href="#">Article 2053</a> CC).</p> <p>Italian legal doctrine provides for a distinction between tangible things (<i>res corporales</i>) and intangible things (<i>res incorporales</i>). Property or assets are things that can be the subject of rights (<a href="#">Article 810</a> CC). This concept of property – whether movable or immovable property –, albeit nominally related to the concept of things, has evolved so as to cover intangible things, such as intellectual property. With regard to liability for things in a person’s custody (<a href="#">Article 2051</a> CC), an essential condition is that the person liable must be in possession of the thing. Because of this condition, the provision does not cover intangible things, since they are not susceptible to being physically possessed.</p>

**(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.**

Pursuant to [Article 2054\(3\)](#) of the Italian [Civil Code](#) (CC), the owner of a vehicle is jointly liable with the driver, unless he or she can prove that the driver took control of the vehicle against his or her will. Liability arises regardless of the owner's fault, hence it is a case of strict liability.

Such joint liability is also enshrined in [Article 196](#) of the Italian Traffic Code, with the consequence that all vehicles are insured at all times. Assuming a driver has full control of the vehicle, he or she is considered to be responsible for events caused by driving the vehicle. It is worth distinguishing between semi-autonomous and fully autonomous driving. In the former category, the driver retains responsibility while maintaining full control over the car. In the latter category, responsibility does not depend on the driver's behaviour and should consequently be attributed to the manufacturer (strict liability). The vehicle manufacturer may, in turn, have a claim against the developers or suppliers of the software components governing the operation of the vehicle. In addition, liability could also arise where the owner of a vehicle failed or was late in updating the software necessary to allow the car to interact with the "smart road". In this regard, Italy has recently started a digital transformation of its road network and testing autonomous vehicles. More specifically, the Decree of the Ministry of Infrastructures and Transport of 28 February 2018 (also known as the "Smart Road Decree") regulates smart roads and self-driving vehicles.

**(iii) Dangerous activities**

[Article 2050](#) of the Italian [Civil Code](#) (CC) provides for anyone causing damage to others while carrying out a dangerous activity (whether it be dangerous *per se* or due to the means utilised) to pay compensation, unless he or she proves that he or she adopted all suitable precautions in order to avoid the damage (reversal of burden of proof).

The Italian Supreme Court of Cassation has deemed certain activities to be dangerous *per se* (only relevant examples follow):

- Pharmaceutical manufacturing, which could be carried out through the use of technology and AI (Supreme Court of Cassation, judgment no 8069, 20/07/1993);
- Tree felling, which could be carried out through the use of technology and AI (Supreme Court of Cassation, judgment no 1188, 21/04/1954);
- Use of nuclear power (regulated by Law no 1860/1962, as well as by Presidential Decree no 519/1975 and Ministerial Decree no 20/03/1979);
- Loading and unloading of goods with hoists, cranes and freight elevators, which could be guided by AI (Supreme Court of Cassation, judgment no 103, 19/01/1965);
- Sawmills (Supreme Court of Cassation, judgment no 3691, 12/11/1969).

**(iv) Liability for the keeping of animals**

[Article 2052](#) of the Italian [Civil Code](#) (CC) provides that the owner of an animal is strictly liable for any damage caused by the animal, regardless of whether the animal was in the owner's custody, strayed or escaped, unless the owner proves that the damage was caused as a result of circumstances beyond his or her control (*force majeure*).

[Article 2052](#) CC provides only for strict liability and does not refer to negligence or *culpa in vigilando*. This is well-established in the case-law and in the legal doctrine. The following Supreme Court of Cassation, III Civil Section, judgments are relevant: no 7703, 16/04/2015; no 10402, 20/05/2016; no 17091, 28/07/2014; no 2414, 04/02/2014; no 1210, 23/01/2006; no 20, 09/01/2002.

**(v) Vicarious liability (parent, teacher, employer etc.)**

Articles [2047](#) and [2048](#) of the Italian [Civil Code](#) (CC) provide for the liability of parents/tutors/guardians/teachers (principals) for damage caused by their charges. The principal can avoid liability if he or she can prove that the damage would have occurred in any event. Pursuant to [Article 2048](#) CC, parents and tutors can be held responsible at all times for any damage caused by the minors in their charge, provided that they live together; guardians and teachers are liable only if the damage occurs while their charges are in their care (e.g. at school). Furthermore, parents can also be held liable for damage for *culpa in educando*, i.e. a breach of care in the upbringing of their children (e.g., in certain cases of bullying at school, in addition to any criminal liability on the part of the child).

Author and date of completion: **Marco PERU.**

## XI Lithuania: non-contractual liability and artificial intelligence

1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES
<b>(a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
<p>Lithuanian law does not provide for any specific rules regarding artificial intelligence. As a general rule, the provisions of the Lithuanian Civil Code (<a href="#">EN translation</a>) regarding civil liability also apply to damages caused by artificial intelligence.</p>
<p><b>Drones</b></p> <p>The <a href="#">Rules for the operation of unmanned aircraft</a>, adopted on 23 January 2014 by the Director of the Civil Aviation administration contain provisions on drones.</p> <p>Point 5 of those Rules defines unmanned aircraft as any aircraft without a crew which can be remotely operated or whose flight is automatically controlled, as well as any free flight aircraft.</p> <p>Point 6 of the Rules provides that “The person who controls the flight path of the unmanned aircraft shall be considered to be the operator of the unmanned aircraft. The operator shall be responsible for the operation of the unmanned aircraft in accordance with these Rules.”</p> <p>Further provisions on liability are set out in point 20: “These rules only lay down minimum safety requirements for the operation of drones and do not exempt the owner or operator of the drone from any form of legal liability vis-à-vis other persons if the rights and legitimate interests of those persons are violated.”</p>
<b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
<p>The Lithuanian Parliament’s Legal Acts service and the attaché of the Lithuanian Representation to the European Union have confirmed that, at the time of writing, there are no legislative proposals in the area of civil liability for AI in Lithuania at the time of writing.</p>
<b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
<p>There is no overall national strategy in Lithuania with regard to non-contractual liability for damage caused by AI, but in 2018, the experts group in the Ministry of Economy and innovations presented a <a href="#">National Strategy for AI: a future vision</a>, which gives an overview of the regulation of AI in Lithuania (legal and ethical gap) and the need to regulate its functioning and development. The Ministry approved this strategy in 2019, but the strategy was not approved at national level and therefore serves only as a report. It underlines the growing importance of AI and the need to regulate its functioning. For the time being there is a legal and ethical regulatory gap and specific rules and standards are necessary in order to control the development of AI. This</p>

report raises the idea of the creation of a national inter-disciplinary AI centre, which could help to minimise the risks and maximise the benefits of AI, inter alia, by making available high-quality data.

## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

According to the Lithuanian Civil Code (CC) ([EN translation](#)), a person is liable for the damage arising out of his or her act or omission if there is a causal link between the tort and the damage.

As regards the burden of proof, there is a presumption of guilt, except as provided for in Article 6.248 (1) CC. The tortfeasor, is presumed to be guilty, unless he or she proves otherwise. The burden of proof is on the defendant, who must prove that he or she was not at fault. The applicant does not have to prove that the defendant was at fault.

In civil proceedings, the adversarial principle is applied. Both parties must prove the facts which form the basis of their claims and counterclaims, except for the circumstances which need not be proved.

The damage covered is of two types: (1) material (such as financial/factual damage, economic loss, loss of profits, etc.), which can be recovered in full, and (2) personal (physical and mental health, death, moral damage), which can never be recovered in full.

The following provisions of the CC are relevant in this context:

“Article 6.263 CC: Obligation to make good the damage caused

1. Every person has an obligation to follow rules of conduct in such a way that their actions (acts and omissions) do not cause harm to another person.
2. Any damage caused to a person, property or, in cases provided for by law, non-material damage must be compensated in full by the person liable.
3. In cases provided for by law, a person shall be obliged to make good any damage caused by the action of another person or damage caused by items in his possession.

...

Article 6.283 CC: Compensation in the case of damage to health

1. If a natural person is injured or his or her health is otherwise damaged, the person liable for the damage shall be obliged to compensate the victim for any loss or non-material damage suffered by him or her.
2. The losses in the cases referred to in paragraph 1 shall include the loss of income which the injured person would have received had his or her health not been damaged and the costs related to a return of health (costs of treatment, additional meals, purchase of medication, prostheses, care of the injured person, purchase of special means of transport, retraining of the injured person and other costs necessary for the return of health).
3. If, after the decision on compensation has been taken, the victim's health deteriorates, he or she shall be entitled to bring an action for compensation for additional costs, unless the damage has been compensated by a specific lump sum of money.

Article 6.284 CC: Liability for loss of life



1. In the event of the death of a natural person, persons who were dependants of the deceased or who were entitled to receive maintenance from the deceased at the time of his or her death (minor children, spouse, incapacitated parents or other de facto incapacitated dependants), as well as any child born after the death of the deceased. Those persons shall also be entitled to compensation for non-material damage.
2. Persons entitled to compensation for their survivors shall be compensated for the part of the deceased's income which they received or to which they were entitled during the deceased's life.
3. The amount of damages to be compensated shall not be altered, except where a child is born after the surviving spouse.
4. This Article shall apply only in cases where the victim is not insured against accidents at work in accordance with the procedure laid down by law."

Joint and several liability or subsidiary liability is applied where a tortfeasor who is not an employee, acts according to the instructions of a principal (Article 6.265 CC) or when the damage was made jointly by several persons (Article 6.279 CC).

"Article 6.279 CC: Liability for damage caused jointly by several persons

1. Co-tortfeasors shall be jointly and severally liable to the victim.
2. In determining the claims between persons who are jointly and severally liable, the share of liability of each of them shall be taken into account, unless otherwise provided for by law.
3. The injured person shall not claim from all of the persons responsible for the damage more than he or she could have claimed had only one person been liable.
4. If the damage could have been caused by the different acts of several persons and those persons are liable for compensation, but it is established that the damage was actually caused by the acts of only one of those persons, all of those persons shall be liable together, unless the other persons prove that the damage could not have been the result of the acts for which they are responsible.

Article 6.280 CC: Right of recourse to the person who caused the damage

1. After having compensated the damage caused by another person, the person who compensated has a right of recourse *vis-à-vis* the tortfeasor (return claim) up to the amount of the compensation paid, unless the law provides otherwise. Where it is shown that another person was responsible for the damage after an award for compensation has been made, the person who is liable to pay the compensation shall have a right to recoup an amount up to the amount of compensation paid, unless the law provides otherwise.
2. In the event of compensation for damage caused jointly by several persons, the injured party shall be entitled to claim from each of them a proportion to their liability. Where it is not possible to assess each tortfeasor's share of liability, they shall be deemed to be liable for compensation in equal shares.
3. Parents, guardians or carers, as well as the authorities referred to in Articles 6.275, 6.276 and 6.278 CC, shall not have to recoup compensation for damage caused by a minor or a natural person recognised as incapacitated in a given area."

<b>(b) No-fault liability (strict liability/risk-based liability)</b>
<b>(i) Is there strict liability for ‘things’? If so, does it cover intangible things (such as software/AI)?</b>
<p>Although Lithuanian law does not contain a general provision on the strict liability for things, Article 6.266 of the Lithuanian Civil Code (CC) (<a href="#">EN translation</a>) provides for the strict liability of the owner or custodian for damage caused by the collapse or other defects of buildings, constructions, installations and other structures, save in the case of force majeure or contributory fault or gross negligence on the part of the victim.</p> <p>“Article 6.266 CC: Liability of the owner or custodian of buildings</p> <ol style="list-style-type: none"> <li>1. Damage caused by the collapse of buildings, structures, installations or other structures, including roads, or by other defects thereof must be compensated by the owner or custodian of those facilities, unless he or she proves that the circumstances referred to in Article 6.270(1) of this Code were present.</li> <li>2. The owner or custodian of buildings, structures, installations or other structures is presumed to be the person indicated in the public register as owner or custodian.”</li> </ol>
<b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b>
<p>In the Lithuanian Civil Code (CC) (<a href="#">EN translation</a>), there are no specific provisions on cars. Instead, Art. 6.270 CC deals with the liability applicable to the damage caused by “the exercise of hazardous activities”. The person who exercises the hazardous activity (means of transport, mechanisms, electricity and atomic energy, explosives and toxic substances, construction, etc.), is liable for the damage caused by the source of the higher risk, save in the case of <i>force majeure</i> or contributory fault or gross negligence on the part of the victim. The person liable is the custodian of the thing, based on ownership, trust, or any other legitimate grounds (lease, other contract).</p> <p>“Article 6.270 CC: Liability arising from the exercise of hazardous activities</p> <ol style="list-style-type: none"> <li>1. A person whose activities are connected with potential hazards for surrounding persons (operation of motor vehicles, machinery, electric or atomic energy, use of explosive or poisonous materials, activities in the sphere of construction, etc.) shall be liable to compensation for damage caused by the operation of potentially hazardous objects which constitute a special danger for surrounding persons, save in the case of <i>force majeure</i> or fault or gross negligence on the part of the victim.</li> <li>2. A defendant in the cases established in the preceding paragraph of this Article shall be the custodian of a potentially hazardous object by the right of ownership or trust or on any other legitimate grounds (loan for use, lease, or any other contract, by the power of attorney, etc.).</li> <li>3. The custodian of a potentially hazardous object shall not be liable for compensation for damage it has caused if he or she proves to have lost control of the operation thereof due to unlawful actions of other persons. In such an event, the person or persons who gained control of the operation of a potentially hazardous object by unlawful means. Where the loss of an operation of a potentially hazardous object results also from the fault of the custodian, the latter and the person who seized the potentially hazardous object unlawfully shall be jointly liable for the damage. Upon having compensated for the damage, the custodian shall acquire a right of recourse for the recovery of sums paid against the person who unlawfully seized the potentially hazardous object.</li> </ol>

<p>4. Where damage was inflicted on a third person as a result of the reciprocity of several potentially hazardous objects, all the custodian of the objects concerned shall be jointly liable for the damage caused.</p> <p>5. The damage incurred by the custodian of potentially hazardous objects as a result of the reciprocity thereof shall be compensated in accordance with the general provisions."</p> <p>Article 42(2) of the <a href="#">Road Transport Code</a> stipulates that "The carrier, as the operator of the hazardous activity, must compensate the passenger for damage caused by the hazardous activity if there is no evidence that the damage was caused by <i>force majeure</i> or fault or gross negligence on the part of the victim "</p> <p>Article 59 of the <a href="#">Inland Water Transport Code</a> stipulates that "The carrier, as the operator of the hazardous activity must compensate the passenger for the damage caused by the hazardous activity if there is no evidence that the damage was caused by <i>force majeure</i> or fault on the part of the victim."</p>
<b>(iii) Dangerous activities</b>
<p>Article 6.270 of the Lithuanian Civil Code (CC) (<a href="#">EN translation</a>) provides for the liability applicable to damage caused by hazardous activities. The person whose activity is hazardous (means of means, mechanisms, electricity and atomic energy, explosives and toxic substances, construction, etc.), is liable for the damage caused by the hazardous activity, save in the case of <i>force majeure</i> or fault or gross negligence on the part of the victim. The person liable is the custodian of the thing, based on ownership, trust, or any other legitimate grounds (lease, other contract). See also point (ii) above.</p>
<b>(iv) Liability for the keeping of animals</b>
<p>Article 6.267 of the Lithuanian Civil Code (CC) (<a href="#">EN translation</a>), together with Article 6.270(1) CC, provides that the owner or custodian of a domestic or wild animal is strictly liable for damage caused by the animal, even if it escaped. The owner can avoid liability only in the case of <i>force majeure</i> or the contributory fault or gross negligence of the victim.</p>
<b>(v) Vicarious liability (parent, teacher, employer etc.)</b>
<p>Article 6.276 of the Lithuanian Civil Code (CC) (<a href="#">EN translation</a>) provides that where damage is caused by a child below the age of 14, their parents or tutors are liable unless they prove that damage was not due to fault on their part. If the minor was being cared for in an educational or health institution when the damage occurred, the institution is liable. Children between the ages of 14 and 18 are liable for damage that they caused, but if the child does not have the means to compensate the victim, his or her parents or the institution responsible must compensate the damage.</p> <p>Article 6.264 CC provides that employers are liable for the damage caused by their employees during the exercise of their functions, if those employees:</p> <ol style="list-style-type: none"> <li>1. are engaged under a labour or other civil contract,</li> <li>2. have acted according to the instructions provided by the employer, and</li> <li>3. were under the control of the employer when the damage occurred.</li> </ol> <p>Where, in accordance with specific rules, joint and several liability is applied, the employee is be liable only in the case of fault or gross negligence.</p>

## XII Malta: non-contractual liability and artificial intelligence

1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES
<p><b>(a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>Malta currently has no specific legislation or legislative proposal on non-contractual liability for damage caused by artificial intelligence in any field. The legal framework is currently being established in order to create the right environment within which AI can operate. The Maltese lawmakers are developing a regulatory environment that addresses the risks arising from perilous uses of technology while encouraging innovation in this field.</p> <p><b>Drones</b></p> <p>The Maltese Civil Aviation Directorate (MCAD) is currently applying the <a href="#">general civil aviation rules</a> for the use of <a href="#">drones</a> until specific legislation is introduced. For example, the Civil Aviation Act (<a href="#">Chapter 232 of the Laws of Malta</a>) refers to liability for damage caused by manned aircraft (Articles 11 to 13).</p> <p>The MCAD requires the operators of remotely piloted aircraft (RPA) to fill in a <a href="#">Self Declaration for the Safe Operation of Drones</a>, in which they undertake not to operate the RPA:</p> <ul style="list-style-type: none"> <li>(a) so as to cause danger to another RPA;</li> <li>(b) in the vicinity of aircraft manoeuvring in an aerodrome traffic circuit; or</li> <li>(c) in a negligent or reckless manner so as to endanger life or to cause damage to persons, animals and/or the property of others.</li> </ul> <p>Since there is no specific law on unmanned aircraft, there is currently no definition. With regard to unmanned aircraft systems, the MCAD has, in the absence of regulation, adopted a risk-based approach, on a case-by-case basis, assessing the scope and complexity of the request and, in particular, the risk of the proposed operation.</p> <p>Moreover, operators of unmanned aircraft are required to hold a third-party-liability insurance, covering personal injury and damage to property as well as the scope and complexity of the drone operation.</p> <p>A <a href="#">public consultation</a> for the Air Navigation Order Amendments closed in January 2020. The proposed changes would elevate the status of the <a href="#">Air Navigation Order</a> to an 'Air Navigation Act', and thereby permit the MCAD to introduce more swiftly urgent regulatory measures required by the Union.</p>

**Financial services**

In 2018, the Maltese Parliament adopted three acts regulating blockchain technology and cryptocurrencies: the [Virtual Financial Assets Act](#), the [Innovative Technology Arrangements and Services Act](#) (ITAS) and the [Malta Digital Innovation Authority Act](#) (MDIAA). The MDIAA creates a framework for blockchain, distributed ledger technology (DLT) and smart contracts. The ITAS obliges an innovative service provider to conduct his or her business with honesty and integrity and to exercise proper care and diligence and put in place the appropriate arrangements in the form of human resources for third-party delegates, contractors, financial resources and technology facilities, so that operational and compliance obligations are put in place. The intention of the legislator is to extend the ITAS to cover AI.

**(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence. There have been many proposals suggested by legal experts over the last few years to bridge the responsibility gap, including the attribution of legal personality to AI (criticised as being farfetched or even morally untenable). Some scholars argue that Maltese law of tort is already equipped to deal with damage caused by AI. However, the current legislative framework does not cover the *lacunae* created by AI-powered technology.

**(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

In 2019, the Maltese government invited members of the public, industry and academia to provide feedback on its high-level policy document for public consultation [Malta: towards an AI Strategy](#). The [National AI strategy](#), among other strategic enablers, mentions the need for a legal and ethical framework to ensure that certain standards and norms are adhered to in the development of AI and to ultimately increase public trust in the technology. In this regard, a National Technology Ethics Committee will be set up under the Malta Digital Innovation Authority (MDIA) to oversee the [Ethical AI Framework](#), which was established by the [Malta AI Task Force](#) (Task Force), and its intersection across various policy initiatives, including investments in tools and continuous monitoring mechanisms, skills and capabilities, innovation ecosystem and regulatory mechanisms.

[Discussions are ongoing](#) in the Task Force about whether it might be necessary to develop local regulations, and/or adopt and enforce international standards and laws, to sustain trust in how citizens are applying, using or being impacted by AI. The resulting strategy document made provision for the setting up of a Law Review Commission, which will have the mandate to carry out an analysis of local regulatory gaps and to assess whether local regulations are appropriate. Malta has also implemented a voluntary certification process for AI technologies, and applicants will need to show adherence to the Ethical Framework.

## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

Article 1031 of [Chapter 16](#) (Civil Code (CC)) of the Laws of Malta (LoM) lays down the fundamental principle that every person is liable for the damage caused by his or her fault. According to Article 1032, a person is deemed to be at fault if he or she does not use the prudence, diligence and attention of a *bonus paterfamilias*. Article 1033 CC further provides that any person who, with or without intention to injure, voluntarily or through negligence, imprudence, or want of attention, is guilty of an act or omission constituting a breach of the duty imposed by law, is liable for any resulting damage.

Under Article 562 of [Chapter 12](#) (Code of Organisation and Civil Procedure (COCP)) of the Laws of Malta, without prejudice to any other provision of the law, the burden of proof rests on the claimant. The evidence produced must be the best evidence possible otherwise the Court may disallow it. Where evidential presumptions apply, the burden of proof is reversed. For example, Article 627 et seq. COCP mentions documents requiring no proof of authenticity other than that which they bear on the face of them. Although the general rule is that it is up to the claimant to prove the negligence of the tortfeasor, the Courts have admitted certain facts giving rise to *prima facie* proof of negligence. In *S. Caruana vs Kaptan E. Skapinakis noe* (Volume XXXV, Part II, p. 548), the Court held that the non-observance of regulations is *prima facie* proof of negligence. In such a case it is for the defendant to rebut the presumption of fault by showing, for example, that he or she was compelled to act illegally.

In civil proceedings the courts make findings on the basis of a balance of probabilities.

Article 1045 CC provides for two types of damages, *damnum emergens* (direct loss, or damages for actual loss suffered) and *lucrum cessans* (loss of profits, or loss of future earnings). Damages also cover expenses incurred by the injured party and any loss in actual or future earnings arising from a permanent incapacity caused. In calculating loss of future earnings, the court must have regard to the circumstances of the case, and, in particular, to the nature and degree of incapacity caused and to the condition of the injured party (*Trevor Grech vs Lawrence Agius* (Rik.Gur.1030/2013 GM)). However, contributory negligence may lead to a reduction in the damages awarded. Thus, Article 1051 CC stipulates that if the injured party has, by his or her own imprudence, negligence or want of attention contributed to or caused the damage, the court, in assessing the amount of damages payable to him or her, reduces the amount of damages payable by the proportion of the victim's liability for the damage. Moral damages are provided for in specific legislation, such as [Chapter 488](#) (Enforcement of Intellectual Property Rights (Regulation) Act) LoM and [Chapter 579](#) (Media and Defamation Act) LoM.

Article 1049 CC provides that "Where two or more persons have maliciously caused any damage, their liability to make good the damage shall be a joint and several liability. Where some of them have acted with malice and others without malice, the former shall be jointly and severally liable, and each of the latter shall only be liable for such part of the damage as they may have caused."

<b>(b) No-fault liability (strict liability/risk-based liability)</b>
<b>(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?</b>
There is no general provision on strict liability for things but there are examples of such a liability in <a href="#">Chapter 16</a> (Civil Code (CC)) of the Laws of Malta. For example, Article 1041 CC provides that the owner of a building is liable for any harm caused by its collapse if it is due to defects in construction or the need for repairs and the owner knew or should have known of those defects or that need for repairs. Some legal experts believe that this clause might be difficult to apply to AI unless it is possible to establish a defect.
<b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b>
Drivers of motorised vehicles are liable in damages for the damage caused to others only in the case of fault. Fault, as a legal concept, means wrongful behaviour for which the person who has caused damage can legally be blamed. Victims are entitled to compensation only if they can prove fault. Thus the driver/operator or owner of an autonomous vehicle is not liable for damage caused by the operation of that vehicle unless the claimant proves that he or she was or should have been aware of the risk and could have prevented it. The Maltese Civil Code does not provide for tortious liability for damage caused by cars, but <a href="#">Chapter 104</a> (Motor Vehicles Insurance (Third-party risks) Ordinance) of the Laws of Malta (LoM) provides that the insurance policy covers, inter alia, liability which may be incurred in respect of death of or bodily injury to any person, including all passengers (other than the driver), or damage to any property caused by the motor vehicle. Consequently, an insurance policy which covers third-party risk is mandatory for all motor vehicles operated in Malta, unless other legislation provides for an exemption. The definition of driver in Article 2 of <a href="#">Chapter 104</a> LoM includes the person "engaged in the driving of the vehicle" as well as any "separate person [who] acts as steersman" of the vehicle. Thus the law currently assumes that only a person is capable of driving or steering a motor vehicle.
<b>(iii) Dangerous activities</b>
<p>The Maltese legal system relies on fault-based liability in general. Therefore, there is no general provision on strict liability for dangerous activities.</p> <p>Article 43 of <a href="#">Chapter 33</a> (Explosives Ordinance) of the Laws of Malta (LoM) provides that any damage arising from an offence under the Ordinance is recoverable by the injured party as a civil debt. Moreover, Article 45D of <a href="#">Chapter 33</a> LoM provides that, "On conviction for an offence under the provisions of this Ordinance or of any regulations made thereunder, the court may order the offender to pay to any injured party such sum of money that may be determined by the court in that direction as compensation for any such loss as aforesaid or for any damages or other injury or harm caused to such party by or through the offence".</p> <p>Article 12 of the <a href="#">Subsidiary Legislation 33.03</a> (Control of Fireworks and other Explosives Regulations, adopted pursuant to Chapter 33 LoM, provides that any person who applies for a licence to discharge fireworks must produce an insurance policy covering claims arising from the death or personal injury to third parties or from damage to a third party's property that is caused by an explosion or other factor during discharge of fireworks. Such an insurance policy must cover an amount of not less than EUR 300 000.</p>



**(iv) Liability for the keeping of animals**

Strict liability for animals is established in Article 1040 of [Chapter 16](#) (Civil Code (CC)) of the Laws of Malta (LoM). The owner of an animal, or any person using an animal, is, while using the animal, liable for any damage caused by the animal, whether the animal was in that person's charge or had strayed or escaped. Article 6 of [Subsidiary legislation 439.19](#), (Owning and Keeping of Dangerous Animals Regulations), adopted pursuant to [Chapter 439](#) (Animal Welfare Act) LoM provides that "A keeper of a dangerous animal in terms of these regulations shall be solely and fully responsible for the same animal and for any matter relating to the health and safety of the dangerous animal and the general public".

**(v) Vicarious liability (parent, teacher, employer etc.)**

Article 1034 of [Chapter 16](#) (Civil Code (CC)) of the Laws of Malta provides that the guardians of minors, or of persons suffering from a mental illness or another condition rendering them incapable of managing their own affairs, are liable for any damage caused by their charge if the guardians fail to exercise the care of a *bonus paterfamilias* to prevent the act. The law emphasises the paramount importance of fault on the part of the guardian for such vicarious responsibility to arise. If it is proved that the guardian exercised due care, he or she will avoid liability even if the charge caused harm.

Article 1035 CC provides that persons suffering from a mental illness or another condition rendering them incapable of managing their own affairs, children under the age of nine, and, unless they acted with malicious intent, children under the age of fourteen, are not liable for damage caused by them. This defence applies both to guardians and their charges, unless the guardians are liable on the ground of *culpa in vigilando*. However, Article 1036 CC empowers the court to award damages against the property of the charge and not of the person deemed to be responsible at law (the guardian). In order to make such an award, the court must be sure that this would be the most just course of action in the circumstance and that the harm was not caused by the victim.

Author and date of completion: **Stephanie Anne FENECH.**

### XIII Netherlands: non-contractual liability and artificial intelligence

1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES
<p><b>(a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p>
<p><b>Autonomous vehicles</b></p> <p>The Law governing the experimental use of self-driving vehicles (<i>Wet van 26 september 2018 tot wijziging van de Wegenverkeerswet 1994 in verband met mogelijk maken van experimenten met geautomatiseerde systemen in motorrijtuigen</i>; <a href="#">Experimenteerwet zelfrijdende auto</a>) added, with effect from 1 July 2019, two new Articles to the Road Traffic Act: Articles 149aa and 149ab (<a href="#">Wegenverkeerswet</a>).</p> <p>The Netherlands has allowed public road testing of self-driving cars since 2015, but a driver always had to be present in the vehicle. Since 1 July 2019, the Road Traffic Act allows manufacturers to carry out much more extensive testing of self-driving vehicles, without the physical presence of the driver in the vehicle. It enables <a href="#">remote-driver tests</a>. In addition to minibuses, the tests can also involve, for example, moving motorway roadblocks with remote drivers. The tests are subject to several conditions and restrictions. For example, the traffic safety risks must be minimised, and the remote driver must always hold a valid driver's licence. Furthermore, the tests must be carried out on a specific road or road section and are subject to a limited timeframe.</p>
<p><b>Drones</b></p> <p>Some rules on drones can be found in a Regulation of 23 April 2015 (<a href="#">Regeling op afstand bestuurde luchtvaartuigen</a>).</p> <p>Article 10(1) of the Regulation thereof requires the operator to have an insurance covering civil liability for physical and material damage caused to third parties.</p> <p>Article 1 of the Regulation defines a remotely piloted aircraft (RPA) as an unmanned remotely piloted aircraft other than a model aircraft.</p>
<p><b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p>
<p>At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence.</p>

**(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

On 8 October 2019, the Ministry of Economic Affairs and Climate published a strategic action plan for artificial intelligence ([Strategisch Actieplan voor Artificiële Intelligentie](#)). The action plan only dedicates two paragraphs to liability (p. 46).

It stresses that it is necessary to tackle questions on liability concerning AI which present cross-border aspects at Union level. Furthermore, it mentions that the European Commission set up two expert groups to deal with new technologies and liability, and expresses the hope that the outcome of their activities would lead to more insights into questions about liability in the event of damage by AI.

**2. GENERAL RULES**

**(a) What are the general rules on fault-based liability?**

[Article 6:162](#) of the Dutch [Civil Code](#) (CC) ([EN version](#)) provides: "A person who commits an unlawful act against another person that can be attributed to the first person, must compensate the damage that the other person has suffered as a result thereof."

The article provides for four requirements to trigger liability in tort:

- an unlawful act,
- the act is attributable to the tortfeasor,
- the act resulted in damage, and
- there is a causal link between the damage and the unlawful act.

The Article further specifies that those unlawful acts can consist of the violation of a subjective right or of an act or omission violating a duty imposed by law or by unwritten social rules, subject to any justification for the behaviour.

As regards causality, compensation can only be claimed for damage which is connected to the event giving rise to the liability of the defendant in such a way that it, also taking into account its nature and the nature of the liability, can be attributed to the defendant as a consequence of the event ([Article 6:98](#) CC).

The burden of proof lies with the claimant. According to [Article 150](#) of the Dutch Civil Procedure Code the burden of proof is on the person who invokes the legal consequences of the facts or rights.

In its case-law on causation, the Dutch Supreme Court has developed the so-called reversal rule (*omkeringsregel*; e.g. [Hoge Raad 10 January 2020](#)). If certain requirements are met, a causal link between the unlawful act or omission and the damage is deemed to be proved unless the defendant makes a plausible case that the damage would have arisen in the absence of the act or omission.

The standard of proof is a reasonable degree of certainty or probability, for instance that there was indeed a causal connection between the unlawful act and the damage.

The Dutch law of damages aims to fully compensate the losses causally connected with the unlawful act ([Article 6:98 CC](#)). The court may, however, reduce the amount of compensation if the amount would lead to obviously unacceptable results in light of the circumstances, including the nature of the liability, the legal relationship between parties and their financial resources ([Article 6:109 CC](#)).

[Article 6:96 CC](#) provides that patrimonial loss comprises both the loss sustained by the victim and the profit of which the victim has been deprived. Furthermore, it specifies that compensation can also be claimed for reasonable costs to prevent or mitigate loss which could be expected as a result of the event giving rise to liability.

The victim has a right of compensation for non-patrimonial loss, assessed in accordance with the standards of reasonableness and fairness ([Article 6:106 CC](#)). The judge evaluates the loss in the manner most consistent with its nature. Where the extent of the damage cannot be determined precisely, it is estimated ([Article 6:97 CC](#)).

If the victim has sustained damage and benefits from the same event, the benefits must, to the extent reasonable, be taken into account when determining the amount of compensation ([Article 6:100 CC](#)).

[Article 6:101\(1\) CC](#) regulates contributory negligence: Where the damage is partly caused by the victim, the compensation is reduced by the share of the victim's responsibility, subject to fairness with regard to all the circumstances which may lead to no reduction in compensation or complete exoneration of the perpetrator.

As to joint and several liability, [Article 6:102 CC](#) provides: "When two or more persons are individually liable for the same damage, then they are jointly and severally liable for it."

#### **(b) No-fault liability (strict liability/risk-based liability)**

##### **(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?**

[Article 6:173](#) of the Dutch [Civil Code](#) regulates liability for movable things: "The holder of a movable thing, of which is known that it causes great danger for people and property when it does not meet the standards which in the circumstances may be set for such equipment, is liable in the event that the potential danger is realised, unless the holder would not have been liable under the previous Section had he or she known of the danger at the time it occurred" (see also point (iii) below).

**(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.**

[Article 185](#) of the Road Traffic Act provides for a victim-friendly liability system for road traffic accidents involving a motorised and a non-motorised party (such as a pedestrian or a cyclist), according to which the keeper or owner of the vehicle may be strictly liable. The only defence is *force majeure*.

However, when an accident involves two motor vehicles, [Article 6:162](#) of the Dutch [Civil Code](#) (CC) ([EN version](#)) is applicable. A car owner is then liable for all damage caused by the car, whether the car was driven by a person or self-driven.

There is a mandatory insurance scheme (Article 2 [Wet aansprakelijkheidsverzekeringen motorvoertuigen](#) (WAM)). The victim of a road traffic accident may then choose to claim damages from either the tortfeasor or the insurer (Article 6 WAM). That insurance scheme is complemented by a Guarantee Fund Motor Vehicles (*Waarborgfonds Motorverkeer*). If the tortfeasor is unknown, the vehicle is uninsured, the insurance does not cover the damage or the insurer is unable to pay, the victim is entitled to compensation from the guarantee fund (Article 25 WAM).

**(iii) Dangerous activities**

There are three regimes in regard dangerous activities:

- (1) [Article 6:173](#) of the Dutch [Civil Code](#) (CC) ([EN version](#)): liability for dangerous equipment
- (2) [Article 6:174](#) CC: liability for dangerous constructed immovable things
- (3) [Article 6:175](#) CC: liability for dangerous substances

[Article 6:173\(1\)](#) CC could be relevant in this context: "The holder of a movable thing, which is known to cause a great danger to people and property when it does not meet the standards which in the circumstances may be set for such equipment, is liable if the potential danger is realised, unless the holder would not have been liable under the previous Section had he or she known of the danger at the time it occurred."

**(iv) Liability for the keeping of animals**

According to [Article 6:179](#) of the Dutch [Civil Code](#) ([EN version](#)): "The keeper of an animal is liable for the damage caused by that animal, unless he or she would not have been liable under the previous Section had he or she been able to control the behaviour of the animal that caused the damage."

**(v) Vicarious liability (parent, teacher, employer etc.)**

The Dutch rules on vicarious liability are laid down in the Articles 6:169 to 6:172 of the Dutch [Civil Code](#) (CC) ([EN version](#)):

- (4) [Article 6:169](#) CC: liability for the conduct of children ("A person who exercises parental responsibility or legal guardianship over a child under the age of fourteen is liable for damage caused by an act of that child to a third person, provided that the act could have been regarded as a tort but for the child's age.")
- (5) [Article 6:170](#) CC: liability for faults of subordinates ("A principal in whose service a subordinate fulfils duties is liable for damage caused to a third person by the fault of the subordinate if the risk of the fault was increased by the assignment to fulfil those duties and the principal had control over the behaviour which constituted the fault due to its legal relationship with the subordinate.")
- (6) [Article 6:171](#) CC: liability for faults of non-subordinates (Where a non-subordinate (self-employed person) commits a fault causing damage to a third party in the performance of activities which were carried out on the instructions of another person in the course of the professional practice or business of that other person, that other person is also liable for the damage to the third person.)
- (7) [Article 6:172](#) CC: liability for faults of a representative ("Where a representative, in the exercise of the powers granted by the authorisation of representation, commits a fault which causes damage to a third party, then the principal is also liable towards the third party.")

Author and date of completion: **Brecht VERKEMPINCK**

## XIV Portugal: non-contractual liability and artificial intelligence

1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES
<p><b>(a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p><b>Drones</b></p> <p>Portuguese <a href="#">Decree law No 58/2018</a> lays down specific rules on non-contractual liability for damage caused by unmanned aircraft, namely drones. Article 1 of the Decree law provides that the scope of the decree is to establish mandatory registration and a mandatory insurance scheme for operators of drones.</p> <p>Article 2 of the Decree law defines “unmanned aircraft” as any aircraft operating or designed to operate autonomously or to be piloted remotely without a pilot on board; “unmanned aircraft system” is an unmanned aircraft and the equipment to control it remotely; and “operator” is a legal or natural person operating or intending to operate one or more unmanned aircraft.</p> <p>Article 3 of the Decree law establishes mandatory registration with the Civil Aviation National Authority (<i>Autoridade Nacional de Aviação Civil</i>, ANAC) to fly drones with a weight over 250 grammes and Article 10 requires mandatory civil liability insurance for drones with a weight over 900 grammes.</p> <p>The civil liability regime for damage is subject to strict liability: unless the operator is able to prove the accident was exclusively due to the injured party's fault, the operator is liable for damage caused to third parties by the unmanned aircraft systems, regardless of fault.</p> <p>Article 9 of the Decree law provides that the maximum compensation for damage caused by unmanned aircraft systems where the operator is not at fault is limited to the amount of minimum capital of the mandatory civil liability insurance.</p>
<p><b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence.</p>
<p><b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>The Portuguese Government has established an <a href="#">innovation and growth strategy to foster</a> artificial intelligence in Portugal in the European context (INCUBE 2030). Although there are currently no specific policy initiatives on non-contractual liability for damage caused by artificial intelligence, two specific objectives of this national strategy are to ensure that artificial intelligence is safely and ethically applied in various domains and to help companies and regulators find appropriate legal frameworks.</p>



The working group on semi-autonomous vehicles, established by [Governmental Order No 2930/2019](#), is currently studying the need for legislative changes in light of the introduction of new technologies related to autonomous driving.

## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

The general rules on fault-based liability are established in the Portuguese [Civil Code](#) (CC). The basic provision containing the requirements of fault-based liability is Article 483(1) CC, which provides that: “whoever, whether by willful misconduct (*dolus*) or by negligence, unlawfully violates the rights of others or any legal provision designed to safeguard the interests of others, shall compensate the injured party for the damages arising out of such violation”. Fault-based liability is therefore centred on the individual person with capacity to commit torts acting wrongfully and with fault and causing damage to others. Article 487(2) CC provides that: “in the absence of any other legal criterion, fault shall be assessed by reference to the diligence expected of a dutiful *paterfamilias*, having regard the circumstances of each case”. With regard to causality, Article 563 CC requires compensation for the damage that the injured party would *probably* not have suffered, had it not been for the injury.

The general rule is that the burden of proof is on the injured party (Articles 342, 483, 487 and 572 CC). The onus shifts where there is legal presumption of fault (Article 344 CC), such as in the case of contractual liability (Article 799(1) CC). There is no express or specific standard of proof. [Article 607\(5\) of the Portuguese Civil Procedural Code](#) provides that the court is free to evaluate the evidence presented in accordance with its “prudent conviction of the facts” and, in the case of doubt, will decide against the party that has failed to discharge the burden of proof.

The Portuguese [Civil Code](#) (CC) contains the provisions regulating non-material damage which are applicable to cases of strict and fault-based liability. Article 562 CC establishes the principle of natural restitution, which provides for compensation to reestablish the situation that would have existed but for the event that caused the damage. The damage covered is not only the direct measurable loss caused, but also loss of profits, including foreseeable future profits.

Article 564(1) CC (calculation of compensation) provides that liability in damages includes not only the direct loss caused, but also the benefits that the injured party would have obtained by for the damage. Death, personal injury, distress, mental health and moral damage (such as, suffering arising from damage to physical integrity, honor or reputation) are covered, as well as any “non-pecuniary damage which, due to its seriousness, deserves legal protection” (Article 496 CC). Article 494 CC sets out a limitation for compensation in cases of liability based on mere fault, *i.e.*, liability based on negligence or unintentional tort, providing that: “where liability is based on mere fault, compensation may be fixed equitably at an amount lower than that corresponding to the damage caused, where the degree of fault of the tortfeasor, the financial situations of the tortfeasor and of the injured party, as well as other circumstances of the case so justify”.

In the case of multiple tortfeasors, Article 497 CC establishes a solidarity regime (joint and several liability) between them and the injured party may claim full compensation from any of them. The right of compensation between multiple tortfeasors depends on the extent of their relative fault and the consequences arising therefrom; however, the fault of each tortfeasor is presumed to be equal.

<b>(b) No-fault liability (strict liability/risk-based liability)</b>
<b>(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?</b>
<p>There is no strict liability for things in Portuguese law. In the case of damage caused by buildings or by things, there is fault-based liability (see also point 2(a) above), with a reversal of the burden of proof due to a presumption of fault (<i>culpa in vigilando</i>). In both cases the presumption of fault may be rebutted if it is proved that the damage would have occurred in any event (potential cause).</p> <p>Article 492 Portuguese <a href="#">Civil Code</a> (CC) imposes liability on the owner or on the tenant of a building or another facility if it collapses and causes damage because of a construction or maintenance defect, unless the owner or tenant is able to prove that there was no fault on his or her part and that it was not possible to avoid the damage. <a href="#">Article 493(1)</a> CC imposes liability on the person having in its possession a movable or immovable thing, with a duty to monitor it, unless that person is able to prove that there is no fault on his or her part and that it was not possible to avoid the damage.</p>
<b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b>
<p>The Portuguese liability regime for cars provides that whoever causes a road accident with fault will (in addition to possible criminal liability) be liable for the damage caused in accordance with the general fault-based liability regime of Article 483 Portuguese <a href="#">Civil Code</a> (CC) described in point 2(a) above.</p> <p>The general rules on the burden of proof apply and it is for the injured party claiming compensation to prove the fault of the driver, by reference to the traffic rules contained in <a href="#">Decree-Law No 114/94</a> (<i>Código da Estrada</i>).</p> <p>If the driver of the vehicle causing the accident was driving on behalf of somebody else (for example, if the driver was an agent or an employee and driving on the instructions of a principal or in the course of his or her employment), there is a presumption that the driver was at fault and a reversal of the burden of proof (Article 503(3) CC).</p> <p>Portuguese legislation contains a combination of fault-based and strict liability, as it establishes risk-based liability in the case of an accident not involving fault on the part of the driver. A "person with the effective control of a motor vehicle, using it in their own interest, even if acting through an agent, shall be liable for the damage resulting from the vehicle's own risks, even if the vehicle is not in use" (Article 503 CC). The effective control of the vehicle may be determined in relation to legitimate holders (such as owners, renters, garage owners) as well as illegitimate holders (such as a thief who has stolen the vehicle).</p> <p>In the case of a collision of several vehicles, it is presumed that each of the vehicles contributed equally to the accident and to the damage (Article 506 (2) CC).</p> <p>The maximum compensation for damage caused by a vehicle without fault is limited to the amount of minimum capital of the mandatory civil liability insurance for motor vehicles (Article 508 CC). A joint solidarity regime is established for joint and several risk-based liability (Articles 507 and 497 CC).</p> <p>Cars normally based in Portugal are subject to mandatory insurance in accordance with <a href="#">Decree-Law No 291/2007</a>.</p>

**(iii) Dangerous activities**

Article 493(2) of the Portuguese [Civil Code](#) (CC) subjects dangerous activities to fault-based liability with a presumption of fault.

Article 493(2) CC provides that: “persons who cause damage to others while executing an activity which is dangerous by its very nature, or by the nature of the means used, are obliged to compensate them, unless they present evidence that they have taken all the measures required by the circumstances to prevent the damage”. In this case, and in contrast to the case described in point (i) above, potential cause will not exclude causality and the defendant must therefore provide evidence that he or she took all the necessary preventive measures required in the circumstances. The [relevant case law](#) confirms that dangerous activities are subject to fault-based liability.

**(iv) Liability for the keeping of animals**

Article 493(1) of the Portuguese [Civil Code](#) (CC) provides that a person who has in his or her possession a movable or immovable thing, with a duty to watch over it, as well as a person who has accepted the task of supervising such a thing or animals is subject to fault-based liability with a presumption of fault (*culpa in vigilando*), unless that person proves that he or she was not at fault or that the damage would have occurred independently of his or her fault.

Article 502 CC provides that a person who uses an animal for the purpose of his or her own interests is strictly liable for the damage caused by the animal, provided that the damage is the result of the special danger that involves the use of animals. Wild animals that live in their natural habitat do not fall within the scope of Articles 493(1) and 502 CC.

According to the case-law, Article 502 CC establishing the strict liability of a user of animals and Article 493(1) providing for the fault-based liability of a keeper or custodian of a thing are not mutually exclusive. The “special danger” that involves the use of animals referred in Article 502 CC does not relate only to the animal species in question. “Special danger” includes the general risk of using animals, and of their nature of living beings acting on their own impulse. The limitation contained in the final part of Article 502 CC (“provided that the damage is the result of the special danger that involves the use of animals”), excludes cases in which the damage in question could have been caused either by the animals or by something else, where there is no connection with the specific danger of using animals. Cases of *force majeure* have to be analysed on a case-by-case basis. The courts have found owners of animals to be liable notwithstanding *force majeure*.

**(v) Vicarious liability (parent, teacher, employer etc.)**

Article 500 of the Portuguese [Civil Code](#) (CC) provides that a principal is vicariously and strictly liable for the torts of its agents. The principal is liable for the damage caused by the agent even if the agent acted against the instructions of the principal, provided that the agent acts within the scope of its functions (Article 500(2) CC).

Such vicarious liability may be applicable to AI in the sense that it determines an obligation of the principal to compensate for damage regardless of fault. However, it is often stated that the foundation for this strict liability regime is a “guarantee theory” and not a “risk theory”, as the principal will then be entitled to a right of recourse against the agent.

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## XV Romania: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on civil liability for damage caused by artificial intelligence?

##### Drones

In the field of civil and military aviation, the new [Romanian Air Code](#) (Law No 21 of 18 March 2020 on the Air Code), which entered into force on 19 June 2020, defines 'unmanned aircraft' as aircraft with no crew on board, which can execute flight based on *programming* or on *remote piloting* (Article 3, point 11). The notion therefore appears to include both remotely piloted aircraft systems (RPAS) and unmanned aircraft systems (UAS) guided by autopilot. Under Article 47, the personnel ensuring *the programming and/or the remote control* of the unmanned aircraft shall be liable for the safe execution of the flight, from take-off to landing, and shall be authorised to take any measures to this effect. Similar provisions exist in the Romanian Air Code currently in force ([Government Ordinance No 29 of 22 August 1997](#), as republished) applicable in the field of civil aviation, with the difference that the current legal act refers only to the liability of the personnel that ensures *the piloting* of the unmanned aircraft.

The Romanian Civil Aeronautical Authority [requires](#) third-party liability insurance for unmanned aircraft under the conditions laid down in [Regulation \(EC\) No 785/2004](#); in the case of model aircraft weighing less than 20 kg, insurance is optional. [Government Decision No 912/2010](#), which has been [interpreted](#) by the courts to also apply to unmanned aircraft, also lays down third party liability insurance for the aircraft as a condition for flight over national air space (Article 3).

##### Medical devices, assistive devices and technologies

In the field of medicine, [Law No 95 of 14 April 2006](#) on health reform, as republished, defines medical devices, assistive devices and technologies as any item, equipment or product that is used to increase, maintain or improve the functional capabilities of a person, including for the correction of sight, hearing, for limb prostheses, respectively prostheses, orthoses, walking aid devices, necessary for the recovery of organic or physiological deficiencies, as well as other types of devices provided in the framework contract and its implementing rules (Article 221(1)(i) of the Law).

Under Article 657 of the Law, manufacturers of medical equipment and devices, assistive devices and technologies, medicinal substances and sanitary materials are liable according to the civil law for the damages caused to patients in the activity of prevention, diagnosis and treatment that are generated directly or indirectly by the hidden defects of medical equipment and devices, assistive devices and technologies, medicinal substances and sanitary materials. The medical staff is not responsible for the damage caused in the exercise of the profession due, inter alia, to hidden defects of the medical equipment and the devices, assistive devices and technologies used (Article 654(2)(a) of the Law).

Under Article 255(4) of the Law, the providers of medical devices, assistive devices and technologies incur the obligation of having civil liability insurance. Under Article 655(1)(d) of the Law, the public or private health units are civilly liable, according to the common law, for the damage caused in the activity

of prevention, diagnosis or treatment, where the damage is the consequence of, among other things, acceptance of medical equipment and devices, assistive devices and technologies, medicinal substances and sanitary materials from providers who do not have the insurance required by law.
<b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence.
<b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
In May 2019, the government <a href="#">was in the process</a> of drawing up a national strategy for artificial intelligence, intended to enter into force in 2020. However, in October 2019, there was a change of government and it appears that the strategy dedicated to artificial intelligence was not finalised. <a href="#">Government Decision No 89 of 28 January 2020</a> set up the Authority for the Digitalisation of Romania, being tasked, inter alia, with the drawing up and implementation of the national strategy for automation, robotisation and artificial intelligence, which has yet to be published (on 25 May 2020). On 7 May 2020, the government adopted a <a href="#">Memorandum</a> on the establishment of measures to achieve the national objectives in the field of advanced technologies, which, among others, provides for a Romanian Artificial Intelligence HUB, meant to set up an institutional mechanism for channelling investments in research and development activities, and the creation of synergies between academia, the business environment and public authorities, in the field of artificial intelligence. The Memorandum does not address the matter of liability.
<b>2. GENERAL RULES</b>
<b>(a) What are the general rules on fault-based liability?</b>
<p>Fault-based or subjective liability is provided for in Article 1357 of the Romanian <a href="#">New Civil Code</a> (NCC), which provides in paragraph 1 that “The person who causes another person damage by means of a tort, committed with fault, must repair the damage”, while paragraph 2 provides that “The author of the damage is liable for the lightest of faults”. The general rule on liability for acts is therefore fault based.</p> <p>There are four conditions that need to be fulfilled:</p> <ul style="list-style-type: none"> <li>- damage;</li> <li>- a tort;</li> <li>- a causal link between the tort and the damage;</li> <li>- fault on the part of the tortfeasor.</li> </ul> <p>The victim must prove that all four conditions have been met, pursuant to the principle <i>actori incumbit probatio</i> and to Article 249 of the <a href="#">New Code of Civil Procedure</a>, by using any types of evidence regulated by law.</p> <p>The burden of proof shifts depending on the claims made by the parties (<i>reus in excipiendo fit actor</i>). A reversal of the burden of proof is provided for by law, by way of derogation from the general rule, in special situations: in the case of relative legal presumptions (where there is a legal presumption that</p>

the facts correspond to a particular legal construction); in labour law, where the employer must prove its claims irrespective of its procedural role; or in the area of consumer protection.

There is no concept of standard of proof in Romanian law, but, according to Article 264(2) of the New Code of Civil Procedure, “in order to establish the existence or non-existence of facts for which evidence has been approved, the judge considers them freely, according to his or her own conviction, except where the weight of the evidence is laid down in law”.

The NCC provides for the following types of damage in Articles 1381 to 1395: patrimonial damage (quantifiable in money, including present and future loss, including loss of opportunity, provided that such loss is real and reparable); physical damage (affecting the life and physical integrity of a person, including aesthetic damage); and moral damage (which touches on the emotional or societal personality of the victim).

The damage must :

- be certain (real and serious, not just possible);
- be personal to the victim (but can be both individual and collective);
- be direct (the tort concerns the victim directly, but the damage can be caused both directly and indirectly);
- have resulted from hindering a legitimate right or interest of the victim.

Although liability in general is individual, co-tortfeasors are jointly and severely liable. Thus, Article 1382 NCC provides for the passive joint liability of the persons that together caused a damage through the same tort and the victim has a claim for the full amount against any of the tortfeasors.

## **(b) No-fault liability (strict liability/risk-based liability)**

### **(i) Is there strict liability for ‘things’? If so, does it cover intangible things (such as software/AI)?**

In the Romanian [New Civil Code](#) (NCC), all types of liability but one are risk-based/strict (the only subjective one is own act liability).

The liability for things is one of the 3 examples of liability of the person having the guard (of animals, things, buildings) and is set out in Article 1376 together with Article 1377 of NCC.

Article 1376 NCC provides that “Anyone is obliged to repair, irrespective of any fault, the damage caused by the thing under its guard; this Article applies also in case of car collisions or other similar cases”.

According to Article 1377 NCC, “person having the guard” means “the owner or the person that, pursuant to law, contract or as a matter of fact, exercises independently the control and supervision over the thing or animal and uses the thing or animal for his or her own interests”.

The law creates a relative presumption that the person liable for damage in such cases is the owner or the person having control or supervision. This presumption can be reversed only by proving “force majeure”.

The law does not specify whether AI is covered under things, but since it does not expressly exclude it, it could be understood, *per a contrario*, that it covers it.

**(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.**

Under Articles 10(1) and 76(1) of [Government Emergency Ordinance No 195 of 12 December 2002](#) on transport on public roads, vehicles driven on public roads, except those with animal traction, must have compulsory insurance for third-party civil liability deriving from road accidents.

An event involving a vehicle could elicit fault-based liability or strict liability, depending on whether the damage derives from a person's actions, with the vehicle being a mere instrument, or whether the damage is caused by the vehicle as a thing, respectively. In the latter case, Article 1376(2) of the Romanian [New Civil Code](#) expressly provides that the strict liability for things applies in the case of collision between vehicles.

In landmark Decision No 198/1976 of the Maramures Tribunal, the court ruled that where the defect of a vehicle caused a collision with another vehicle, it was not the driver but the owner of the defective vehicle who was liable for the damage, in accordance with the principle of strict liability for things.

On the other hand, in its [ruling](#) of 16 December 2011, the *Judecătoria Câmpina* (Câmpina District Court) rejected the tortfeasor's defence that the exceeding of the speed limit may have been attributable to an error of the autopilot equipment of the vehicle; the court held that the fact that the vehicle was on autopilot could not have consequences on the liability of the offender.

**(iii) Dangerous activities**

Before the entry into force of the Romanian [New Civil Code](#) in 2011, Romanian civil literature and practice proposed to distinguish between liability for damage caused by dangerous and non-dangerous things, between things with inherent dynamism and those without, or between things in motion and those not in motion; however, such classifications were never enshrined in generally applicable law.

As a particular example of strict liability for dangerous activities, under Article 4(1) of [Law No 703 of 3 December 2001](#) on liability for nuclear damage, the operator of a nuclear installation is objectively (strictly) and exclusively liable for any nuclear damage, if the damage is caused by a nuclear accident which: (a) occurs in the nuclear installation; (b) involves nuclear material originating from the nuclear installation, under certain conditions; or (c) involves nuclear material sent to the nuclear installation, under certain conditions.

Another example: under Article 95(1) and (2) of [Government Emergency Ordinance No 195 of 22 December 2005](#) on the protection of the environment, the liability for damages to the environment is objective, independent of fault. In the case of co-perpetrators, they are jointly and severally liable. In exceptional circumstances, liability may also be subjective or fault-based, for damages caused to protected species and to natural habitats, according to specific regulations.



#### **(iv) Liability for the keeping of animals**

Liability for damage caused by animals is one of three examples of strict liability of the person having the guard (or the keeper) of animals, things, buildings and is set out in Article 1375 together with Article 1377 of the Romanian [New Civil Code](#) (NCC).

Article 1375 NCC provides that “The owner or the user of an animal is liable, independently of any fault, for the damage caused by the animal, even if it escaped and is no longer under his or her guard”.

According to Article 1377 NCC, “person having the guard” (or keeper) means “the owner or the person that, pursuant to law, contract, or as a matter of fact, exercises the control and supervision over the thing or animal independently and uses the thing or animal for his or her own interests”.

The law creates a relative presumption that the person liable for damage in such cases is the owner or the person having control or supervision. This presumption can be reversed only by proving force majeure.

#### **(v) Vicarious liability (parent, teacher, employer etc.)**

Vicarious liability or liability for someone else’s prejudicial act is set out in Articles 1372 to 1374 of the Romanian [New Civil Code](#) (NCC) and is founded on the special relationship between the author of the potentially tort and the person liable in law, due to the fact that the former finds him or herself under the sphere of authority of the latter. The NCC provides for two such cases:

- the liability of persons (e.g. parents) who have a supervisory obligation with regard to a minor or a person without legal capacity for the tort of the person under supervision (Article 1372 NCC);
- the liability of principals for the tort of agents (Article 1373 NCC).

Persons having a supervisory obligation under Article 1372 NCC can avoid liability only if they can prove that they could not stop the prejudicial act. In the case of parents, the evidence must show that the act of the child is not the result of a breach of the parents’ obligations linked to the exercise of the parental authority.

The principal is liable where the tort is carried out by his or her agents in the exercise of the agents’ functions (tasks or goal). The principal is the person who, pursuant to contract or law, exercises direction, supervision and control over the agent carrying out functions or tasks in the principal’s interests. The principal is not liable if he or she can prove that the victim knew, or, according to the circumstances, could have known at the moment of the tort that the agent acted outside the exercise of his or her functions.

Article 1374 NCC provides for a correlation rule where different forms of liability for someone else’s tort coalesce: “Parents are not liable if they prove that the requirements for the liability of the person with supervisory obligations with regard to the minor are fulfilled. No person other than the principal can be liable for the prejudicial act of a minor who is also an agent. Nevertheless, where the principal is the parent of the minor, the victim may choose which basis of liability to elect”.



## XVI Slovenia: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

Slovenia does not have any specific rules on non-contractual liability regarding artificial intelligence (AI).

#### Drones

The only legal act referring to one of the AI systems in Slovenia is [the Decree on unmanned aircraft systems](#) (Decree) ([EN version](#)) which entered into force on 13 August 2016. The Decree provides general technical and operational conditions for the safe use of unmanned aircraft systems and aircraft models.

According to Article 2(2) of the Decree “unmanned aircraft” (UA) is defined as an aircraft intended for performing flights without a pilot or other persons on board, which is remotely controlled or programmed or autonomous.

Article 2(5) of the Decree defines “model aircraft” as a UA intended exclusively for recreation and sports.

According to Article 2(12) of the Decree, “an unmanned aircraft system” (UAS) means a system for performing flights with an aircraft without a pilot, which is remotely controlled or programmed or autonomous. It consists of an UA and other components for operating or programming which are necessary for the operation of the UA by one or more persons.

Article 3 of the Decree provides for the classification of UA:

- Class 5: up to and including 5 kilogrammes;
- Class 25: over 5 up to and including 25 kilogrammes;
- Class 150: over 25 up to 150 kilogrammes.

It also lays down conditions for the operators of drones and provides for liability and fines with regard to violations of its provisions.

According to Article 7 of the Decree, the operator, owner of the UAS or owner of the aircraft model must take out insurance on the UAS in accordance with the regulations governing compulsory insurance in transport.

Article 18(1) of the Decree provides that prior to performance of aviation activity, operators must state their qualifications and that they assume responsibility for the performance of aviation activities with the UAS, that the UAS that they intend to use to perform the aviation activities meets the relevant technical requirements, and that they will perform the aviation activities in accordance with the provisions of the Decree.

Article 23 of the Decree (Offences relating to insurance) provides that:

<p>(1) Any individual who operates, owns an UAS or aircraft model and fails to take out an insurance in accordance with Article 7 of this Decree shall be fined between EUR 100 and EUR 600.</p> <p>(2) An operator who is a legal person shall be fined between EUR 800 and EUR 2 000 for committing an offence referred to in the preceding paragraph.</p> <p>(3) An individual sole trader shall be fined between EUR 400 and EUR 1 200 for committing an offence referred to in paragraph 1 of this Article.</p> <p>(4) The responsible person of the legal person and the responsible person of the individual sole trader shall be fined between EUR 300 and EUR 1 200 for committing an offence referred to in the paragraph 1 of this Article.</p> <p>Article 25 of the Decree (Offences relating to rules of the air) provides for a UA operator to be fined between EUR 200 and EUR 800, if, contrary to Article 11(1) of this Decree he or she does not ensure that the flight of a UA is performed in a manner that does not pose a threat to the life, health or property of people due to the impact or loss of control over the UAS and that does not jeopardise or interfere with safety in air traffic, law and order.</p>
<p><b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p>
<p>At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence.</p>
<p><b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p>
<p>In May 2019, a Slovenian Government's "Strategy for AI" (<i>Strategija umetne inteligence</i>) was launched with the goal of strengthening technological and industrial capacity in the field of AI, responding to socio-economic changes (such as changes in the labour market and in the education system) and ensuring an appropriate legal and ethical framework for AI. This document is still "a work in progress" and it is not publicly available.</p> <p>In the Strategy for AI there is only one general remark regarding non-contractual liability for damage caused by AI, which refers to the upgrading of the definition of AI with one that encapsulates liability in the event of mistakes and problems.</p> <p>In an <a href="#">article</a> illustrating the preparation of the AI strategy in Slovenia, there are seven elements upon which this strategy is being developed, with liability being counted among these.</p>
<p><b>2. GENERAL RULES</b></p>
<p><b>(a) What are the general rules on fault-based liability?</b></p>
<p>General rules of fault-based liability can be found in the Slovenian <a href="#">Obligations Code</a> (OZ) (<a href="#">EN version</a>).</p> <p>Article 131(1) OZ provides that any person who inflicts damage on another is liable in damages, unless he or she proves that the damage occurred without his or her fault culpability.</p> <p>The general rule on non-business fault-based liability is that the person making the allegation must prove it (<i>actori incumbit probatio</i>).</p> <p>Liability arises in the case of:</p>

- an unlawful act or omission on the part of the defendant: any conduct that has foreseeable consequence of causing harm and is contrary to ordinary norms of behaviour and good customs;
- damage: Article 132 OZ provides that damage entails the diminution of property (ordinary damage), the prevention of the appreciation of property (loss of profits), the infliction of physical or mental distress or fear on another person, and damage to the reputation of a legal person (non-material damage);
- causation between the unlawful act or omission and the damage: causation is established if the unlawful conduct or omission regularly leads to such damage; and
- culpability of the defendant: the defendant must have caused the damage intentionally or negligently (Article 135 OZ).

It is for the claimant to prove damage and causation, while the defendant must prove that he or she did not act intentionally or negligently (reversal of the burden of proof).

Making substantive decisions on legally relevant facts requires an evidentiary standard of certainty. However, the case-law permits that in certain cases where the specificity of the relevant fact renders this standard of proof practically unachievable, it is permissible for the court to regard the relevant fact as having already been demonstrated on the basis of an appropriate degree of likelihood of its existence.

The OZ distinguishes between material and non-material damage. According to Article 132 OZ, ordinary damage and loss of profits are considered to be material damage while causing personal injury, mental distress or fear in another person and damage to the reputation of a legal person are considered to be non-material damage. The liable person is primarily obliged to re-establish the situation prior to the occurrence of the damage (Article 164(1) OZ). If this is not entirely possible, the tortfeasor must pay damages to compensate for the remainder of the damage (Article 164(2) OZ). If the re-establishment of the previous situation is impossible or if the court considers it not to be appropriate, the court may order the tortfeasor to pay appropriate monetary compensation to the injured party (Article 164(3) OZ). Nevertheless, the court awards monetary compensation to the injured party if the latter so demands, unless the circumstances of the case in question justify the re-establishment of the previous situation (Article 164(4) OZ).

### **Material damage**

Ordinary damage and loss of profits are defined and provided for in Article 168 OZ. Damages are assessed according to market value on the date of the court's ruling unless stipulated otherwise by law (Article 168(2) OZ). In assessing loss of profits, the court has regard to the profit that could justifiably have been expected given the normal course of events or given any special circumstances, and that cannot be achieved because of the tort (Article 168(3) OZ). If an object was destroyed or damaged intentionally the court may award damages with regard to the value of the object to the injured party (Article 168(4) OZ).

When considering the circumstances arising after the infliction of damage, the court awards the injured party compensation in the amount necessary to restore the injured party's financial situation to what it would have been without the damaging act of omission (Article 169 OZ).

Compensation may be reduced in accordance with Article 170 OZ where the damage was not inflicted intentionally or as a result of gross negligence, the tortfeasor is in a weak financial situation and the payment of full compensation would cause the tortfeasor great hardship. If the tortfeasor caused the damage when acting for the benefit of the injured party, the court may reduce the damages awarded. In so doing, it shall take into consideration the diligence shown by the tortfeasor (Article 170(2) OZ). Liability is considered to be shared (Article 171(1) OZ) when the victim was contributorily

negligent and damages are reduced in accordance with the victim's share of liability. If it is impossible to determine which part of the damage is the consequence of the injured party's act, the court awards compensation after considering all the circumstances of the case (Article 171(2) OZ).

### **Non-material damage**

Article 179(1) OZ provides that monetary compensation independent of the reimbursement of material damage is payable to the victim for:

- (1) physical distress;
- (2) mental distress arising from a reduction of enjoyment of life, disfigurement, damage to name or reputation, truncation of a freedom or a personal right, or the death of a close associate; and
- (3) fear.

Monetary compensation is awarded only if the circumstances of the case, particularly the level and duration of distress and fear, justify such compensation, even in the case of no material damage.

The amount of compensation for non-material damage depends on the importance of the right affected and the purpose of the compensation and should not support tendencies that are incompatible with the nature or purpose of the compensation (Article 179(2) OZ).

At the request of the victim, the court may also award compensation for future non-material damage if, according to the customary course of events, it is foreseeable that the damage will be long-lasting (Article 182 OZ).

The Court awards fair monetary compensation for damage to the reputation or good name of a legal person, independently of the reimbursement of material damage, if it finds that the circumstances so justify, even if there is no material damage (Article 183 OZ).

Regarding joint and several liability, Article 186 OZ provides that where damage is inflicted by several persons together, those persons are jointly and severally liable for the damage (Article 186(1) OZ). All those that inflicted damage but acted independently are also jointly and severally liable for the damage inflicted if it is not possible to determine their share of liability (Article 186(3) OZ). If there is no doubt that the damage was inflicted by one of two or more specific persons that are in some way connected but it cannot be determined which of them inflicted the damage, they are jointly and severally liable (Article 186(4) OZ). In a case of joint and several liability, each tortfeasor is liable for the entire amount of damages and the victim may claim against any of them at any time until the victim is compensated in full. However, once the victim is compensated in full, all the debtors are free from obligation (Article 395(1) OZ).

## **(b) No-fault liability (strict liability/risk-based liability)**

### **(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?**

In the Slovenian [Obligations Code](#) (OZ) ([EN version](#)) there is not any general provision on strict liability for things except for dangerous things. Article 131(2) OZ states that where damage results from things or activities representing a major source of danger for the environment, liability is imposed regardless of the fault, therefore Article 150 of the OZ states that the holder of a dangerous object is liable for damage therefrom and that the person involved in the dangerous activities is liable for damage therefrom.

Nevertheless there are some rules in the OZ determining special cases of liability for things; liability of holder of animal (Article 158 OZ), liability for holder of a building (Article 159 OZ) and liability for demolition of structures (Article 160 OZ).

According to Article 159 OZ the holder of the building or area from which the object fell is liable for damage occurring if a dangerously positioned or discarded object falls from a building. And the holder of the structure is also liable for damage occurring if part of a structure is demolished or collapses, unless it is shown that the event was not the result of inadequate quality of construction and that the holder did everything to avert the danger (Article 160 OZ).

**(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.**

Article 154(1) of the Slovenian [Obligations Code](#) (OZ) ([EN version](#)) provides that where one of the drivers of a motor vehicle was exclusively responsible for an accident (culpable liability), that driver is liable for damages. Article 131 OZ provides that any person who inflicts damage on another is required to pay damages unless it is proved that the damage was incurred without the culpability of the former.

If more than one of the drivers is responsible for the accident, each is liable in proportion of his or her share of the fault (Article 154(2) OZ). If their share cannot be determined, they are liable in equal shares, unless justice demands otherwise (Article 154(3) OZ). If the two holders of the motor vehicles are partly or fully liable for damage suffered by third parties, their liability is joint and several (Article 154(4) OZ).

**(iii) Dangerous activities**

Damage occurring in connection with a dangerous object or a dangerous activity is deemed to originate from the dangerous object or the dangerous activity unless it is shown that such was not the cause (Article 149 of the Slovenian Obligations Code (OZ)). The holder of a dangerous object and the person involved in the dangerous activity is liable for damage caused by that object or activity (Article 150 OZ).

According to Slovenian case-law, a dangerous activity is an activity that poses an increased risk to life and health. Crucially, it is an activity which, even with increased care, involves risks that cannot be contained or controlled by a human person (such activities include: tree felling, woodworking with a saw, combat training, work at height, driving with a vehicle and paragliding).

Article 149 of the Slovenian Obligations Code (OZ) provides that damage occurring in connection with a dangerous object or a dangerous activity is considered to arise from the dangerous object or dangerous activity unless it is shown that this was not the cause.

Article 150 OZ provides that: "The holder of a dangerous object is liable for damage arising therefrom; the person involved in a dangerous activity is liable for damage arising therefrom."

Conditions for this strict liability are:

- damage in one of the forms described above, and
- causation: Article 149 OZ states (presumption of causation).

The plaintiff must prove the link between the act and the damage, as well as providing evidence allowing an assessment of whether an event was in fact caused by dangerous object or a dangerous activity. The defendant can escape liability by proving that the harm originates from some cause that could not have been foreseen, avoided or averted (Article 153(1) OZ).

If a dangerous object was removed unlawfully from the holder, the person who took possession, not the holder, is liable for any damage arising from it, unless the holder was responsible for the damage (Article 151 OZ).

Where a person is entrusted with the use of a dangerous object by the holder, or a person is otherwise responsible for supervising the object and that person is not employed by the holder, that person, not the holder, is liable for any damage arising (Article 152(1) OZ). However, where the damage was the result of concealed faults or hidden attributes of the object to which the holder failed to draw attention, the holder remains liable (Article 152(2) OZ) and the person to whom the object was entrusted has the right to recoup the entire sum of compensation paid from the holder (Article 152(3) OZ).

A holder who entrusts a dangerous object to a person who is not capable of handling it or who is not entitled to do so is liable for damage originating from that object (Article 152(4) OZ).

The holder is exempt from liability if he or she proves that the damage arose from another cause, which could not have been foreseen, avoided or averted (Article 153(1) OZ). The holder of an object is also exempt from liability if he or she proves that the damage occurred exclusively because of the action of the injured party or a third person, which could not have been foreseen and the consequences of which could not be avoided or eliminated (Article 153(2) OZ). But the holder is only partly exempt from liability if and to the extent that the injured party contributed to the occurrence of the damage (Article 153(3) OZ).

If a third person contributed to the occurrence of the damage such person is jointly and severally liable therefor to the injured party together with the holder of the object (Article 153(4) OZ).

#### **(iv) Liability for the keeping of animals**

Article 158 of the Slovenian [Obligations Code](#) (OZ) ([EN version](#)) provides that the holder of a dangerous animal is liable for damage inflicted and the holder of a domestic animal is liable for damage inflicted by that animal, unless it is shown that the holder exercised the necessary care and supervision. Liability for damage caused by dangerous animals is therefore strict (Article 131(2) OZ) while liability for damage caused by domestic animals is based on fault (Article 131(1) OZ).

According to Slovenian case-law, dangerous animals are those where normal control is not sufficient to ensure the adequate safety of people or property. Domestic animals can also be considered to be dangerous.

#### **(v) Vicarious liability (parent, teacher, employer etc.)**

Article 147(1) of the Slovenian [Obligations Code \(EN version\)](#) provides that the legal or natural person for whom an employee was working at the time when the damage occurred is liable for damage caused to a third person by the employee during or in connection with his or her employment, unless the legal or natural person proves that the employee acted as was necessary under the given circumstances.

Parents are liable for damage inflicted by their child on another until the child reaches the age of seven, irrespective of culpability (Article 141(1) OZ). However, such parents are not liable if:

- (a) there are grounds for the exclusion of liability according to the rules on liability, irrespective of culpability (Article 141(2) OZ); or
- (b) the damage occurred while the child was entrusted to be supervised by another and that person was liable (Article 141(3) OZ).

Parents of a child who is aged over seven are liable for damage inflicted by their child on another, unless it is shown that the damage occurred through no fault (Article 141(4) OZ). If in addition to the parents a child is liable for damage, they are jointly and severally liable (Article 143 OZ).

The guardian, school or other institution responsible for the supervision of a minor is liable for damage inflicted by a minor while under their supervision, unless it is shown that the supervision was conducted with due care or that the damage would have occurred even under careful supervision (Article 144(1) OZ).

According to so-called 'special' parental liability, parents are liable for damage inflicted on another by their child if the supervision is not the responsibility of the parents but another person and the damage occurred due to the poor upbringing of the minor or the poor example or bad habits set by the parents, or if the damage can otherwise be attributed to their culpability (Article 145(1) OZ). If the person responsible for supervision in such a case must pay compensation to the injured party, that person may recoup that amount from the parents (Article 145(2) OZ).

A person who, in accordance with law, a judicial ruling or a contract, is obliged to supervise a person who, on the basis of their mental capacity or for any other reason, is not capable of accounting for his or her actions, is liable for any damage inflicted by that person. Such a supervisor may be released from liability if it is shown that he or she complied with the requirements of careful supervision or that the damage would have occurred even if he or she had done so (Article 141 OZ).

Just liability:

- (1) If the damage was inflicted by a person who is not liable and compensation cannot be obtained from the liable supervisor, the court may order the perpetrator to compensate all or part of the damage if justice demands, particularly in light of the financial situations of the perpetrator and the victim (Article 146(1) OZ).
- (2) If the damage was inflicted by a minor capable of accounting for his or her actions, who is not in funds the court may, if justice demands, particularly in light of the financial situations of the parents and the victim, order the parents to compensate all or part of the damage, even if they are not liable (Article 146(2) OZ).

Author and date of completion: **Katja PIRŠIČ.**



## XVII Spain: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

A Royal Decree of 23 December 1998 ([\*Real Decreto 2822/1998\*](#), de 23 de diciembre, por el que se aprueba el Reglamento General de Vehículos) contains provisions on temporary authorisations for circulation on the road and, in particular under Article 47 of the Royal Decree, for 'extraordinary research tests or trials carried out by producers, car-bodymakers and official laboratories'. This Article has been implemented by means of a circular of the Spanish Directorate-General for Traffic of 13 November 2015 ([\*Instrucción 15/V-113\*](#) de la Dirección General de Tráfico), which authorises, under specific requirements, the trial and testing of autonomous vehicles on public roads. Under the Act, an autonomous vehicle is defined as any vehicle powered by an engine and functioning without the active control or supervision of a driver (whether or not such technology is activated). It also distinguishes between the autonomous mode, where the autonomous technology is active, and the regular mode, where the vehicle is being driven normally. The driver is responsible at all times for driving and handling the vehicle and should be able to take back control of the vehicle at any moment, be it from the vehicle or while driving it remotely. Additionally, the owner of the vehicle is required to have an insurance covering the limit value of the mandatory insurance for motor vehicles and civil liability for any damage caused to individuals and property during the performance of trials. Moreover, the holders of the authorisation are responsible for ensuring that the vehicle complies with all the technical characteristics for circulation on the road and all minimum requirements established in the circular, such as an emergency disconnection feature and an override of the autonomous system, which must be independent from each other and from the algorithms for autonomous driving and must always have priority over autonomous driving actions.

A Royal Decree of 15 December 2017 ([\*Real Decreto 1036/2017\*](#), de 15 de diciembre, por el que se regula la utilización civil de las aeronaves pilotadas por control remoto, y se modifican el Real Decreto 552/2014, de 27 de junio, por el que se desarrolla el Reglamento del aire y disposiciones operativas comunes para los servicios y procedimientos de navegación aérea y el Real Decreto 57/2002, de 18 de enero, por el que se aprueba el Reglamento de Circulación Aérea) establishes specific rules which apply to drones that perform aerial 'specialised operations' within the meaning of Union law (such as agriculture, construction, photography, surveying, observation and patrol, aerial advertisement, maintenance check flight) or experimental flights (e.g. for research programmes). Article 5(a) of the Royal Decree defines a RPA as an unmanned aircraft remotely operated by a natural or legal person. Article 4 requires that the design and characteristics of the RPA must allow the pilot to intervene and control the flight of the aircraft, making him or her responsible for detecting and avoiding collisions and other dangers. Additionally, under Article 26(c) of the Royal Decree, it is mandatory for the pilot to hold an insurance or financial guarantee covering third-party civil liability for damage caused during aerial specialised operations or experimental flights.



**(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

At the time of writing, there are not any legislative proposals on non-contractual liability for damage caused by artificial intelligence. However, the People's Party in the Congress has submitted the following non-legislative proposals in relation with AI for plenary debate:

- a non-legislative proposal to promote and develop autonomous vehicles ([Proposición no de Ley 162/000451](#), *presentada el 10 de octubre de 2017 ante el Pleno por el Grupo Parlamentario Popular en el Congreso, sobre el impulso y desarrollo del vehículo autónomo*). This proposal was approved by plenary (see [TA](#)).
- a non-legislative proposal on the development of a national strategy to promote artificial intelligence and its uptake in the decision-making process ([Proposición no de Ley 162/000705](#), *presentada el 26 de junio de 2018 ante el Pleno por el Grupo Parlamentario Popular en el Congreso, sobre el desarrollo de una estrategia nacional para impulsar la inteligencia artificial y su incorporación en la toma de decisiones*). The proposal has expired.
- a non-legislative proposal to promote artificial intelligence applied to law ([Proposición no de Ley 162/000980](#), *presentada el 5 de febrero de 2019 ante el Pleno por el Grupo Parlamentario Popular en el Congreso, relativa al impulso de la Inteligencia Artificial aplicada al Derecho*). The proposal has expired.

**(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

The Interministerial Working Group on Artificial Intelligence, coordinated by the Spanish Ministry of Science and Innovation, published in 2019 a document entitled [Estrategia Española de I+D+I en Inteligencia Artificial](#). This national strategy was developed in the framework of the Commission Coordinated Plan on Artificial Intelligence (COM(2018)0795) and establishes a series of priorities that are meant to be part of the Spanish Strategy on Science, Technology and Innovation 2021-2027. Given the interdisciplinary character of AI and its capacity to accelerate global socioeconomic solutions, the national strategy includes a recommendation to take advantage of AI as a leverage to reach the objectives set in the Agenda 2030. A map of the technological capacity of AI ([Mapa de capacidades de tecnologías de IA](#)) has been drawn as a tool to recognise priority areas for public and private investment.

**2. GENERAL RULES****(a) What are the general rules on fault-based liability?**

There is consensus in Spanish case-law and academia that the principle underlying the rules on civil liability for damage is *restitutio in integrum*, so that the scope of compensation covers both material and non-material damage, as well as compensation for actual loss and loss of profits.

The Spanish [Civil Code](#) (CC) contains general rules on civil liability for damage, including on fault-based liability. However, in the case of death or personal injury, and in the case of damage to property, provisions of the [Criminal Code](#) on civil liability might apply since, according to Article 1092, 'civil obligations arising from crimes or misdemeanours shall be governed by the provisions of the Criminal Code.' (Articles 109 to 110). Article 110 of the Criminal Code lists the following elements as included in civil liability: 'restitution, repairing the damage and compensation for material and moral damage'.

On the other hand, civil obligations which arise from acts or omissions in which there has been fault or negligence, for which there is no criminal penalty, are subject to the provisions of chapter II of Title XVI of the Civil Code ("on obligations which are entered into without an agreement" or tort law). According to Article 1902 CC, "The person who, as a result of an action or omission, causes damage to another person by his or her fault or negligence shall be obliged to repair the damage caused." Since there are no specific rules in that chapter on the scope of that obligation to make good the damage, relevant provisions laid down in the Civil Code for contractual liability apply *mutatis mutandis*.

Under contract law, where there is an agreement (between a creditor and a debtor linked by an obligation), Article 1101 CC would apply, according to which "Persons who, in the performance of their obligations, incur in wilful misconduct, negligence or default, and those who in any way contravene the content of those obligations, shall be liable to pay damages." The damage covered comprises not just the value of the actual loss suffered, but also loss of profits (Article 1106 CC). The damage for which the debtor in good faith is liable is the damage which is foreseen or which could have been foreseen at the time of contracting the obligation and which is a necessary consequence of his or her failure to perform. In the event of wilful misconduct, the debtor is liable for all the damage which is known to have arisen from the failure to perform the obligation (Article 1107 CC).

Under tort law, when it comes to establishing causation between the act or omission referred to in Article 1902 CC and the damage caused in order to determine the amount of damages that the tortfeasor is obliged to pay, there is no agreement in Spanish legal literature whether the criteria laid down in Article 1107 CC in the framework of contractual liability apply and to which extent the influence of fault (*culpa*) or wilful misconduct (*dolo*) has to be taken into account. Some authors hold that in tort law, since civil liability solely arises from the obligation to repair the damage, in order to fix the amount of compensation only the damage caused is relevant regardless of the actual influence of fault or wilful misconduct, and that the obligation to repair comprises both the value of the actual loss suffered and the loss of profits. However, others hold that criteria laid down in Article 1107 CC would apply, namely first, the distinction between fault or wilful misconduct and, second, in the case of fault, the foreseeability of the damage, or, in the case of wilful misconduct, the awareness of the damage. In any case, it remains unclear whether to take as an indicator of fault the foreseeability of damage since Article 1107 CC expressly refers to contracts (foreseeability at the time of contracting the obligation). Article 1107 CC could nonetheless apply with regard to objective criteria such as damage established as a necessary consequence of the act or omission of the tortfeasor, as well as damage known to have arisen from that act or omission.

Liability arising from negligence is enforceable in the performance of all kinds of obligations but may be moderated by the courts on a case-by-case basis (Article 1103 CC).

General rules on the burden of proof are laid down in Article 217 of the [Civil Procedure Code](#) (CPC). They are based on the principle *iuxta allegata et probata* and apply where there is any doubt about the relevant facts that support the order sought, unless other specific rules on presumptions *iuris tantum* apply (see Article 385 CPC on legal presumptions and Article 386 CPC on judicial presumptions).

Article 1903 CC establishes a presumption of a lack of 'diligence of an orderly *paterfamilias*' in the cases of vicarious liability covered by that article (see also point (b)(v) below).

Joint and several liability needs to be established (Article 1137 CC), whereas several liability is presumed (Article 1138 CC).

<b>(b) No-fault liability (strict liability/risk-based liability)</b>
<b>(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?</b>
<p>In the Spanish <a href="#">Civil Code</a> (CC) there is no general provision on 'strict liability for things', but legal academics mention Articles 1905 to 1910 CC as covering a number of events which give rise to strict liability (<i>responsabilidad objetiva</i>) regardless of fault, or to a so-called 'quasi-strict liability' (<i>responsabilidad cuasi-objetiva</i>), since a number of cases of exemption of liability are provided for. The following provisions provide for strict liability with regard to certain things (such as when a building collapses, a tree falls, a thing is thrown or falls, or a machine explodes). Some authors consider certain activities referred to in Article 1908 CC to be dangerous activities (e.g., the explosion of machines, the combustion of explosive substances, the escape of excessive fumes or spillage), in particular when due to industrial activities.</p> <p>According to Article 1907 CC, the owner of a building is liable for damage resulting from the collapse of all or part thereof, if such a collapse results from a lack of necessary repairs.</p> <p>According to Article 1908 CC, owners are strictly liable for damage caused by the following:</p> <ol style="list-style-type: none"> <li>(1) the explosion of machines not taken care of with due diligence, and the combustion of explosive substances located in an unsafe and unsuitable place;</li> <li>(2) the escape of excessive fumes that are harmful to persons or property;</li> <li>(3) the falling of trees situated on rights of way, unless resulting from <i>force majeure</i>;</li> <li>(4) by the effluence from sewers or stores of infectious material, which are made without observing precautions appropriate to their location.</li> </ol> <p>According to Article 1909 CC, if the damage referred to in the two preceding Articles results from a construction defect, the victim may only claim against the architect or, as the case may be, the builder.</p> <p>Article 335 CC classifies movable property (<i>bienes muebles</i>) as any property capable of appropriation not included in the chapter on immovable property and, generally, all property which may be transported from one point to another without undermining the immovable object to which it is joined.</p>
<b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b>
<p>A Royal Decree of 29 Octubre 2004 (<a href="#">Real Decreto Legislativo 8/2004</a>, 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) contains provisions establishing the liability regime for engine powered vehicles. Because of the risk inherent to driving such vehicles, under Article 1(1) of the Royal Decree, the driver is liable for damage caused to individuals and property. This legal act implements Directive 2009/103/EC relating to insurance against civil liability in respect of the use of motor vehicles. The driver's liability for damage caused to individuals will be waived only if he or she proves that the damage was caused exclusively by the victim or due to <i>force majeure</i> unrelated to the driving or functioning of the vehicle. For damage caused to property, the driver is liable in accordance with ordinary civil and criminal law. Additionally, Article 2(1) of the Decree required owner of the vehicle to hold an insurance covering civil liability referred to in Article 1 of the Decree to the limit value of the mandatory insurance.</p>

**(iii) Dangerous activities**

In the Spanish [Civil Code](#) (CC) there is no general provision on strict liability for dangerous activities, but some authors consider certain activities referred to in Article 1908 CC to be dangerous activities (e.g. the explosion of machines, the combustion of explosive substances and the escape of excessive fumes or spillage), in particular when due to industrial activities (see also point (i) above).

Article 1906 CC provides for strict liability for hunting and is a well-established example of a dangerous activity. According to that article the owner of a property used for the purpose of hunting is liable for the damage caused by game in neighbouring properties, when he or she has not done everything necessary to prevent the multiplication of the game or has hindered measures taken by the owners of the neighbouring properties to pursue the game. Liability for damage caused by hunting is specifically regulated by the Law on hunting ([Ley 1/1970, de 4 de abril, de caza](#)), in particular by Article 33 thereof. The right to hunt is subject to obtaining a licence and to taking out a mandatory insurance.

**(iv) Liability for the keeping of animals**

Article 1905 of the Spanish [Civil Code](#) (CC) provides that the keeper or person who avails himself of an animal, is strictly liable for any damage caused by the animal, even if it escaped or got lost, except where damage results from *force majeure* or from the negligence on the part of the victim.

There is a specific law on the keeping of potentially dangerous animals ([Ley 50/1999, de 23 de diciembre, sobre el Régimen Jurídico de la Tenencia de Animales Potencialmente Peligrosos](#)). Potentially dangerous animals are defined as ‘those that, belonging to wild fauna, being used as pets, or companion animals, regardless of their aggressiveness, belong to species or breeds that have the capacity to cause death or injury to people or other animals and damage to things.’. The keeping of such a potentially dangerous animal is subject to obtaining a permit that will be granted only if certain requirements are complied with, such as taking out third-party civil liability insurance. The owners, breeders or holders of the potentially dangerous animals are required to identify and register the animals in the relevant municipality registry.

**(v) Vicarious liability (parent, teacher, employer etc.)**

According to Article 1903 of the Spanish [Civil Code](#) (CC) on vicarious liability, the principal is liable for damage caused by the agent in the following circumstances:

- parents are liable for damage caused by children in their care;
- guardians are liable for damage caused by minors or incapacitated persons who are under their authority and who live with them;
- likewise, the owners or managers of an establishment or an undertaking are liable for damage caused by their employees, in the service in which they are employed or in the performance of their duties;
- proprietors of an educational body other than a centre for higher education are liable for the damage caused by their students who are minors while they are in the control or supervision of the body's teaching staff, or during school, extracurricular or complementary activities.

Article 1904 CC provides that:

- persons liable for the damage caused by their employees may recover damages from tortfeasors; and
- the owners of educational bodies other than centres for higher education may recoup damages from a teacher who caused damage by wilful misconduct or gross negligence in the exercise of his or her duties.

Author and date of completion: **Raquel VALLS and Fernán RODRÍGUEZ.**

## XVIII Sweden: non-contractual liability and artificial intelligence

1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES
<p><b>(a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>At the time of writing, there are no specific rules on non-contractual liability for damage caused by artificial intelligence (AI). Sweden particularly encourages legal development in the AI area in Union law<sup>1</sup>. In addition, the Swedish government is of the opinion that it is counterproductive to adopt new laws concerning AI when the area is changing so rapidly and proposes other normative tools.<sup>2</sup></p> <p><b>Self-driving vehicles</b></p> <p>Provisions on Self-driving vehicles are contained in Regulation on Trials with Self-driving Vehicles (<i>Förordning (2017:309) om försöksverksamhet med självkörande fordon</i>)</p> <p>As defined in §1 of the Regulation, a self-driving vehicle is a vehicle that has a wholly or partly automated driving system. Automated vehicles require a licence for testing where a “driver” must be present inside the car or outside, and the person applying for a testing licence must show that the testing poses neither a security risk in traffic to passengers and the surroundings nor any substantial disturbance or nuisance to the surroundings. There is no definition of driver.</p> <p>According to §6 of the Regulation a natural person must be named as the person responsible for the car. In addition, strict liability insurance is mandatory for all motor-driven vehicles on Swedish roads (see also point 2(b)(ii) below)<sup>3</sup>.</p>
<p><b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b></p> <p>At the time of writing, there are no legislative proposals on non-contractual liability for damage caused by artificial intelligence.</p> <p>However, a legislative proposal for self-driving cars is being developed (SOU:2018:16), in which rules are proposed to facilitate tests involving higher levels of automated driving, to define drivers that may drive inside or outside the vehicle, and to introduce vehicle owner responsibility.</p>

<sup>1</sup> Swedish Government Offices, 2017/18:FPM96, [Meddelande om artificiell intelligens för Europa](#) (Message Concerning Artificial Intelligence for Europe) (2017) 1,3,5.

<sup>2</sup> Ibid., 6-7.

<sup>3</sup> Swedish Transport Agency, TSFS 2017:92, [Transportstyrelsens föreskrifter och allmänna råd om tillstånd att bedriva försök med självkörande fordon](#) 1 §§; Official Reports of the Swedish Government, SOU 2016:18, [Vägen till självkörande fordon](#) (The road to self-driving vehicles).

In addition, a legislative proposal to ban lethal autonomous weapons systems (LAWS) on grounds, inter alia, that robots are unable to distinguish between the enemy and innocent individuals was rejected by the Swedish parliament<sup>4</sup>.

**(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?**

The Swedish government has adopted a national strategy on AI with the aim of making Sweden a world leader in seizing opportunities in the new AI-technology area. This includes establishing a legal framework (perhaps mainly contributing to a Union law framework) and considering ethical issues concerning AI (with regard to which rules on civil liability would have to be included)<sup>5</sup>. Universities and organisations are channelling funds into and conducting research on various AI projects<sup>6</sup>. For example, Örebro University is part of a project aiming to create a legal framework and method to apply when AI is used in various capacities, as well as a civil liability regime connected to AI and the possible future roles of AI in society<sup>7</sup>.

## 2. GENERAL RULES

**(a) What are the general rules on fault-based liability?**

A person who intentionally (*dolus*) or negligently (the general *culpa* rule<sup>8</sup>) causes personal injury or damage to property must compensate that damage (2 chapter, §1 of the Swedish tort law, *Skadeståndslag* (1972:207)). This applies to acts and omissions<sup>9</sup>. In the case of an accident, a person is not liable unless the law provides for strict liability in those circumstances (the *casus* rule)<sup>10</sup>. Self-learning AI applications could act in an unpredictable manner to the extent that they may not be in the contemplation or reasonable expectation of the owner so there may be no *culpa*<sup>11</sup> and thus no-one responsible for the civil liability of the robot.

<sup>4</sup> Parliamentary Proposal 2017/18:2655 [Förbud autonoma dödliga vapensystem och reglera utvecklingen av artificiell intelligens; Utrikesutskottets bet 2017/18:UU11](#).

<sup>5</sup> Government Offices of Sweden, [National Approach to Artificial Intelligence](#) (2018) 4-5, 8, 10.

<sup>6</sup> Swedish Parliament, [Parliamentary debate](#) (National investments in AI) Prot. 2017/18:47 (207-12-11) 28.

<sup>7</sup> Örebro University, [Nytt forskningsprojekt: Så ska lagen gälla även för AI](#) (New Research project: How law will be applicable also for AI) (2020-02-14).

<sup>8</sup> Persson et. al., Svensk Juridik (2018) Wolters Kluwer Sverige AB 255.

<sup>9</sup> A slipped on a patch of ice at a gas station and got injured. The Swedish High Court ruled that the gas station was responsible to make sure the area was free from ice patches to slip on. Not sanding (passive action) the ice patch could be grounds for liability; NJA 1998 s.893: The Swedish compensation model is reparative; 2 chap. 1 § Tort Liability Act [*Skadeståndslag* (1972:207)]; Persson et.al., (2018) 252. The SkL is dispositive and the regulations in SkL are primarily used in situations outside contractual agreements (but could of course be used in contractual agreements as well). Persson et. al., (2018) 252.

<sup>10</sup> Persson et. al., (2018) 255.

<sup>11</sup> In the determination of *culpa*, it is appropriate to question if it was reasonable for the owner of the AI (hypothetical) to believe that a certain chain of events or action were likely to take place because of the AI. If there is no common practice in the particular area of AI, the court may freely determine whether the defendant acted with *culpa*. NJA 1981 s. 683 (free determination of *culpa* (see court's ground for decision); Jan Hellner; Marcus Radetzki, *Skadeståndsrätt* (2014) Norstedts Juridik p. 126.

The burden of proof is on the claimant and the claimant must also show a reasonable causal link<sup>12</sup>. The burden of proof is shifted if the defendant wants to disprove one of the claimant's claims.<sup>13</sup> In some cases, the burden of proof is on the party that can prove its claim more easily than the other party<sup>14</sup>. The standard of proof is generally "established" or "found" ("*styrkt*" eller "*visat*"), according to Swedish case law (NJA)- NJA 1993 s.764<sup>15</sup>. However, it may be lower in some cases. For example, where the court finds that alternative A is more probable than alternative B, NJA 2014 s. 272<sup>16</sup>. In addition, if the chances of presenting evidence in a specific area or situation are generally difficult, the standard of proof is generally lower. A lower standard also applies if the damage is great (chapter 35, §5 of the Code of Judicial Procedure, *Rättegångsbalk* (RB) (1942:740)).

There are four groups of damage: personal injury, other types of damage to the person, damage to property<sup>17</sup> (chapter 2, §3 SkL) and financial damage<sup>18</sup> (with no correlation to physical injury or damage to property) (chapter 2, §2 SkL) (def: chapter 1, §2 SkL<sup>19</sup>).

If more than one person caused damage or injury, all are liable depending on their share of responsibility. If it is not possible to determine each perpetrator's share of responsibility, joint and several liability applies and the victim may claim against any of the perpetrators of the damage (chapter 6, §4 SkL)<sup>20</sup>.

<sup>12</sup> NJA 2014 s. 272, (T 3420-12) point. 42 ([general principle](#)) what did the defendant could reasonably expect would be the consequences of the act or omission. Persson et. al., (2018) 252-254; Preparatory work, Prop. 1972:5, 22.

<sup>13</sup> NJA 2002 s. 178: in a case of a disputed copyright infringement, the claimant proved that the subject of the action was copied and it was for the defendant to prove that it was created independently and not copied.

<sup>14</sup> RH 1996:116: in a contractual dispute, the defendant disputed the claim that there had been an agreement to fix prices. It was for the court to establish the more probable alternative.

<sup>15</sup> NJA 1993 s.764: The case concerned the level of standard of proof in a case concerning compensation for water damage. The burden of proof was on the insurers who claimed that the damage was caused by water seeping out of the municipal wastewater network, while the municipality counter-claimed that the damage occurred in some other way.

<sup>16</sup> The test of the causal link between *culpa* and damage sometimes needs to be hypothetical and include the assessment of passive actions. Sometimes it is only possible to assume a possible chain of events. In those cases, the court needs to establish a reasonable chain of events. NJA 2014 s. 272, point 41, 42, 44, 45, 46, 47; Lars Heuman, *Bevisbörda och beviskrav i tvistemål* (2005) p. 381.

<sup>17</sup> Distress/mental health etc.

<sup>18</sup> For example loss of profits.

<sup>19</sup> Persson et. al. (2018) 253-254. In principle, an AI programmer can be held liable for a fault in programming resulting in damage, although is not very likely.

<sup>20</sup> Persson et. al. (2018) 264.



<b>(b) No-fault liability (strict liability/risk-based liability)</b>
<b>(i) Is there strict liability for 'things'? If so, does it cover intangible things (such as software/AI)?</b>
<p>The general rule in Swedish tort law, is fault-based liability. Strict liability for certain things is provided for as an exception to the general rule in specific provisions that are mentioned below and are most often connected with dangerous activities, so there is no strict liability for most 'things'. However, contractual agreements often include clauses on strict liability. Some of the movables connected to dangerous activities have intangible 'things' (such as software) incorporated in them and are then generally covered by the strict liability. Examples of specific provisions of strict liability include: the Motor Traffic Damage Act (<i>Trafikskadelagen</i> (1975:1410): the owner of a car is liable for damage and injuries caused to people and other cars), the Law concerning Responsibility for Damages from Air Traffic (<i>Lag (1922:382) angående ansvarighet för skada i följd av luftfart</i>: the owner of an aircraft is liable for damage on the ground), and the Law on the Supervision of Cats and Dogs (<i>lagen (2007:1150) om tillsyn över hundar och katter</i>: the owner of a cat or dog is liable for damage and injuries caused by the animal). See also points (b)(ii), (iii) and (iv) below.</p>
<b>(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.</b>
<p>In principle, the owners of all cars and most motor driven vehicles that are actively used on Swedish roads must hold a road traffic insurance (strict liability coverage of third-party claims), which covers damage and injuries caused to a person or another car (Trafikförsäkringsplikt) in accordance with §1, paragraph 1, §2 of the Motor Traffic Damage Act (<i>Trafikskadelagen</i> (1975:1410)). The penalty for not holding such insurance is a daily obligatory motor insurance charge or fine and in the case of an accident the Swedish motor insurers are strictly liable for any damage (§§34 and 35 of the Motor Traffic Damage Act). Where the car is not registered in Sweden, a fine is imposed (§36<sup>21</sup>).</p>
<b>(iii) Dangerous activities</b>
<p>The general rule in the Swedish tort law is fault-based liability. According to §1 of the Law concerning Responsibility for Damages from Air Traffic (<i>Lag (1922:382) angående ansvarighet för skada i följd av luftfart</i>), the owners of aircraft and helicopters are strictly liable for damages to persons and property on the ground (not the passengers)<sup>22</sup>, even if the owner did not cause the damage.</p>

<sup>21</sup> [Swedish Motor Insurers](#); Erland Strömbäck, [Vad ska trafikförsäkringen ersätta](#) Nordisk Försäkringstidskrift (2014) No. 04; TSFS 2017:92, 'Transportstyrelsens föreskrifter och allmänna råd om tillstånd att bedriva försök med självkörande fordon' §S1 [Trafikskadelagen](#).

Persson et. al. (2018) 261; NJA 1985 s. 561: The claimant developed a hearing problem after being too close to two fighter jets. The first instance court concluded that the state (the owner of the fighter jets) was responsible for the damage.

**(iv) Liability for the keeping of animals**

There are no specific rules in Sweden that govern non-contractual liability for damage caused by animals other than cats and dogs.

§19 of the Law on Supervision of Cats and Dogs (*lagen (2007:1150) om tillsyn över hundar och katter*)<sup>23</sup> provides that dog owners are strictly liable for damage caused by their dogs. However, the liability of cat owners for damage caused by their cats is fault-based. This is because dogs are considered to be capable of causing more serious injuries than cats.

Damage caused by police and military dogs while in active service for the police or the armed forces, where the victim's behaviour justified the conduct that caused the damage, is not covered by the strict liability rule.

If a third party provokes a dog to bite, the owner remains liable. However, if a third party is found to be responsible for provoking the attack, the amount payable in damages can be adjusted by the court, in accordance with chapter 6, §1 of the Swedish tort law, *Skadeståndslag*.

If the owner transfers the supervision of the dog to a third party, such as a dog hotel, strict liability shifts to that third party.

**(v) Vicarious liability (parent, teacher, employer etc.)**

Vicarious liability provides for the liability of an employer for damage caused by an employee to whom the employer has delegated tasks in the context of an employment relationship (chapter 3, § 1 of the Swedish tort law, *Skadeståndslag* (SkL))<sup>24</sup>. The liability of the employer is strict. However, the employee could be subject to civil liability in certain circumstances, so the liability of the employer is not completely strict (chapter 4, §1 SkL). Generally there is *culpa* on the part of the employee. In accordance with chapter 3, §1 SkL, an employer is liable where an employee in its service, intentionally or by negligence, causes personal injury or other damage to the person, damage to property or financial damage (as in chapter 2, §3 SkL) or through a crime seriously violates a person or an object<sup>25</sup>. What counts as negligence or fault varies from profession to profession. Actions or omissions by a medical doctor can be considered to be more serious than those of a cashier for example<sup>26</sup>.

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<sup>23</sup> NJA 1947 s. 594: The case concerned a bicycle collision with a dog. The owner of the dog was found to be liable for the cyclist's injuries. NJA 1990 s. 80. The case concerned the impregnation of a female dog. The male dog's owner was held to be liable although the male dog acted in a predictable manner.

<sup>24</sup> Prop. 1972:5 p. 24; Persson et al. (2018) 257.

<sup>25</sup> The Swedish High Court has interpreted what is to be expected in the ordinary course of exercising a profession extensively.

<sup>26</sup> NJA 1959 s. 674: A dentist administered a local anaesthetic negligently, paralysing the patient for a lengthy period. The High Court did not find the dentist liable, holding that the mistake was one that could be expected in the ordinary course of a dentist's work. NJA 1974 s. 99: The High Court argued that two X-ray medical doctors had missed what they should reasonably have noticed (broken bones) given their expertise, finding the doctors to have been negligent.

## XIX United Kingdom: non-contractual liability and artificial intelligence

### 1. SPECIFIC RULES, LEGISLATIVE PROPOSALS OR STRATEGIES

#### (a) Are there any specific rules on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?

##### Introduction

The Commission's [AI Watch](#) monitors the development, uptake and impact of artificial intelligence in Europe.

There is no general regulatory framework for civil liability for emerging technologies in the UK.

The [Automated and Electric Vehicles Act 2018](#) extends the compulsory insurance requirements for motor vehicles provided for in the [Road Traffic Act 1988](#) to automated vehicles, and makes provision for accidents resulting from unauthorised software alterations or a failure to update software (section 4), without changing the general law on civil liability.

"Automated vehicles" are defined in section 1 as vehicles that "are in the Secretary of State's opinion designed or adapted to be capable, in at least some circumstances or situations, of safely driving themselves, and ... may lawfully be used when driving themselves, in at least some circumstances or situations, on roads or other public places in Great Britain." In other words, the classification of automated vehicles is delegated to the minister responsible.

A [Norton Rose Fulbright paper](#) of July 2017 provides a good summary of the issues of liability relating to autonomous vehicles.

The operation of drones is regulated by the [Civil Aviation Act 1982](#), and the [Air Navigation Order 2016](#), as amended by the [Air Navigation \(Amendment\) Order 2018](#).

Section 23 exempts "small unmanned aircraft" (up to 20 kg) from the regulations and Articles 94, 94A-94G and 95 regulate small unmanned aircraft.

Other aircraft are, subject to a special exemption by the Civil Aviation Authority, to the general regulations. Section 76 of the Civil Aviation Act 1982 provides for liability of aircraft in respect of trespass, nuisance and surface damage and for the strict liability of the owner of the aircraft for "material loss or damage is caused to any person or property on land or water by, or by a person in, or an article, animal or person falling from, an aircraft while in flight, taking off or landing", unless the victim was contributorily negligent. Section 241 of the Air Navigation Order 2016 provides that, "[a] person must not recklessly or negligently cause or permit an aircraft to endanger any person or property."

[Guidance by Civil Aviation Authority on UAS operation in UK airspace - Guidance and Policy \(Cap 722\)](#) is "intended to assist those who are involved with the development, manufacture or operation of UAS to identify the route to follow in order that the appropriate operational authorisation(s) may be obtained and to ensure that the required standards and practices are met."

Unmanned aircraft (UA) are defined as “any aircraft operating or designed to operate autonomously or to be piloted remotely without a pilot on board.” and unmanned aircraft system (UAS) is defined as “an unmanned aircraft and the equipment to control it remotely.”
<b>(b) Are there any legislative proposals on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
At the time of writing, there are no specific legislative proposals on non-contractual liability for damage caused by artificial intelligence (see also point (c) below).
<a href="#">However, the Air Traffic Management and Unmanned Aircraft Bill</a> proposes to confer police powers relating to unmanned aircraft and requirements in Air Navigation Orders and to provide for fixed penalties for certain offences relating to unmanned aircraft. The public consultation preceding the bill can be found <a href="#">here</a> .
Moreover, a Law Commission consultation ( <a href="#">Automated Vehicles: Consultation Paper 2 on Passenger Services and Public Transport</a> ) looked at civil liability, in particular in the context of the <a href="#">Automated and Electric Vehicles Act 2018</a> and concluded that the law was satisfactory as it stands (see point 1.13 of the Consultation Paper). The next review was to take place in April 2020.
<b>(c) Are there any national strategies or policy initiatives on artificial intelligence, in particular on non-contractual liability for damage caused by artificial intelligence?</b>
<p>Following publication of its <a href="#">Industrial Strategy White Paper</a> in November 2017, the UK Government (UKG) launched an <a href="#">AI Sector Deal</a> in 2018, most recently updated on <a href="#">21 May 2019</a>, in the context of which it set up the <a href="#">Office for Artificial Intelligence</a> within the Government Department for Digital, Culture, Media and Sport (DCMS), the <a href="#">Centre for Data Ethics and Innovation</a>, an “independent advisory body”, within the DCMS and the <a href="#">AI Council</a>, an independent expert committee to foster high-level dialogue and exchange of ideas between industry, academia and government and to advise the UKG.</p> <p>The <a href="#">Parliament Select Committee on Artificial Intelligence</a> recommended clarity with regard to the mitigation of risks of artificial intelligence (see Chapter 8 of its <a href="#">report</a> of April 2017). In its <a href="#">response</a> of June 2018, the Government delegated this task to the Law Commission: “We believe that artificial intelligence technologies should serve people, businesses, and sectors beneficially and, where any outcomes resulting from errors are detrimental to these groups, remedial action should be undertaken. The Office for Artificial Intelligence, Centre for Data Ethics and Innovation, and the AI Council will take these concerns into consideration and, as appropriate, engage the Law Commission on best course of action” (at paragraph 95; see also point (b) above)).</p> <p>The House of Lords Select Committee on Artificial Intelligence recommended at paragraph 318 of in its <a href="#">report of 16 April 2018</a> that, “Clarity is required. We recommend that the Law Commission consider the adequacy of existing legislation to address the legal liability issues of AI and, where appropriate, recommend to Government appropriate remedies to ensure that the law is clear in this area. At the very least, this work should establish clear principles for accountability and intelligibility. This work should be completed as soon as possible.”</p>

Within the Government Department for Transport, the [Centre for Connected and Autonomous Vehicles](#) works with industry to promote the UK's industrial strategy.

## 2. GENERAL RULES

### (a) What are the general rules on fault-based liability?

Breach of duty of care: a tort is a breach of duty of care which involves (1) a relationship between the party owing the duty and the party relying on it ("proximity" or "neighbourhood"), (2) foreseeable damage, and (3) a situation "in which the court considers it fair, just and reasonable that the law should impose a duty of a given scope upon the one party for the benefit of the other" (the House of Lords in [Caparo Industries plc v. Dickman \(1990\)](#)).

Standard of care: to determine whether there has been a breach of a duty of care, the courts assess the defendant's behaviour against that of a prudent person or a reasonably skilled amateur. The standard varies depending on the context. Thus, professionals are held to the standard appropriate to their profession: medical professionals are held to the standard ([Montgomery v Lanarkshire Health Board \(2015\)](#)); junior doctors are held to the standard of a reasonably competent doctor of the same grade, regardless of the level of the defendant doctor's own experience ([FB v. Princess Alexandra Hospital NHS Trust \(2017\)](#)); a learner driver is held to the standard of a competent and experienced driver ([Nettleship v. Weston \(1987\)](#)); a driver who causes harm while suffering a hypoglycaemic episode is held to the same standard ([Broome v. Perkins \(1987\)](#)); but a child is held to the standard of a reasonable and "ordinarily prudent" child of the same age, not to the standard of an adult ([Mullin v. Richards \(1998\)](#)).

Causation: the claimant must show, [on the balance of probabilities](#) (more likely than not) that the defendant caused the harm; in other words, that, *but for* the defendant's action, the plaintiff would not have suffered the loss (the *but for* test).

However, in a number of cases ([McGhee v. National Coal Board \(1972\)](#), [Fairchild v. Glenhaven Funeral Services \(2002\)](#) and [Chester v. Afshar \(2004\)](#)), in which the claimants would not have succeeded in their actions had the court applied the *but for* test, the House of Lords did not apply the test and found in favour of the claimants on other grounds.

Reasonable foreseeability: the claimant must show that the damage was reasonably foreseeable. In [Haynes v. Harwood \(1936\)](#), the plaintiff police constable sustained injuries when stopping the defendant's runaway horse. The Court of Appeal held that the defendant had a duty of care when leaving a horse unattended on a busy street and that it was reasonably foreseeable that someone would try to stop the horse if it bolted. Moreover, the maxim [volenti non fit injuria](#) ("the victim brought the injury upon him or herself") did not apply to a police officer protecting the public.

Burden of proof: the claimant must prove that the defendant owed him or her a duty of care, that the defendant breached that duty of care and that the breach caused the claimant's injury. Although [res ipso loquitur](#) ("the thing speaks for itself") is often cited as reversing the burden of proof, it is, rather, a manner in which the claimant can discharge that burden, by inviting the court, on the basis of circumstantial evidence, to draw, on the balance of probabilities, an *inference* of negligence by the defendant ([Ng Chun Pui and Others v. Lee Chuen Tat \(1988\)](#)).

Damage covered:

damage to property, or mental or physical injury;

- loss of chance: in [Allied Maples Group Ltd. V. Simmons & Simmons \(1995\)](#), the Court of Appeal held that the claimant had to satisfy the court that he had at least a “real” or “substantial”, not merely a “speculative”, chance that a hypothetical opportunity would have arisen but for the defendant’s wrongdoing and that it was not necessary to show that the opportunity would have arisen on the balance of probabilities (a higher test).
- pure economic loss (or “commercial” loss) is not usually recoverable in tort (in contrast with contract law claims), but in [Hedley Byrne v Heller & Partners Ltd \(1964\)](#), the House of Lords found that a banker could be liable for non-contractual damages to compensate for pure economic loss arising from his negligent advice which he knew the claimant would act upon and the case established the “assumption of responsibility” doctrine, which continues to be applied only rarely.

Joint and several liability: where the concerted actions of several tortfeasors has caused a single injury or loss, the claimant can seek to recover damages in the full amount from all of them together or from one of them alone, regardless of that person’s presumed share of responsibility. In the latter case, the defendant can seek contributions from the fellow wrongdoers. See also [Fairchild v. Glenhaven Funeral Services \(2002\)](#), in which a number of employers who had caused harm to an employee in succession were held to have been jointly and severally liable.

## **(b) No-fault liability (strict liability/risk-based liability)**

### **(i) Is there strict liability for ‘things’? If so, does it cover intangible things (such as software/AI)?**

#### **Introduction**

Strict liability may arise in common law or by Statute (legislation). Parliament tends to regulate activities that give rise to a particularly high number of accidents (such as road traffic and the workplace) and those involving hazardous materials (such as nuclear power).

In particular, strict liability may arise in relation to the handling of dangerous articles, the interference with another’s enjoyment of their land, the escape of a dangerous substance onto a neighbour’s land, damage caused to a person accessing an occupier’s land, and industrial accidents.

#### **Dangerous goods**

There is a particular duty of care when handling dangerous articles, “...in the case of articles dangerous in themselves, such as loaded firearms, poisons, explosives, and other things [ejusdem generis](#) [“of the same kind”] there is a peculiar duty to take precaution imposed upon those who send forth or install such articles when it is necessarily the case that other parties will come within their proximity.” ([Dominion Natural Gas Co Ltd v Collins \(1909\)](#)).

#### **Neighbours’ liability towards each other**

The torts of private nuisance and [Rylands v. Fletcher \(1868\)](#) both concern disputes between neighbours.

Private nuisance is unreasonable interference with a person’s enjoyment of benefits in rights over land ([Hunter and Others v. Canary Warf Ltd \(1997\)](#)), or “the unreasonable use of man of his land to the detriment of his neighbour.” ([Miller v Jackson \(1977\)](#)). The controlling principles are that “(a) the reasonable user of property and (b) reciprocal regard for the interests of neighbours, reinforce an altruistic process of give and take” ([Hirose Electrical UK Ltd v. Peake Industries Ltd \(2019\)](#), at paragraph 1 of the judgment).

Strict liability in [Rylands](#), on the other hand, arises when injury caused by the escape of something from someone’s land due to an unusual use of that land.

In [Cambridge Water Company v. Eastern Counties Leather plc \(1994\)](#) and [Transco plc v. Stockport Metropolitan Borough Council \(2003\)](#), the House of Lords sought to clarify torts of nuisance and *Rylands* liability by holding *Rylands* to be a sub-species of nuisance<sup>1</sup>. Since both are torts against land, damages for personal injury are not recoverable<sup>2</sup>.

In private nuisance and *Rylands* liability the damage must be “reasonably foreseeable” for liability in damages to arise, but it is not a defence to a claim under *Rylands* that the defendant made every effort to avoid the damage from occurring.

In both cases, the House of Lords expressed a desire for Parliament, rather than the courts, to determine the activities with regard to which strict liability should arise. Legislation could more precisely identify the relevant uses of or activities on land covered and would ensure more legal certainty. The court also referred to the fact that the availability of insurance against such uses or activities was common.

### **Occupiers’ liability towards those accessing land**

- The [Occupiers Liability Act 1957](#) and the [Occupiers Liability Act 1984](#) provide that an occupier owes a duty of care to all visitors in relation to “the state of the premises or to things done or omitted to be done on them” (the 1957 Act) and a duty of care to people other than visitors in respect of dangers of which the occupier is or should be aware (the 1984 Act).
- In [Tomlinson v Congleton \(2003\)](#) the claimant had been left tetraplegic as a result of diving into an artificial lake in a country park that was run by the defendant Council. The House of Lords took a pragmatic approach and found the Council not to be liable under section 1(4) of the 1984 Act. The judges wished to stem the compensation culture and speculated that a finding in the claimant’s favour would discourage councils from providing facilities for the benefit of the public. They found that the claimant’s injuries were not due to the state of the premises and that, “[t]he pursuit of an unrestrained culture of blame and compensation has many evil consequences and one is certainly the interference with the liberty of the citizen. Of course there is some risk of accidents arising out of the *joie de vivre* of the young, but there is no reason for imposing a grey and dull safety regime on everyone”.
- Occupiers owe a concurrent duty of care at common law (not based on Statute), which is not required to arise out of the state of the premises (e.g., in [Everett v. Comojo \(UK\) Ltd](#), the Court of Appeal held that defendant nightclub owners owed the nightclub guests a duty of care to protect them against dangerous fellow guests).
- The [Countryside and Rights of Ways Act 2000](#) grants a right to roam but puts persons exercising that right on a par with trespassers under the 1984 Act, subject to further restrictions.

The [Defective Premises Act 1972](#) imposes a duty of care on those building or undertaking work in premises and landlords.

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<sup>1</sup> Paragraph 9 of *Transco*.

<sup>2</sup> Paragraph 35 of *Transco*.



**(ii) Please briefly describe the liability regime applicable to cars in your jurisdiction.**

The [Road Traffic Act 1988](#) lays down the statutory offences of dangerous, careless and inconsiderate driving of a motor vehicle and driving while unlicensed, disqualified or under the influence of alcohol or drugs. It also regulates the conduct of motor cyclists and cyclists on public highways and provides for mandatory insurance.

- Section 185 of the Act defines various types of motor vehicle as “mechanically propelled vehicle”, (see also section 141A for the definition of “motor car”)
- Section 3ZA defines a person driving without due care and attention as one whose driving “falls below what would be expected of a competent and careful driver, having regard “not only to the circumstances of which he could be expected to be aware but also to any circumstances shown to have been within the knowledge of the accused.”

The [Civil Liability Act 2018](#) limits the quantum of damages payable to victims of whiplash and other typical personal injuries resulting from road traffic accidents.

[The Automated and Electric Vehicles Act 2018](#) extends the compulsory insurance requirements for motor vehicles provided for in the [Road Traffic Act 1988](#) to automated vehicles.

**(iii) Dangerous activities**

The regulation of dangerous activities in the UK is piecemeal and must be looked at in parallel with case-law on the torts of private nuisance and [Rylands v. Fletcher \(1868\)](#) (see also point (i) above).

In [Cambridge Water Company v. Eastern Counties Leather plc \(1994\)](#) and [Transco plc v. Stockport Metropolitan Borough Council \(2003\)](#), the House of Lords sought to clarify the torts of nuisance and *Rylands* liability by holding *Rylands* to be a sub-species of nuisance<sup>3</sup>. Since both are torts against land, damages for personal injury are not recoverable<sup>4</sup>.

In *Transco*, the court referred to the fact that the availability of insurance against such uses or activities was common<sup>5</sup> and to some of the statutory provisions already regulating certain nuisances:

- Section 209 of the [Water Industry Act 1991](#) imposes civil liability on water undertakings for the escape of water.
- Section 73(6) of the [Environmental Protection Act 1990](#) provides for liability for damage caused by waste and section 79 lists statutory nuisances, including the state of premises, smoke, fumes, gases, dust, steam, smell or other effluvia, insects, artificial light, noise and animals.
- Section 7 of the [Nuclear Installations Act 1965](#) provides for the duties (strict liability) of licensees of a licensed site in the case of “nuclear occurrences”.

<sup>3</sup> Paragraph 9 of *Transco*.

<sup>4</sup> Paragraph 35 of *Transco*.

<sup>5</sup> Paragraph 46.



**(iv) Liability for the keeping of animals**

Section 2(1) of the [Animals Act 1971](#) imposes strict liability for damage caused by “an animal which belongs to a dangerous species” on the animal’s “keeper”.

Section 2(2) of the Act imposes liability for damage caused by other animals where :

- the damage is of a kind which the animal, unless restrained, was *likely to cause* or which, if caused by the animal, was *likely to be severe*;
- the likelihood of the damage or of its being severe was due to *characteristics of the animal* which are not normally found in animals of the same species or are not normally so found except at particular times or in particular circumstances; and
- those characteristics were *known to that keeper*.

The [Dangerous Dogs Act 1991](#) was introduced in the wake of a spate of violent attacks on people by particular breeds of dogs and prohibits certain breeds of dog and restricts others.

See also section 79(f) of the [Environmental Protection Act 1990](#).

Common law performs a residual function and a person in charge of an animal that causes damage may be liable in negligence, nuisance, trespass or [Rylands v. Fletcher \(1868\)](#) strict liability: in [Mirvahedy v Henley \(2003\)](#), the House of Lords found the owner of a horse which bolted, jumped over an electric fence and ran onto a dual carriageway, causing an accident, not to have been negligent at common law but to have been in breach of Article 2(2) of the Animals Act (a stricter test).

**(v) Vicarious liability (parent, teacher, employer etc.**

Liability of employers for the wrongdoings of their employees (*respondeat superior* or “let the master answer”):

The *Salmond test* defines vicarious liability as “either (a) a wrongful act authorised by the master or (b) a wrongful and unauthorised mode of doing some act authorised by the master”<sup>6</sup>.

This test has been reformulated by asking the following interconnected questions: “First, what sort of *relationship* has to exist between an individual and a defendant before the defendant can be made vicariously liable in tort for the conduct of that individual? Secondly, in what *manner* does the conduct of that individual have to be related to that relationship, in order for vicarious liability to be imposed on the defendant?”<sup>7</sup>

- a relationship “akin to that between an employer and an employee” satisfies the first question: [Cox v. Ministry of Justice \(2016\)](#);

<sup>6</sup> Quoted in [Mohamud v WM Morrison Supermarkets plc \(2016\)](#), at paragraph 25 of the judgment.

<sup>7</sup> [Cox v. Ministry of Justice \(2016\)](#), at paragraph 2 of the judgment.

- in answer to the second question, the courts have developed a “close connection” test (a close connection between the employment of the wrongdoer and the wrongdoing itself: [Mattis v. Pollock \(2003\)](#)<sup>8</sup>, [Catholic Child Welfare Society v. Institute of the Brothers of the Christian Schools \(2012\)](#), [Mohamud v WM Morrison Supermarkets plc \(2016\)](#)).

Moreover, “[w]here a case concerns circumstances which have not previously been the subject of an authoritative judicial decision, it may be valuable to stand back and consider whether the imposition of vicarious liability would be *fair, just and reasonable*.”<sup>9</sup> (emphasis added).

Finally, employers are vicariously responsible for the negligence of a supervisor who is responsible for an injury of a fellow employee (the employer’s responsibility cannot be delegated): [Wilsons & Clyde Coal Co. Ltd. v. English \(1937\)](#).

Parents are not responsible for the negligence of their children unless they are themselves negligent in the supervision of their children (negligence of the parent) or they have an employment relationship with their children (vicarious responsibility).

Author and date of completion: **Stephanie RIDLEY**

<sup>8</sup> “The stabbing of Mr Mattis represented the unfortunate, and virtual culmination of the unpleasant incident which had started within the club, and could not fairly and justly be treated in isolation from earlier events, or as a separate and distinct incident.”, at paragraph 32 of the judgment.

<sup>9</sup> Cox, at paragraph 42 of the judgment.

# Synopsis of non-material damage in national law

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## Research paper

The European Parliament's Directorate for Legislative Acts (EP lawyer-linguists) have prepared this synopsis regarding the national rules on non-material damage, annexed to the European Added Value Assessment carried out by the EPRS in the context of the legislative initiative report of the JURI committee with recommendations to the Commission on a civil liability regime for artificial intelligence (AI).

This paper presents a brief overview of the regulatory framework in relation to non-material damage in 21 Member States, with an emphasis on statutory provisions of a general character, such as the Civil Code or similar acts. The 21 contributions aim to identify different types of non-material damage (sometimes referred to as moral damage) that are regulated, and for which compensation is granted, in the Member States concerned. This includes damage suffered directly by the victim as a result of a physical or psychological injury, or of a violation of the victim's rights of privacy or enjoyment etc. and indirectly by persons close to the victim (damage by ricochet). It also includes the conditions required for such damages to be granted in court. Certain contributions also provide insight, on the basis of relevant case-law, into aspects such as burden of proof, type of evidence accepted before the court or level of compensation.

The authors have adapted their contributions to the specificities of their legal systems and, as appropriate, have emphasised particular aspects of civil law in the Member State concerned. Links to national legislation, case-law and other background material, as well as translations, are provided where possible.

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## Annex II: Synopsis of non-material damage in national law, prepared by the Directorate for Legislative Acts

### Is compensation for non-material damage provided for in national law?

#### Belgium

Under Belgian tort law, the tortfeasor is liable in damages for all the losses suffered by the victim in accordance with the principle of full compensation (Article 1382 of the Belgian Civil Code (CC) ([NL version](#)) ([FR version](#)); e.g., [Cass. 18 November 2011, no. C.09.0521.F](#)), including the loss of opportunity ([Cass. 14 December 2017, AR C.16.0296.N](#)), mitigation costs (incurred by the victim to minimise his or her loss, or to prevent additional loss) ([Cass. 22 March 1985, Pas. 1985, I, 1011](#)) and non-pecuniary loss ([Cass. 17 March 1881, Pas. 1881, I, 163](#)).

The principle of full compensation implies that damages should place the victim in the position in which he or she would have been had the tort not been committed. Save for loss caused by persons with a mental illness ([Article 1386bis CC](#)) and for loss resulting from a failure to comply with the duty to mitigate ([Cass. 7 February 1946, Pas. 1946, I, 53](#)), the judge has no power to moderate the damages. The damages can, however, be reduced in proportion to the contribution of the victim's contributory negligence ([Cass. 7 November 1990, Arr.Cass. 1990-91, 280](#)).

If it is impossible to evaluate a loss *in concreto* (such as for loss of opportunity and non-pecuniary loss), the judge can evaluate such a loss *ex aequo et bono* ([Cass. 22 November 1972, Arr.Cass. 1973, 297](#)). [Indicative Tables](#) provide guidelines for measuring such losses.

There is no express legal provision for the principle of full compensation. Moreover, no distinction is made between material (patrimonial) and non-material (moral) damage. There is no regulation of damages for non-material damage so it is for the courts to determine the rules applicable to such compensation.

The Belgian Supreme Court ([Cass. 17 March 1881, Pas. 1881, I, 163](#)) has held that the principle of full compensation applies not only to material damage but also to non-material damage, on the basis of general tort law, according to which the tortfeasor is liable in damages for all the loss caused, whether intentionally (Article 1382 CC), or negligently or carelessly (Article 1383 CC).

According to the case-law on non-material damage under Article 1382 CC ([Cass. 4 December 1967, Arr.Cass., 1968, 480](#)), not only the person directly affected by the harmful event can claim compensation for non-material harm, but also persons indirectly affected (*dommage par ricochet*), such as a parent whose child dies or has suffered severe injuries as a result of a traffic accident. This means that the number of persons that could be entitled to compensation for non-material damage is unlimited in principle, provided that there is a sufficient link between the direct victim and the person who suffered the indirect damage, such as a familial relationship.

Under contract law, the debtor is required to compensate the creditor for actual loss and loss of profits (Article 1149 CC), and also for non-pecuniary loss. Damages should place the creditor, as far as possible, in the same position as he or she would have been had the contract been performed ([Cass. 26 January 2007, Pas. 2007, 183](#)). Save in the case of clauses

	<p>providing for liquidated damages (Article 1153 CC and Article 1231 CC), the judge has no power to moderate such damages.</p> <p>In derogation from the principle of full compensation, compensation for non-material damage may be limited by means of contractual clauses.</p> <p>Conduct regulated by strict liability is subject to specific legal provisions and specific rules and conditions. Those rules and conditions may derogate from general tort law. Compensation for non-material damage is expressly or implicitly provided for under specific legislation, such as that concerning compulsory liability insurance in respect of motor vehicles or liability for defective products.</p>
<b>Bulgaria</b>	<p>A general principle of Bulgarian tort law is that compensation is awarded both in cases of strict liability and in cases of fault-based liability, provided that the damage is a direct and immediate consequence of the harm caused (Article 51 the Bulgarian Law on Obligations and Contracts (LOC) (<a href="#">EN version</a>)). Compensation for non-material damage is expressly provided for in Article 52 LOC, applicable both in cases of fault-based liability and strict liability. For example compensation for non-material damage can also be awarded in the case of strict liability for damage caused by animals or by things provided for in Article 50, LOC (e.g. <a href="#">Supreme Court of Cassation, Decision N of 459 of 6.12.2012</a>). Non-material damage arising from death, physical injury or damage to property is recoverable. Such damage can take the form of distress and damage to mental health. The court determines damages on the basis of fairness (Article 52 LOC). Unlike contractual liability, where compensation for loss of profits arises directly from the law (Article 82, LOC), compensation for loss of profits in the case of fault-based liability is established by case-law (e.g., <a href="#">Supreme Court of Cassation, Decision №297 of 09.02.2016</a>). Sometimes future loss, such as the loss of future earnings, can be recovered.</p> <p>There is no legislation or case-law regarding pure economic loss.</p> <p>In the case of contributory negligence on the part of the victim, compensation may be reduced but cannot be extinguished (Article 51(2) LOC).</p>
<b>Croatia</b>	<p>Damage for which a tortfeasor may be held liable includes material damage (<i>damnum emergens</i>), loss of profits (<i>lucrum cessans</i>) and a violation of privacy rights (non-material damage) (Article 1046 Croatian <a href="#">Civil Obligation Act</a> (COA) (<a href="#">unofficial EN version</a>)).</p> <p>Article 1046 COA regulates non-material damage as a violation of privacy rights. Privacy rights (or rights of the person) are defined in more detail in Article 19 COA, as rights that all natural and legal persons are entitled to have protected. The non-exhaustive list of those rights is set out in Article 19(2) COA and it includes the right to life, physical and mental health, reputation, honour, dignity, name, privacy of personal and family life and freedom.</p> <p>Compensation for non-material damage can be made by non-pecuniary means or just pecuniary compensation.</p> <p>Regarding non-pecuniary compensation, the COA provides for both the cessation of the violation of privacy rights (Article 1048 COA) and the publication of the judgement and any corrigendum thereof (Article 1099 COA).</p> <p>Just pecuniary compensation is regulated by Article 1100 COA, which provides for the court to take into account the degree and duration of the physical and mental pain and fear caused by the violation, the objective of the compensation, and the fact that it should not favour aspirations that are incompatible with the nature and social purpose of the compensation. The court is free to assess the amount of the just pecuniary compensation.</p>

	<p>The court may also award just pecuniary compensation for future non-material damage, if it is certain that the damage will continue into the future (Article 1104 COA).</p>
Czech Republic	<p>In Czech civil law, proprietary damage is always compensated for, whereas non-pecuniary harm is subject to compensation only in special cases determined by law. According to Section 2894(2) of the Czech Civil Code (CC) (<a href="#">EN version</a>), compensation for non-pecuniary harm arises only where specifically provided for by law. The duty to provide compensation for non-pecuniary harm is assessed by analogy with other provisions on the duty to provide compensation for damage.</p> <p>Under this rule, proprietary damage means harm to the assets of the injured party whilst any other harm is considered to be non-pecuniary damage, which is subject to specific provisions on compensation for damage to health (pain and suffering, worsening of social position and other harm), interference with the natural rights of individuals. etc.</p> <p>As regards the scope and manner of compensation, the CC is based on the approach that restitution in kind must take precedence over monetary compensation. If restitution in kind is not possible or if so requested by the injured party, the wrongdoer is obliged to provide damages in money. Hence, if restitution in kind is possible, the type of compensation depends on the victim and the court cannot consider whether the chosen method of compensation is “useful” or “usual”.</p> <p>Damages are also recoverable in cases of non-pecuniary harm and include damage as a result of any interference with natural rights of an individual (specified in Book 1 of the CC). Section 2958 et seq. CC, which concern compensation for bodily harm and death, provide examples for the reimbursement of the costs of reasonable and useful medical treatment, funeral costs, loss of earnings and pension payments, and compensation for the maintenance of survivors.</p> <p>Compensation for non-pecuniary harm includes mental suffering.</p> <p>The purpose of damages is to restore the victim to his or her original state. If this is not reasonably possible, or if so requested by the victim, damages are payable in money. Non-pecuniary harm is compensated for by appropriate satisfaction. Satisfaction must be provided in money unless real and sufficiently effective satisfaction for the harm incurred can provide for satisfaction otherwise (Section 2951 CC)</p> <p>Section 2895 CC stipulates that a tortfeasor is liable in damages regardless of fault in cases specifically provided by law. Section 2957 CC, which concerns compensation for harm to the natural right of an individual (non-pecuniary damage), adds that the manner and amount of adequate satisfaction must be determined in order also to compensate for circumstances deserving special consideration. Such circumstances comprise intentional harm, including harm by trickery, threats, abuse of the victim’s dependence on the tortfeasor, multiplying the effects of the interference by making it publicly known, or discrimination on the basis of the victim’s sex, health, ethnicity, creed, or similarly serious situation. Account is also taken of the victim’s anxiety with regard to loss of life or serious damage to health, if such anxiety was caused by threats or other conduct on the part of the tortfeasor.</p> <p>Section 2953 CC provides the court with discretionary power to limit damages. The court’s power arises only where the wrongdoer is an individual and did not cause the damage intentionally. Judicial consideration of any reasonable reduction of damages must take into account any exceptional circumstances justifying such a solution, in terms of how the damage occurred and the personal and financial circumstances of the wrongdoer and of the victim. A reduction of damages is, however, excluded in the case a breach of</p>



	<p>professional care by a tortfeasor who claimed to have special knowledge or ability as a member of a particular profession (<a href="#">Jirí Hrádek Regulation of Liability for Damage in the New Czech Civil Code</a>).</p>
<b>Estonia</b>	<p>The right to compensation for non-material damage is laid down in §25 of the Estonian Constitution (<a href="#">EN version</a>).</p> <p>Detailed regulation is set out in (§§128, 134 and 1050 of the Estonian Law of Obligations Act (LOA) (<a href="#">EN translation</a>).</p> <p>§128(5) LOA provides that non-material damage involves the physical and emotional distress and suffering caused to the victim.</p> <p>The right to compensation arises from unlawful conduct under §1050 LOA. Fault is presumed unless proved otherwise by the tortfeasor (§1050(1) LOA). §9(3) of the State Liability Act (<a href="#">EN version</a>) provides that fault is not taken into consideration where compensation for non-material damage is claimed on the basis of a decision of the European Court of Human Rights.</p> <p>The right to compensation for non-material damage can arise from a contractual or a non-contractual relationship. In the case of a contractual obligation, compensation may be claimed only if the purpose of the obligation was to pursue a non-material objective. Compensation is generally not awarded for non-material damage within the framework of economic and professional activities.</p> <p>§9(2) of the State Liability Act and §134(5) LOA provide that the amount of compensation for non-material damage must be reasonable, in accordance with on the gravity of the offence and the form and gravity of fault.</p> <p>In the case of a violation of personal rights non-material damage should, as a general rule and where possible, be compensated in a manner other than financial compensation, for example by retracting a false statement.</p> <p>§134(2) LOA provides for a reasonable sum to be paid as compensation for non-material damage in the case of depriving a person of liberty, causing bodily injury, causing damage to the health of a person, or violating other personality rights, including defamation. The gravity and scope of the violation and the conduct and attitude of the tortfeasor must be taken into account for the purpose of determining the amount of compensation (§134(5) LOA). When assessing the amount of the compensation the court may, in cases such as defamation, the unjustified use of the name or image of a person, or a breach of similar personality rights, consider whether it is appropriate to increase the amount awarded with the objective of discouraging the tortfeasor from prolonging or repeating the tortious act, taking into account the tortfeasor's financial situation (§134(6) LOA).</p> <p>§57 of the Trade Marks Act (<a href="#">EN version</a>) provides for compensation for non-material damage in the case of an infringement of a trade mark and §8 of the Restriction of Unfair Competition and Protection of Business Secrets Act (<a href="#">EN version</a>) provides for such compensation for the unlawful acquisition, use or disclosure of business secrets.</p>
<b>Finland</b>	<p>In the case of non-contractual liability, liability for non-pecuniary damage is exceptional. Chapter 5, Section 1 of the Finnish Tort Liability Act (412/1974) (<a href="#">EN version</a>) provides: "Where the injury or damage has been caused by an act punishable by law or in the exercise of public authority, or in other cases, where there are especially weighty reasons for the same, damages shall also constitute compensation for economic loss that is not connected to personal injury or damage to property". Damages for anguish may come into question in cases of death caused by a criminal offence or negligence, an offence against liberty,</p>

	<p>honour, domestic peace or privacy, discrimination, violations of personal integrity and human dignity (Chapter 5, Sections 4a and 6 of the Tort Liability Act).</p> <p>In the case of contractual liability, liability for non-pecuniary damage is the norm. For example, Section 67 of the Sale of Goods Act (355/1987) (<a href="#">EN version</a>) provides:</p> <ol style="list-style-type: none"> <li>(1) Damages for breach of contract consist of compensation for expenses, price difference, lost profit and other direct or indirect loss due to the breach.</li> <li>(2) Indirect loss consists of the following: <ol style="list-style-type: none"> <li>(1) loss due to reduction or interruption in production or turnover;</li> <li>(2) other loss arising because the goods cannot be used as intended;</li> <li>(3) loss of profit arising because a contract with a third party has been lost or breached;</li> <li>(4) loss due to damage to property other than the goods sold; and</li> <li>(5) other similar loss that is difficult to foresee.</li> </ol> </li> <li>(3) Loss incurred by the injured party for mitigation of loss not covered by paragraph (2) shall, however, not be considered indirect loss.</li> </ol> <p>The Consumer Protection Act (38/1978) (<a href="#">EN version</a>) contains specific provisions on liability. Such specific provisions on liability can also be found in a number of other special laws.</p>
<b>France</b>	<p>French law does not provide for a predetermined list of types of damage for which a victim can recover damages: the principle of generality of damage applies<sup>1</sup>.</p> <p>Recoverable damages include those relating to physical injury, such as loss of amenity, aesthetic and sexual harm, material damage (damage to personal property, be it actual loss or loss of profits), as well as non-material damage (including physical pain, damage to privacy or honour and damage to feelings). The damage must fulfil three conditions for a claim in damages to arise: it must be certain, it must be personal and it must consist of harm caused to a legally protected legitimate interest. Future damage which is certain and direct also gives rise to a claim for damages but hypothetical damage does not (<a href="#">Cass., 2nd civ., 13 March 1967, N 121</a>; <a href="#">Cass., 1st civ., 14 January 2016, No 14-27.250</a>). The loss of a real and serious opportunity gives rise to a right to compensation (<a href="#">Cass., 2nd civ., 3 December 1997, No 96-11.816</a>; <a href="#">Cass., 2nd civ., 24 June 1999, No 97-13.408</a>; <a href="#">Cass., 1st civ., 4 April 2001, No 98-11.364</a>; <a href="#">Cass., 1st civ., 14 October 2010, No 09-69.195</a>; the loss of an opportunity is direct and certain whenever the disappearance of a positive opportunity is observed). However, the victim is entitled only to a proportion of the expected gain from that opportunity, depending on the probability that it would have arisen (<a href="#">Cass., 1st civ., 9 April 2002, No 00-13.314</a>). The requirement that damage must be personal is laid down in <a href="#">Article 31</a> of the French <a href="#">Code of Civil Procedure</a>: "A right of action is available to all those who have a legitimate interest in the success or dismissal of a claim, without prejudice to cases where the law confers the right of action solely upon persons whom it authorises to raise or oppose a claim, or to defend a particular interest". Moreover, the Court of Cassation has ruled that the harm caused to the immediate victim's relatives, as a consequence of the harm suffered by the immediate victim (<i>dommage par ricochet</i>) gives rise to a claim for damages provided that there is an immediate victim and that the harm caused to the</p>

<sup>1</sup> This principle is reaffirmed in Article 1235 of [Draft revision of civil liability](#): *Est réparable tout préjudice certain résultant d'un dommage et consistant en la lésion d'un intérêt licite, patrimonial ou extrapatrimonial*; B. Waltz-Teracol, "L'intérêt protégé, le dommage et le préjudice", in : *La réforme du droit de la responsabilité en France et en Belgique. Regards croisés et aspects de droit comparé, les dix ans du GRERCA*, 7-8 décembre 2018, [online version](#).

indirect victim is certain and personal<sup>2</sup>. As to the condition of a legitimate interest, some rulings of the Court of Cassation gave the impression that the condition had been abandoned ([Cass., 2nd civ., 19 February 1992, No 90-19.237](#); [Cass., 2nd civ., 7 July 1993, No 92-11.318](#); [Cass., 2nd civ., 2 February 1994, No 92-14.005](#): all concern physical injury), but more recent judgments point in the opposite direction ([Cass., 2nd civ., 24 January 2002, No 99-16-576](#)).

The principle of full compensation for damage applies. According to that principle, compensation must aim to place the victim as far as possible in the situation in which he or she would have been had the harmful event not occurred. The victim must not make a loss or profit from the compensation ([Cass., 2nd civ., 28 October 1954](#), Bull. civ. II, No 328). Where a court rules on the merits of a case, it must assess the damage found; it cannot make a flat-rate award of compensation without reference to the extent of the damage suffered ([Cass., com., 12 February 2020](#), Recueil Dalloz 2020, p. 1086 and the decisions cited; see also [Cass. crim., 22 March 2016](#), Recueil Dalloz 2016, p. 1236, in which, in respect of ecological damage, the Court of cassation required the court ruling on the merits of the case to calculate damage which had not been assessed by the claimant). When ruling on the merits of the case, the court has absolute discretion in determining the amount of damages, without being required to specify the various elements thereof. The court need not explain how it calculates damages corresponding to the damage it seeks to compensate. Its decision is likely to be quashed by the Court of cassation only if it infringes the only rule applicable in this regard, namely the principle of full compensation.

However, there is no legislative text providing for the principle of full compensation for damage. The case-law links it, as appropriate, to the general rules of Articles 1240, 1217 and 1231-1 of the French [Civil Code](#) (CC) ([EN version](#)), but it has also raised that principle to the rank of an autonomous principle. The principle has not, however, been clearly established by the Constitutional Council. The scope of application of the principle is therefore limited to general law.

In addition, exceptions are allowed, in particular in *lex specialis*, such as legislation on accidents at work, which often entitles the claimant only to a lump-sum or capped compensation, or on intellectual property ([Article L 615-7 of the French Intellectual Property Code](#)), as well as in contractual clauses. Legal limitations to the principle of full compensation for damage in contract law are contained in [Articles 1231-3 and 1231-4 CC](#), which provide that the debtor is required to pay only the damages that were provided for or that were foreseeable at the time of the conclusion of the contract, except where the non-performance of the contract is due to gross negligence or wilful misconduct. In the event that non-performance of the contract is due to gross negligence or wilful misconduct, damages include only what is an immediate and direct consequence of the non-performance of the contract.

As regards physical injury, there is no legal classification of the types of damage giving rise to a claim in damages *de lege lata*. Nevertheless, although it has no legal basis, the courts systematically apply the so-called [Dintilhac](#) classification, which is a non-exhaustive list of types of damage in respect of personal injury for which a victim can recover damages.

<sup>2</sup> In the particular case of damage caused to the indirect victim of a traffic accident, Article 6 of the Law No 85-677 of 5 July 1985 on improving the situation of victims of traffic accidents and on speeding up procedures for compensation ([Badinter Law](#)) provides that “the prejudice suffered by a third party as a result of the damage caused to the direct victim of a traffic accident shall be compensated taking into account any limitations or exclusions applicable to the compensation for such damage”.

The case-law also regularly disregards the principle of full compensation, particularly as regards non-material damage.

In respect of natural persons, non-material damage is a concept which covers an increasing number of types of damage, the number of which is constantly increasing (e.g. all psychological disorders resulting from knowledge of the risk of developing a disease caused by exposure to asbestos (*préjudice d'anxiété*), in the area of medical liability, damage caused by failure to disclose information (*préjudice d'impréparation*), and damage to religious feelings (*préjudice religieux*).

With regard to privacy in particular, the mere finding of an infringement of the right to privacy gives rise to a right to compensation ([Cass., 1st civ., 5 November 1996, No 94-14.798](#), Dalloz 1997, p. 403 and note S. Laulom, and p. 289, obs. P. Jourdain). The same applies in the event of an infringement of personality rights more generally, of the right to the property of others ([Cass., 3rd civ., 9 September 2009](#), No 08-11.154, Dalloz 2009, p. 2220 and obs. G. Forest) or of image rights ([Cass., 1st civ., 12 December 2000](#), No 98-17.521, RTD civ. 2001, p. 329, obs. J. Hauser).

The courts have determined that certain damage must be compensated for.

In labour law, for example, the Social Chamber of the Court of Cassation has held that the unlawfulness of disciplinary proceedings ([Cass., soc., 27 June 2001](#), No 99-42.216, Dr. soc. 2001, p. 885, obs. C. Roy-Loustaunau), a lack of information relating to the criteria used to justify redundancies for economic reasons ([Cass., soc., 26 January 1999](#), No 97-40.463, Dr. soc. 1999, p. 530, obs. J. Savatier) and the late issue of documents enabling a dismissed employee to assert his rights to unemployment insurance ([Cass., soc., 5 July 2011](#), No 10-30.465, cited by L. Gratton, *Le dommage déduit de la faute*, RTD civ., 2013, p. 275) are the cause of damage "which the court must make good".

In medical negligence cases, a lack of information gives rise to "damage which the court may not leave without compensation" ([Cass., 1st civ., 3 June 2010](#), No 09-13.591, Dalloz 2010, p. 1522, obs. I. Gallmeister; [Cass., 1st civ., 12 June 2012](#), No 11-18.327, Dalloz 2012, p. 1794, obs. I. Gallmeister). The Court of Cassation has ruled that the right to information is a "personal right, distinct from bodily harm, ancillary to the right to physical integrity" and that "injury to that personal right entails non-material damage as a result of a lack of psychological preparation for the risks involved and resentment felt about the idea of not having consented to damage to one's bodily integrity" ([Cass., 1st civ., 12 July 2012](#), No 11-17.510, Dalloz 2012, p. 2277, note M. Bacache. Compare: [Council of State \(Conseil d'État\), 10 October 2012](#), No 350426, Dalloz 2012, p. 2518, obs. D. Poupeau).

In trademark law, the Court of Cassation has held "that the mere infringement of the private right of ownership of a trademark justifies the award of damages" ([Cass., com., 8 March 2005](#), No 02-20.675, cited by L. Gratton, *Le dommage déduit de la faute*, RTD civ., 2013, p. 275), pointing out, once again, that the damage suffered by the trademark owner cannot be left without compensation, while specifying the form that the compensation must take.

It thus appears that certain faults necessarily result in damage, which itself entails, at the very least, non-material damage which the court cannot leave without compensation. Any other type of damage resulting from such harm must be established by the claimant.

The damages awarded in the cases referred to above could be compared to punitive damages, in respect of which the French Court of Cassation has held that "Awarding punitive damages is not, per se, contrary to public policy, unless the amount awarded is disproportionate compared to the damage suffered and to the breaches of the debtor's contractual obligations" ([Cass., 1st civ., 1 December 2010](#), No 09-13.303, Dalloz 2011, p. 423, obs. I. Gallmeister).

As regards legal persons, the existence of non-material damage is, in some cases, presumed, as in the event of unfair competition, whereas it must be proved in other cases. According to settled case-law, an act of unfair competition necessarily causes damage, even if only non-material damage ([Cass., com., 15 May 2012](#), Dalloz 2012, p. 2285 and note B. Dondero; [Cass., com., 12 February 2020](#), Dalloz 2020, p. 1086).

Compared to non-material damage suffered by natural persons, which consists of moral suffering, the alleged non-material damage suffered by legal persons in fact amounts to economic damage. In practice, compensation for non-material damage serves to compensate legal persons for a loss of opportunity to make a profit, where it is difficult or impossible to quantify the future loss precisely (J.S. Borghetti, *La réparation intégrale du préjudice à l'épreuve du parasitisme*, note under [Cass., com., 12 February 2020](#), Dalloz 2020, p. 1086).

Thus, in the event of unfair competition, the claimant benefits from a presumption of the existence of non-material damage but must demonstrate the extent of the damage.

In a decision of 19 September 2017, the Paris Court of Appeal assessed the damages due for non-material damage by calculating the savings that the claimant would have made had it used the same unfair and unlawful methods as the defendant (Paris Court of Appeal, Pôle 5, 1st chamber, 19 September 2017, No 16-05727). The Court of Cassation dismissed the appeal. It held that it is impossible for a claimant to demonstrate the harmful effects of unfair competition, particularly in cases of parasitic conduct or non-compliance with regulations and that the Court of Appeal was allowed, in assessing damages, to take account of the savings made by the defendant, adjusted in accordance with the respective business volumes of the parties affected by the defendant's conduct ([Cass., com., 12 February 2020](#), Dalloz 2020, p. 1086). This clearly indicates that other methods could have been considered appropriate and that the damages awarded may exceed the actual harm suffered.

The [Draft revision of civil liability](#), while enshrining the principle of full compensation (Article 1258)<sup>3</sup>, expressly provides for exceptions to that principle with a non-exhaustive list of types of damage in respect of personal injury (Article 1269)<sup>4</sup>, flat-rate compensation for certain types of non-material damage (Article 1271)<sup>5</sup>, and civil fines (Article 1266-1)<sup>6</sup>.

<sup>3</sup> *La réparation a pour objet de replacer la victime autant qu'il est possible dans la situation où elle se serait trouvée si le fait dommageable n'avait pas eu lieu. Il ne doit en résulter pour elle ni perte ni profit.*

<sup>4</sup> *Les préjudices patrimoniaux et extrapatrimoniaux résultant d'un dommage corporel sont déterminés, poste par poste, suivant une nomenclature non limitative des postes de préjudices fixée par décret en Conseil d'État.*

<sup>5</sup> *Un décret en Conseil d'État fixe les postes de préjudices extrapatrimoniaux qui peuvent être évalués selon un référentiel indicatif d'indemnisation, dont il détermine les modalités d'élaboration et de publication. Ce référentiel est réévalué tous les trois ans en fonction de l'évolution de la moyenne des indemnités accordées par les juridictions. À cette fin, une base de données rassemble, sous le contrôle de l'État et dans des conditions définies par décret en Conseil d'État, les décisions définitives rendues par les cours d'appel en matière d'indemnisation du dommage corporel des victimes d'un accident de la circulation.*

<sup>6</sup> *En matière extracontractuelle, lorsque l'auteur du dommage a délibérément commis une faute en vue d'obtenir un gain ou une économie, le juge peut le condamner, à la demande de la victime ou du ministère public et par une décision spécialement motivée, au paiement d'une amende civile. Cette amende est proportionnée à la gravité de la faute commise, aux facultés contributives de l'auteur et aux profits qu'il en aura retirés. L'amende ne peut être supérieure au décuple du montant du profit réalisé. Si le responsable est une personne morale, l'amende peut être portée à 5 % du montant du chiffre d'affaires hors taxes le plus élevé réalisé en France au cours d'un des exercices clos depuis l'exercice précédant celui au cours duquel la faute a été commise. Cette amende est affectée au financement d'un fonds d'indemnisation en lien avec la nature du dommage subi ou, à défaut, au Trésor public. Elle n'est pas assurable.*



Material and non-material damage can be invoked under fault-based liability regimes pursuant to Articles [1240](#) and [1241](#) CC, no-fault liability regimes, or other special liability regimes, such as:

- strict liability for damage caused by things in custody ([Article 1242, first paragraph, CC](#)),
- strict liability for damage caused by persons for whom we are responsible ([Article 1242, first paragraph, CC](#)) and specific cases of strict liability for damage caused by others: strict liability of parents, masters and employers and teachers and craftspeople ([Article 1242, fourth to eight paragraphs, CC](#)),
- strict liability for damage caused by cars: Law No 85-677 of 5 July 1985 on improving the situation of victims of traffic accidents and on speeding up procedures for compensation ([Badinter Law](#)),
- strict liability for damage caused by animals ([Article 1243 CC](#)),
- strict liability for damage caused by the ruin of a building ([Article 1244 CC](#)), or
- the special liability regime for defective products ([Article 1245 to 1245-17 CC](#)).

Prior to the introduction of the special liability regime for ecological damage under [Articles 1246 to 1252 CC](#), compensation for ecological damage was awarded on the basis of non-material damage suffered by the environmental organisation concerned. The question now arises as to whether compensation for ecological damage under those articles leaves room for residual compensation for non-material damage suffered by the organisation concerned ([Cass., 3rd civ., 8 November 2018](#), No 17-26.180 and note C. Dubois, p. 419).

## Germany

### Introduction: material and non-material damage, restitution and damages (sections 249 to 253 BGB)

Sections 249 to 253 of the [German Civil Code](#) (*Bürgerliches Gesetzbuch*, BGB) provide for general rules on the form, content and scope of restitution and damages. They distinguish between:

- **Schadenersatz**: restitution-in-kind or the payment of an amount necessary to restore the situation of the victim before the damage, and
- **Entschädigung**: amount of money to be paid in the event that the restoration of the situation of the victim before the damage is not possible or would be disproportionate and that the payment of an amount necessary for restitution would be without purpose or disproportionate.

Both *Schadenersatz* (to a lesser degree) and *Entschädigung* are relevant in the case of non-material damage (see below).

Sections 249 to 253 BGB do not provide for a legal basis for a claim, but comprise the rules which apply in the case of a claim on the basis of the rules on tort, strict-liability or contract. With regard to non-material damage, only sections 249 and 253 BGB are applicable. (Sections 250, 251 and 252 BGB are not applicable to non-material damage because [section 250](#) provides for payment of an amount necessary to restore the situation after the expiry of the deadline for restitution-in-kind; [section 251](#) provides for *Entschädigung* instead of *Schadenersatz*, where restitution-in-kind is not possible or would be disproportionate; and [section 252](#) BGB provides for *Schadenersatz* for loss of profits).

#### A. *Schadenersatz* for non-material damage

[Section 249](#) BGB is the basic rule for what is owed in case of a damage (*Schadenersatz*). It provides, in principle, for restitution in kind (*in rem* restitution or *Naturalrestitution*): The liable perpetrator must restore the victim to the position in which he or she would have been but for the event that gave rise to liability. The principle of restitution in kind also applies to non-material damage, but since restitution in kind is often not possible in those

cases (and an amount to be paid for restoration is therefore without purpose), section 253(2) provides for *Entschädigung* for non-material damage (*Schmerzensgeld*)

**B. *Entschädigung*** for non-material damage pursuant to [section 253\(2\)](#) (also called ***Schmerzensgeld*** from the latin *pretium pro doloribus*) consists of the payment of an amount of money which has, according to case-law (BGH GrZS NJW 55, 1675, 95, 781) a twofold purpose: compensation for pain and suffering (*Ausgleich*) and satisfaction for the suffering (*Genugtuung*) that the perpetrator inflicted on the victim. *Genugtuung* is, however, only relevant to violations involving intention or gross negligence is cannot therefore be taken into account where a claim is based on strict-liability.

[Section 253\(1\)](#) BGB limits the amount of money paid as ***Schmerzensgeld*** for non-material damage to cases expressly provided for in law. Since the reform of civil law in 2002, *Schmerzensgeld* for non-material damage is no longer limited to tort but has been extended to contractual and strict-liability claims. Strict liability rules refer expressly to *Schmerzensgeld* (see further below)).

Section 253(2) BGB constitutes an example of such an express legal provision for *Schmerzensgeld* for non-material damage. According to that provision, “equitable” compensation in money can be claimed for non-material damage where the law provides for *Schadenersatz* for an injury to a person’s body, health, freedom or sexual self-determination.

The injury of “life” is not mentioned in section 253 BGB. Relatives of or persons close to a victim who has been killed can therefore claim compensation only if the shock (indirect damage, *Schockschaden*) they suffer from the death of the victim amounts to damage to their own health. The same applies to the indirect damage caused by the shock relating to the injury of the victim. Compared to other jurisdictions in Europe, the German courts interpret indirect damage very restrictively<sup>7</sup> and require the following conditions to be fulfilled:

- (1) the injury must amount to a severe impediment (*schwere Beeinträchtigung*) of the indirect victim, which has significantly more gravity than the injury that a close person would normally suffer;
- (2) only close relatives or the fiancé or life partner can claim damages as indirect victims;
- (3) the injury of the direct victim must give sufficient reason for the indirect victim’s injury (*ausreichender Anlass*).

As compensation for non-material damage is granted only where the above-mentioned rights are violated, *Schmerzensgeld* cannot be claimed for disappointment, frustration or similar damage (e.g. if a wedding is interrupted or disturbed (Brdbg NJW-RR 05, 253).

Legal provisions providing for *Schmerzensgeld* for damage to the victim’s body, health, freedom or sexual self-determination, which under section 253(2) BGB allow for compensation of non-material damage, can be found in **tort, strict-liability and contract**. **Specific rules** extending or limiting compensation for non-material damage can be found in provisions relating to those areas of law:

#### **1. Tort: Basis of claim in tort for *Schadenersatz* and *Schmerzensgeld* for non-material damage**

<sup>7</sup> Palandt, 71. Auflage, Vorb v § 249, Rz.40.



### 1.1 Section 823

[Section 823](#) BGB provides for *Schadenersatz* for the infringement of the following rights: life, physical integrity, health, freedom, property or other absolute rights, protected by other legal provisions. As section 823 BGB provides for *Schadenersatz* for some of the rights listed in section 253(2), *Schmerzensgeld* can also be claimed for non-material damage arising from the violation of those rights.

In addition to the rights listed in section 823 BGB, the courts have developed the “general right of personality” (*allgemeines Persönlichkeitsrecht*) and have granted restitution or *Schmerzensgeld* for the violation of that right on the basis of section 823 BGB. Initially this was developed as “another right” in the list of section 823(1) BGB (BGHZ 13, 334 = NJW 1954, 1404). With regard to compensation for non-material damage, the Federal Court of Justice (*Bundesgerichtshof*) has based such claims directly on Article 2(1), together with Article 1(1) of the Fundamental Law (*Grundgesetz*) (BGHZ 26, 349 (356f.) = NJW 1958, 827 and BGHZ 35, 363 (367f.) = NJW 1961, 2059). This approach has been approved by the Federal Constitutional Court (*Bundesverfassungsgericht*) (BVerfGE 34, 269 = NJW 1973, 1221). *Schmerzensgeld* for non-material damage of the general right of personality requires a serious impairment (*schwerwiegende Beeinträchtigung*) which cannot be otherwise eliminated. Regarding cases of violation of the general right of personality, *Schmerzensgeld* for non-material damage also aims to satisfy the victim (e.g. BGH, Judgment of 05.10.2004 - VI ZR 255/03).

### 1.2 Other tort provisions

Other provisions in tort in the context of which compensation for non-material damage can be claimed include [sections 831](#) (vicarious liability), [833](#)<sup>8</sup> and [834](#) (liability for animals) and [836](#) BGB (liability for buildings), [839](#) (liability in the case of a breach of official duty), [829](#) (liability in damages on equitable grounds, where liability would normally be excluded due to the state of mind ([section 827](#)) or the minor age ([section 828](#)) of the tortfeasor).

### 2. Strict Liability (*Gefährdungshaftung*)

*Schmerzensgeld* for non-material damage is also possible based on the provisions for damages in strict liability rules. In general, strict-liability provisions set out maximum awards of *Schadenersatz* or *Schmerzensgeld*.

The second sentence of section 11 of the [Road Traffic Act](#) (*Straßenverkehrsgesetz*) provides that the holder of a car is also liable for non-material damage. Section 18(1) of the Road Traffic Act provides that the driver is jointly and severally liable for any damage caused. Liability for damage is excluded if the driver was not at fault (presumption of fault). The amount of *Schadenersatz* or *Schmerzensgeld* is limited, however, to the maximum amounts fixed in sections 12 and 12a of the Road Traffic Act (the maximum amounts for the use of a highly or fully automated driving function are double those for non-automated cars).

The Liability Act ([Haftpflichtgesetz](#)), which provides for strict liability of operators of railways and cable cars for death, personal injury and damage to health and property, provides for *Schadenersatz* for non-material damage in section 5(3) for relatives and persons close to the victim and in section 6 for injuries to the body. The amount of *Schadenersatz* or *Schmerzensgeld* is limited to a maximum lump sum payment of EUR 600 000 or annual periodic payments of up to EUR 36 000 (section 9).

<sup>8</sup> Section 833 constitutes a case of strict-liability.

A similar provision is to be found in sections 7 (death), 8 (bodily injury) and 10 (maximum amounts) of the [Product Liability Act](#) (*Produkthaftungsgesetz*).

Further acts on strict liability containing provisions on compensation for non-material damage are: section 36 of the Air Traffic Act ([Luftverkehrsgesetz](#)), sections 28(3) and 29(2) of the Nuclear Energy Act ([Atomgesetz](#)), sections 86 (3) and 87 of the [Medicinal Products Act](#) (*Arzneimittelgesetz*), and sections 12(3) and 13 of the [Environmental Liability Act](#) (*Umwelthaftungsgesetz*).

### **3. Contract: Basis of claim in contract or another special relationship for *Schmerzensgeld* for non-material damage**

Compensation for non-material damage can also be claimed where contract law or other special relationships provide for damages. Special relationships (*Sonderverbindungen*) can result from law (*gesetzliche Schuldverhältnisse*) e.g. voluntary agency ([section 677](#) et seq. BGB) or from a contract-like relationship (*vertragsähnliche Schuldverhältnisse*) e.g. *culpa in contrahendo*. This can arise from the violation of a main duty (*Hauptpflicht*) or an accessory duty (*Nebenpflicht*) under the contract or special relationship. The aim of the duty must, however, include preventing the damage in question (*Schutzzweck der Pflicht*).

The general rule for *Schadensersatz* based on the violation of contractual duties or those from another special relationship is [section 280](#) BGB. [Section 278](#) BGB (liability for agents) and the second sentence of [section 280\(1\)](#) BGB (reversal of the burden of proof: fault is presumed where a violation of the duty is proved) also apply with regard to non-material damage. Special rules depending on the type of contract also provide for *Schadensersatz* and allow claims arising from non-material damage: [section 618](#) (service contract), [section 437\(3\)](#) (purchase contract), [section 634\(4\)](#) (contract for works), [section 536a](#) (lease contract). [Section 651f\(1\)](#) (travel contract) contains the special rule that a traveller can claim *Entschädigung* for the non-material damage of “lost” holidays<sup>9</sup>. As the sections referred to provide for *Schadensersatz* for some of the rights listed in [section 253\(2\)](#) BGB, *Schmerzensgeld* can also be claimed for the non-material damage arising from the violation of those rights.

However, [section 906](#) BGB does not allow for *Schmerzensgeld* for non-material damage. [Section 906](#) BGB provides that where the owner of land suffers the escape of ‘imponderable’ substances (such as gases, vapour, odours or noise) from neighbouring land, he or she may claim reasonable compensation in money (*Ausgleich in Geld*) from the user of the neighbouring land if the escaped substance impairs a use of the owner’s land that is customary in the location or unreasonably affects the owner’s income) (BGH NJW 10, 3160).

### **4. Quantum**

*Schmerzensgeld* for non-material damage must be equitable or reasonable (*billig*) ([section 253 \(2\)](#) BGB), or appropriate (*angemessen*) ([section 10\(3\)](#) Road Traffic Act, [Strassenverkehrsordnung](#)). For the purpose of evaluating the amount of compensation to be granted, all relevant circumstances (those of the perpetrator as well as those of the victim) must be taken into account: the nature and duration of the violation, the degree of fault, any contributory responsibility on the part of the victim, and whether the victim could have mitigated the damage. Compensation may consist of a lump sum or periodic payments. In order to ensure similar compensation for similar damage, indicative compensation tables (*Schmerzensgeldtabellen*) have been established. Special liability rules

<sup>9</sup> 651f (2) If the travel package is made impossible or significantly impaired, then the traveller may also demand appropriate compensation in money for holiday leave spent to no avail.

	sometimes contain specific provisions on quantum, in particular maximum awards for strict-liability.
<b>Greece</b>	<p>Damages for personal injury and death are provided for, respectively, in Articles 928 and 929 Greek <a href="#">Civil Code</a> (CC).</p> <p>Article 298 CC provides for compensation for pure economic loss and <i>lucrum cessans</i> (loss of profits).</p> <p>In accordance with Article 299 CC (damages for non-pecuniary harm are recoverable only in cases provided for by law) and Article 932 CC, the courts may decide to award damages for non-material (moral) damage in the context of contractual and non-contractual liability respectively.</p> <p>Such damages may also be awarded to the family of a victim who has died as a result of a tort.</p> <p>According to Article 932 CC, in the event of tort, regardless of compensation for pecuniary damage, the court may award reasonable monetary satisfaction for non-pecuniary damage. That applies in particular to anyone who has suffered an injury to health, honour or "purity" or who has been deprived of liberty. In the event of the victim's death, such monetary satisfaction may be awarded to the victim's family for mental anguish<sup>10</sup>.</p> <p>The CC does not call for "compensation", as in the case of economic loss, but for "monetary satisfaction".</p> <p>If the court accepts that a victim has suffered moral damage, it may award monetary satisfaction, in order to achieve meaningful compensation for such moral damage. The amount of monetary satisfaction is to be determined by the court, based on the rules of common experience and reason (there is no legislative index), in order that the victim receive fair and sufficient relief and consolation. The type of infringement, the extent of the damage, the circumstances and gravity of the tort, any contributory negligence on the part of the victim, and the economic situation of the parties are among the factors to be taken into consideration by the court. However, when the final award is fixed by the court, the constitutional principle of proportionality is applied.</p> <p>As far as the liability regime is concerned, there is no separate provision for moral damage, so the general rule of fault-based liability regime provided for in Article 914 CC<sup>11</sup> applies, together with the specific exceptions provided for in other articles of the CC and other legislation. Consequently, the general rule is that, in order for the court to award monetary satisfaction for moral damage to the victim of a tort or for the loss of the victim to his or her family, the following four elements must be shown:</p> <ul style="list-style-type: none"> <li>- unlawful conduct;</li> <li>- negligence or intention on the part of the defendant (fault-based liability);</li> <li>- damage; and</li> <li>- a causal link between the unlawful conduct and the damage.</li> </ul> <p>The objective of the provision of monetary satisfaction for moral damage is moral consolation and the mental relief of the victim from the distress, grief or pain caused by the</p>

<sup>10</sup> Article 932 CC in Greek: "Σε περίπτωση αδικοπραξίας, ανεξάρτητα από την αποζημίωση για την περιουσιακή ζημία, το δικαστήριο μπορεί να επιδικάσει εύλογη κατά την κρίση του χρηματική ικανοποίηση λόγω ηθικής βλάβης. Αυτό ισχύει ιδίως για εκείνον που έπαθε προσβολή της υγείας, της τιμής ή της αγνείας του ή στερήθηκε την ελευθερία του. Σε περίπτωση θανάτωσης προσώπου η χρηματική αυτή ικανοποίηση μπορεί να επιδικαστεί στην οικογένεια του θύματος λόγω ψυχικής οδύνης."

<sup>11</sup> Article 914 CC in Greek: "Όποιος ζημιώσει άλλον παράνομα και υπαίτια έχει υποχρέωση να τον αποζημιώσει."

	<p>unlawful conduct. In addition, a person may claim compensation for moral damage because of an insult to the personality of the victim (Articles 57 and 59 CC<sup>12</sup>).</p> <p>Other provisions that provide for moral damage in Greek legislation include Article 65 of law No 2121/1993, as amended by law No 4605/2019, on intellectual property (IP) and the right to claim compensation for moral damage in the case of intentional harm to IP rights, in addition to the right of compensation for pecuniary loss.</p> <p>Furthermore, several laws<sup>13</sup> on radio, television and other media include specific provisions on the minimum amount of compensation for monetary compensation to be awarded when a victim has suffered moral damage as a result of activities in the press or electronic media or as a result of the processing of their personal data, by both public and private operators.</p> <p>Finally, provisions on moral damage can also be found in consumer protection law<sup>14</sup>, with regard to the possibility for monetary compensation from the producer of a defective product (strict liability) or from the provider of a service (fault-based liability). In addition, compensation for moral damage can be claimed via collective redress against a producer by a consumer organisation. When determining the amount of monetary satisfaction in such a case, the court must take into consideration the extent of the insult to the legal order in general and not only the damage occurred by the consumers directly affected.</p>
<b>Hungary</b>	<p>In the case of a violation of rights pertaining to the person (such as life, physical integrity, health, personal freedom, family and private life, honour and reputation), the victim may claim damages for pain and suffering for non-material harm caused.</p> <p>Damages for pain and suffering are governed by the general rules on liability for damages, save that the injured party need only prove that there was a violation, but not that there was a loss under the first three heads of damages, namely loss sustained in property (<i>damnum emergens</i>), loss of profits (<i>lucrum cessans</i>) and costs necessary to eliminate the pecuniary losses of the injured party (sections 2:52 and 6:522 CC of the Hungarian Civil Code (CC) (<a href="#">Hungarian Civil Code, EN translation</a>).</p> <p>Thus the obligation to pay damages for pain and suffering is governed either by the rules on strict liability with objective penalties (for example in the case of liability for dangerous activities) or by the rules on fault-based liability.</p> <p>The court is to determine the amount of the damages for pain and suffering in a single award, taking into account the circumstances of the case, in particular the gravity and frequency of the violation, the degree of fault, and the impact of the violation on the victim and his or her environment.</p> <p>Any person who suffers damage as a result of a violation of the rights pertaining to his or her person has the right to claim compensation from the person committing the violation,</p>

<sup>12</sup> Article 57 CC in Greek: "Όποιος προσβάλλεται παράνομα στην προσωπικότητά του έχει δικαίωμα να απαιτήσει να αρθεί η προσβολή και να μην επαναληφθεί στο μέλλον. Αν η προσβολή αναφέρεται στην προσωπικότητα προσώπου που έχει πεθάνει, το δικαίωμα αυτό έχουν ο σύζυγος, οι κατιόντες, οι ανιόντες, οι αδελφοί και οι κληρονόμοι του από διαθήκη."

Article 59 CC in Greek: "Στις περιπτώσεις των δύο προηγούμενων άρθρων το δικαστήριο με την απόφασή του, ύστερα από αίτηση αυτού που έχει προσβληθεί και αφού λάβει υπόψη το είδος της προσβολής, μπορεί επιπλέον να καταδικάσει τον υπαίτιο να ικανοποιήσει την ηθική βλάβη αυτού που έχει προσβληθεί. Η ικανοποίηση συνίσταται σε πληρωμή χρηματικού ποσού, σε δημοσίευμα, ή σε οτιδήποτε επιβάλλεται από τις περιστάσεις".

<sup>13</sup> Article 4(10) of Law No 2328/1995 on the legal status of private television and local radio, Article 14 of Law No 3471/2006 on the protection of personal data in the area of telecommunications and Article 80 of Law No 4624/2019 on measures implementing Regulation (EU) No 679/2016 and Directive (EU) 2016/680.

<sup>14</sup> Law No 2251/1994, in force as codified by ministerial decision 5338/2018.

	in accordance with the provisions on liability for damage caused by unlawful conduct (sections 2:52 and 2:53 CC).
<b>Ireland</b>	<p><b>General principles of civil liability</b></p> <p>Irish law on civil liability damage or harm is based primarily on principles deriving from the common law system, though some rules are also laid down by statute. The case-law of England and Wales and of other common law jurisdictions influence the development of Irish law on civil liability.</p> <p>Civil liability can fall under three main headings: statute, tort and contract. This note ignores contractual liability. In tort, liability is fault-based and negligence is the most prevalent tort upon which claims are based.</p> <p>The fundamental principle underlying the award of damages to a claimant is that of <i>restitutio ad integrum</i>.</p> <p>The types of damage for which a claimant can be compensated fall into two broad categories:</p> <p><b>General damages</b> for non-financial loss, such as physical injury.</p> <p><b>Special damages</b> for financial loss, such as loss of income and extra expenses.</p> <p>General damages are compensation paid for the pain, suffering and inconvenience a claimant has experienced and will continue to experience as a result of the harm for which a defendant has been held liable<sup>15</sup>.</p> <p>General damages are awarded to cover not only physical injury or harm but also mental or psychological harm (the term 'non-material' is not normally used to refer to categories of non-physical harm). Examples of situations in which compensation was awarded to a claimant where the harm suffered was solely psychological or psychiatric in nature, include anxiety disorder caused by having been trapped in a defective lift, emotional shock due to a mock armed raid or for depression following sexual harassment. Furthermore, damages can be awarded to the relatives of someone who suffered harm. In 2012 the Irish High Court awarded damages to the widow of a murder victim for loss of income under the Civil liability Act 1961 and at common law for nervous shock<sup>16</sup>. The Civil liability Act 1961 lays down rules, inter alia, on survival of causes of action on death and the apportionment of liability between concurrent wrongdoers.</p> <p>The award of general damages is at the discretion of the presiding judge, based on the evidence adduced. In assessing damages in a personal injuries action in Ireland, the court is required by section 22 of the Civil Liability and Courts Act 2004 to have regard to the Book of Quantum, which contains general guidelines as to the amounts that may be awarded in respect of specified types of injury. However, this does not preclude the court from having regard to matters other than the Book of Quantum when assessing damages in a personal injuries action.</p>

<sup>15</sup> In *Sinnott v Quinnsworth Ltd* [1984] I.L.R.M. 523, the Supreme Court introduced a rough 'cap' on damages awarded for pain and suffering. That cap has recently been revised to EUR 500 000 (*Mullen v Minister for Public Expenditure and Reform* [2016] IEHC 295; *Woods v Tyrell* [2016] IEHC 355). In some cases, the Courts have held that the cap should be applied only where a large amount of damages has been awarded under, for example, special damages. The courts apply a proportionality test: the award of general damages must be fair to both parties. Since 2015, the Court of Appeal has used a three-point scale of injuries for the purposes of damages. In *Nolan v Wirenski* [2016] IECA 56 it was held that "minor injuries attract appropriately modest damages, middling injuries moderate damages and more severe injuries damages of a level which are clearly distinguishable in terms of quantum from those that fall into the other lesser categories".

<sup>16</sup> *Madden vs Doohan & ORS* [2012] IEHC, 422.



Special damages are the compensation paid for the financial costs and expenses, both past and future, incurred as a result of the harm caused. This would include the cost of repairs, recovery of medical costs, and compensation for loss of earnings, for example.

#### **Damages for non-material harm in the field of data protection:**

As a result of the GDPR and the [Data Protection Act 2018](#) (DPA), claimants can be compensated for a breach of their data protection rights that causes non-material harm.

The DPA introduces a new tort called a 'data protection action'. Recital 85 and Article 82 of the GDPR lists the kinds of harms in respect of which a claim might be made to the Courts and includes non-material harm. The ordinary meaning of non-material harm is any non-financial category such as pain and suffering.

However, it appears that there are no reported cases to date which would serve as an indication of how the courts in Ireland define or circumscribe non-material harm/damage in the case of a data protection claim or of how the courts would assess the extent (quantum) of such damages.

#### **Loss of chance:**

There was an indication in obiter remarks by the Chief Justice of the Irish Supreme Court in a recent judgment ([Ruth Morrissey and Paul Morrissey v Health Service Executive, Quest Diagnostics Incorporated and Medlab Pathology Limited, 19 March 2020](#)) suggesting that an award of damages for loss of chance might be appropriate in certain circumstances. The approach mentioned by Chief Justice Clarke would diverge from the jurisprudence in the UK as expressed in the House of Lords decision in *Greg v Scott*.

#### **Pure economic loss:**

A number of cases, including [Siney v Dublin Corporation](#) [1980] I.R. 400 and [Ward v McMaster](#) [1988] I.R. 337, have allowed recovery of damages for pure economic loss in negligence. The courts in those cases effectively followed the earlier decisions of the UK House of Lords in the cases of [Anns v Merton London Borough Council](#) [1978] A.C. 728 and [Junior Books v Veitchi](#) [1982] 3 W.L.R. 477.

#### **Exemplary damages:**

Although the traditional concept of civil law damages is that they are purely compensatory, this is not always reflected in the practice of the courts. There is a long-standing common law practice of courts awarding "substantial", "punitive" and "exemplary" damages, but only in exceptional cases of extreme wrongdoing.

#### **Strict liability:**

Some strict liability torts do exist, for example:

- under the [Liability for Defective Products Act 1991](#) (transposing the [Council Directive 85/374/EEC](#)), a producer is strictly liable for damage caused to property or an individual by a defective product;
- under section 21 of the [Control of Dogs Act 1986](#), a person seeking damages arising out of damage caused by a dog need not show knowledge or negligence on the part of the dog's owner;
- a breach of the rule in [Rylands v Fletcher](#) [1868] UKHL 1<sup>17</sup>

<sup>17</sup> In order to satisfy the rule in *Rylands v Fletcher*, something must have been brought, collected and kept (i.e. accumulated) on the defendant's property (e.g. water in a reservoir or explosives stored on a property); it must be likely that it do "mischief"; and it must have "escaped" from the property and caused reasonably foreseeable damage to the claimant. Before imposing strict liability, it must be shown that accumulating the thing on the property

	<p>'Damage' under the <a href="#">Liability for Defective Products Act 1991</a> is defined as including personal injury and in the <a href="#">Control of Dogs Act 1986</a> as including any disease caused to a person or any impairment of his or her physical or mental condition. Claims for compensation for non-material harm can therefore also be based on strict liability.</p>
Italy	<p>Non-contractual liability can cover both pecuniary loss (including <i>damnum emergens</i> and <i>lucrum cessans</i>) (<a href="#">Article 2043</a> of the Italian <a href="#">Civil Code</a> (CC)) and non-material damage (<a href="#">Article 2059</a> CC).</p> <p><a href="#">Article 2059</a> CC is the key provision concerning non-material damage. It states that compensation for non-pecuniary loss is due only in cases expressly provided for in law.</p> <p>The main provision in this regard is <a href="#">Article 185</a> of the Italian <a href="#">Criminal Code</a> (CrC), which states that the person responsible for any infringement of a criminal provision is liable to pay compensation for both material and non-material damage.</p> <p>Originally <a href="#">Article 185</a> CrC was considered to be the only relevant provision as regards compensation for non-material damage pursuant to <a href="#">Article 2059</a> CC and compensation for non-material damage was payable only in cases where the tort was also punishable as a crime.</p> <p>Subsequently, the Court of Cassation broadened the scope of application of <a href="#">Article 2059</a> CC, stating that non-material damage may also arise from a violation of the right to health, protected by Article 32 of the Constitution (Cass. 411/1990).</p> <p>Following that interpretation, the Court of Cassation clarified that <a href="#">Article 2059</a> CC can be interpreted as referring to any violation of a fundamental and inviolable right pertaining to human dignity, protected under Articles 2 and 3 of the Italian Constitution (Cass. 8827/2003, 8828/2003; see also Const. Court <a href="#">233/2003</a>). The violation of such rights always entails the right to compensation for non-material damage.</p> <p>Case-law has developed the following categories of non-material damage: moral, biological and existential.</p> <p>Moral damage consists of moral harm, anxiety, distress and offence caused to a person's general wellbeing.</p> <p>Biological damage refers to psycho-physical personal injuries, and therefore to physical, mental and social damage. The most recent definition of biological damage can be found in Articles 138 and 139 of Legislative Decree no 209/2005 (Code of Private Insurance), which define this category of damage as temporary or permanent injury to a person's psychophysical integrity, regardless of potential repercussions to the person's capacity to produce an income.</p> <p>Existential damage refers to the violation of constitutional rights that affect the possibility of carrying out activities inherent to humans.</p> <p>In 2008, the Court of Cassation clarified that non-material damage is a unitary notion, and that the three above-mentioned categories of non-material damage serve only for descriptive purposes (Cass. 26972/2008, 26973/2008, 26974/2008, 26975/2008).</p> <p>Italian law is historically oriented towards forms of fault-based liability. The CC only provides for a few cases of strict liability:</p> <ul style="list-style-type: none"> <li>– liability for dangerous activities (<a href="#">Article 2050</a> CC);</li> </ul>

amounted to a "non-natural" use of the land. "Non-natural use" of land is a subjective consideration and the case-law has varied over the years.



- liability for damage caused by things in a person's custody, subject to a defence of *force majeure* ([Article 2051 CC](#)); and
- liability for damage caused by the total or partial collapse of a building, unless the custodian or supervisor can show that the building or structure was maintained flawlessly ([Article 2053 CC](#)).

For non-material damages to be recoverable, a subjective element (intention or fault) is required where the damage arises from a crime. In such cases, the requirement of a subjective element to prove criminal liability excludes cases of strict liability. However, damages for non-material damage are also recoverable in cases of a legal presumption of fault (Cass. 7281/2003, 7282/2003, 7283/2003, 20814/2004).

A subjective element is, however, not required when the damage arises from the violation of a constitutional right (Cass. 8827/2003, 8828/2003, 20814/2004).

## Lithuania

Article 30 of the Lithuanian Constitution ([EN translation](#)) enshrines the right to the judicial protection of a person whose constitutional rights or freedoms are violated, as well as the fact that compensation for material and non-material (moral) damage caused to a person is determined by law.

Two types of damage are covered:

- (1) material (such as financial/factual damage, economic loss and loss of profits), which can be recovered in full; and
- (2) non-pecuniary (personal) which is directly related to an individual (physical and mental health, death, moral damage) and which can never be recovered in full.

The Lithuanian Civil Code (CC) ([EN translation](#) - in the interests of clarity, an alternative translation is used in the quotations below) enshrines the principle of civil responsibility, the purpose of which is to provide for compensation for loss caused by the breach of law. Non-pecuniary damage is defined in Article 6.250 of CC as a person's suffering, emotional experiences, inconveniences, mental shock, emotional depression, humiliation, deterioration of reputation, diminution of possibilities to communicate with others, etc, evaluated by a court in terms of money. Damages for non-pecuniary damage are awarded only where expressly provided for in law. Such damages are awarded in all cases where the non-pecuniary damage is incurred as a result of crime, health impairment or deprivation of life, as well as in other cases provided for by law. In assessing the amount of non-pecuniary damage, the court must take into consideration the consequences of the damage sustained, the gravity of the fault and financial circumstances of the defendant, the amount of pecuniary damage sustained by the victim, any other relevant circumstances, as well as the criteria of good faith, justice and reasonableness.

The CC also imposes an obligation to compensate for the damage caused (non-contractual liability):

"Article 6.263 CC: Obligation to make good the damage caused

1. Every person has an obligation to follow rules of conduct in such a way that their actions (acts and omissions) do not cause harm to another person.
2. Any damage caused to a person, property or, in cases provided for by law, non-material damage must be compensated in full by the person liable.
3. In cases provided for by law, a person shall be obliged to make good any damage caused by the action of another person or damage caused by items in his possession."

Pursuant to Article 6.250(2) CC, non-pecuniary damage is to be compensated in all cases where it affects the victim's health or life:

"Article 6.283 CC: Compensation in the case of damage to health

1. If a natural person is injured or his or her health is otherwise damaged, the person liable for the damage shall be obliged to compensate the victim for any loss or non-material damage suffered by him or her.
2. The losses in the cases referred to in paragraph 1 shall include the loss of income which the injured person would have received had his or her health not been damaged and the costs related to a return of health (costs of treatment, additional meals, purchase of medication, prostheses, care of the injured person, purchase of special means of transport, retraining of the injured person and other costs necessary for the return of health).
3. If, after the decision on compensation has been taken, the victim's health deteriorates, he or she shall be entitled to bring an action for compensation for additional costs, unless the damage has been compensated by a specific lump sum of money.

Article 6.284 CC: Liability for loss of life

1. In the event of the death of a natural person, persons who were dependants of the deceased or who were entitled to receive maintenance from the deceased at the time of his or her death (minor children, spouse, incapacitated parents or other de facto incapacitated dependants), as well as any child born after the death of the deceased. Those persons shall also be entitled to compensation for non-material damage.
2. Persons entitled to compensation for their survivors shall be compensated for the part of the deceased's income which they received or to which they were entitled during the deceased's life.
3. The amount of damages to be compensated shall not be altered, except where a child is born after the surviving spouse.
4. This Article shall apply only in cases where the victim is not insured against accidents at work in accordance with the procedure laid down by law."

The Supreme Court has pointed out (see the ruling of the Chamber of Judges of the Civil Cases Division of the Supreme Court in civil proceedings *T.G. v R.Š., limited liability company "Broliq T-ų leidyba"*; Case 3K-3-294/2003) that the occurrence of non-pecuniary damage, i.e. compensation for non-pecuniary damage for the infringement of non-material rights is subject to all the conditions for civil liability/fault-based liability (unlawful conduct, causal link, fault and damage as set out in Articles 6.246 to 6.250 CC).

As regards compensation for non-pecuniary (moral) damage, the principle of full compensation cannot be applied objectively in its entirety, since it is impossible to quantify non-pecuniary damage precisely in monetary terms. The law provides for monetary satisfaction designed to compensate the victim as fairly as possible for emotional and physical pain, etc. Article 6.250 CC does not set thresholds (minimum or maximum) but leaves it to the court to assess the extent of non-pecuniary damage, as a question of fact.

The Supreme Court has clarified that, in order to determine the extent of the non-pecuniary damage to be compensated in a particular case, the court must apply the criteria for assessing the amount of that damage in monetary terms to the extent possible. Furthermore, in order to determine the extent of non-material damage, it is necessary to assess, on a case-by-case basis, the whole set of criteria, that is to say, both the circumstances which may lead to a higher amount of non-material damage and the circumstances which may lead to a lower amount of compensation (see, for example, the ruling of the Chamber of Judges of the Civil Cases Division of the Supreme Court in civil proceedings, *P.D. v R.V., A., etc.*; Cases 3K-3-394/2006 etc. and the ruling of the Chamber of Judges of the Civil Cases Division of the Supreme Court in civil proceedings, *D.M. and L.M. v limited liability company "Ekstra žinios"*; Cases 3K-3-26/2009).

The CC provides for the following cases in which persons are entitled to claim compensation for non-material damage in addition to his or her rights under the following provisions:

- the transaction is declared void as a result of deception, violence, economic pressure, real threats or malicious agreement between the party's representative and the second party, and the victim suffered non-material damage caused by such actions (Article 1.91 CC);
- infringement of the right to a name of a natural person (Article 2.21 CC);
- infringement of the right to an image of a natural person (Article 2.22 CC);
- infringement of the right to private life and confidentiality (Article 2.23 CC);
- degradation of a person's honour and dignity and dissemination of erroneous data (Article 2.24 CC);
- infringement of the right to the inviolability and integrity of the person (Article 2.25 CC);
- unlawful restriction of the freedom of a natural person (Article 2.26 CC);
- infringement of the right to a business name of a legal person (Article 2.42 CC);
- termination of an agreement to marry (engagement) and divorce (Articles 3.11 and 3.70 CC);
- damage caused by unlawful actions of preliminary investigation officials, prosecutors, judges and the court (Article 6.272 CC), in which case the State is liable for damages;
- inadequate provision of tourism services (Article 6.754 CC);
- breach of confidentiality of information by the insurer (Article 6.995 CC).

In addition to the CC, compensation for non-material damage is governed by other laws, including:

- Law of the Republic of Lithuania of 11 January 2019 on compensation for damage caused by criminal offences;
- Law of the Republic of Lithuania of 21 May 2002 on compensation for damage caused by unlawful acts by public authorities and on representation of the State;
- Law of the Republic of Lithuania of 3 October 1996 on Patients' Rights and Compensation for Health Damage: at the end of 2019, the law was amended and established the principle of compensation for damage to health (both material and non-material damage) without a need to prove fault;
- Law of the Republic of Lithuania of 14 June 2001 on Compulsory insurance against civil liability in respect of the use of motor vehicles;
- Labour Code of the Republic of Lithuania.

## Malta

Article 1045 of Chapter 16 (Maltese [Civil Code](#) (CC)) of the Laws of Malta (LoM) provides for two types of damages, *damnum emergens* (direct loss, or damages for actual loss suffered) and *lucrum cessans* (loss of profits, or loss of future earnings).

Damages also cover expenses incurred by the injured party and any loss in actual or future earnings arising from a permanent incapacity caused. In calculating loss of future earnings, the court must have regard to the circumstances of the case, and, in particular, to the nature and degree of incapacity caused and to the condition of the injured party ([Trevor Grech vs Lawrence Agius \(Rik.Ġur.1030/2013 GM\)](#)). However, contributory negligence may lead to a reduction in the damages awarded. Thus, Article 1051 CC stipulates that if the injured party has, by his or her own imprudence, negligence or want of attention contributed to or caused the damage, the court, in assessing the amount of damages payable to him or her, reduces the amount of damages payable by the proportion of the victim's liability for the damage. Moral damages are provided for in specific legislation, such as Chapter 488

([Enforcement of Intellectual Property Rights \(Regulation\) Act](#)) LoM and Chapter 579 ([Media and Defamation Act](#)) LoM.

Chapter 488 LoM and in particular Article 12 provides that where the defendant knowingly or being reasonably expected to know, engaged in unlawful conduct, the court must award the claimant damages commensurate with the actual prejudice suffered. In setting the amount of damages due, the court must take into account all relevant aspects, including all the negative economic consequences that may have been suffered by the claimant, including lost profits, as well as any unfair profits made by the defendant and, where appropriate, other elements such as moral damage to the claimant. Where appropriate, the court may apply an alternative method of calculation involving the setting of a lump sum payable which includes elements such as at least the amount of royalties or fees which would have been due had the infringer requested authorisation to use the intellectual right in question. Where the court is of the opinion that the defendant did not knowingly engage in unlawful conduct, it may order the recovery of profits or the payment of damages, as may be provided for in regulations made under the relevant legislation.

Chapter 579 LoM and in particular Article 9 provides that in proceedings instituted under that Chapter, the court may order that the defendant pay a sum not exceeding EUR 11,640 by way of moral damages, in addition to actual damages, but that the maximum awarded in actions for slander is EUR 5 000.

Further, Article 11 of Chapter 579 LoM provides that in assessing the sum awarded in an action for defamation, the court must take into account:

- (a) the gravity of the defamation or the extent of likely harm to the reputation of the claimant;
- (b) whether the defendant exercised due diligence before publishing the defamation;
- (c) whether the defendant apologised or offered to apologise to the claimant or to publish a clarification to the satisfaction of the claimant before the action or as soon as possible afterwards.

Where the defendant has apologised and published an unreserved correction with the same prominence as the original publication or published a reply submitted by the claimant with the same prominence as the original publication, then the court may award a maximum of EUR 5 000 in moral damages.

The claimant has a right of action in respect of each and every imputation in the same case and may proceed against any or all of the defendants, jointly or severally, subject to a maximum recoverable amount of EUR 11 640 in moral damages in regard to the same case. In assessing the sum to be awarded in an action for defamation, the court must take into account, as considers appropriate, in the interests of proportionality, the economic capacity of the defendant, and the impact which the payment of the sum awarded is likely to have on the newspaper, broadcaster, website, journalist or other media actor.

## Netherlands

The main provisions of Dutch law on compensation for non-material harm are Articles 6:95 and 6:106(1) of the Dutch [Civil Code](#) (CC) ([EN version](#)).

[Article 6:95](#) CC provides that: “the damage that has to be compensated ... consists of material loss and other disadvantages” and that “other disadvantages” comprise those with regard to which “the law implies that there is an entitlement to a compensation for such damage”.

Dutch law thus distinguishes between patrimonial damage (material loss) and other damage (other disadvantages). Other damage relates to non-material (or non-patrimonial) damage.

According to [Article 6:95](#) CC, liability for non-material damage arises only where there is a legal basis for such compensation. This means that the Dutch legal system is a “closed” system with regard to compensation for non-material harm and that the courts are not free to award such compensation: non-material harm can give rise to damages only where expressly provided for in law and a right to full compensation arises only in such cases.

The main legal basis for an award of damages for non-material harm is [Article 6:106\(1\)](#) CC, which provides for such damage in accordance with “reasonableness and fairness” where the harm was caused intentionally, where the victim suffered physical harm, harm to his or her honour or reputation, or “other harm to his or her person”, or where the damage comprised harm to the memory of the deceased victim, the victim would have been entitled to damages had he or she survived, and the compensation is claimed by a close relative.

Thus, an award for such damages is subject to the following conditions:

- the courts will assess the damages in accordance with the standards of reasonableness and fairness;
- only the direct victim may claim such damages;
- a claim arises only in the situations provided for in [Article 6:106\(1\)](#) CC.

However, the words “other harm to his or her person”, allow the courts some discretion in their assessment of such an award of damages.

Other relevant legal provisions applicable to compensation for non-material harm are:

- [Article 6:97](#) CC, which provides for the judge to evaluate the loss in the manner most consistent with its nature and to estimate the loss where the extent of the damage cannot be precisely determined. An annual overview of awards of compensation for non-material harm are published to assist the courts (*Smartengeldbundel*).
- [Article 6:100](#) CC, which provides for the judge to take into account any benefit that the victim may have obtained as a result of the damage to the extent reasonable when determining the amount of compensation. Non-material benefit is to be taken into account when determining the amount of the compensation for non-material harm.
- [Article 6:101\(1\)](#) CC, which provides for a reduction of damages in the case of contributory negligence on the part of the victim, in proportion with the share of the victim’s responsibility and subject to fairness with regard to all the circumstances. Depending on the circumstances, the courts have discretion to award no reduction in compensation or to completely exonerate the tortfeasor.

All the provisions referred to above, in particular Articles [6:95](#) and [6:106](#) CC, apply irrespective of the nature of or legal basis for the liability. This implies that they apply to cases of fault-based and strict liability.

## Portugal

The Portuguese [Civil Code](#) (CC) contains the provisions regulating non-material damage which are applicable to cases of strict and fault-based liability. Article 562 CC establishes the principle of natural restitution, which provides for compensation to reestablish the situation that would have existed but for the event that caused the damage. The damage covered is not only the direct measurable loss caused, but also loss of profits, including foreseeable future profits.

Article 564(1) CC (calculation of compensation) provides that liability in damages includes not only the direct loss caused, but also the benefits that the injured party would have obtained by for the damage. Death, personal injury, distress, mental health and moral damage (such as suffering arising from damage to physical integrity, honor or reputation) are covered, as well as any “non-pecuniary damage which, due to its seriousness, deserves

	<p>legal protection" (Article 496 CC). Article 494 CC provides for a limitation for compensation in cases of liability based on 'mere fault' (negligence or unintentional tort): "where liability is based on mere fault, compensation may be fixed equitably at an amount lower than that corresponding to the damage caused, where the degree of fault of the tortfeasor, the financial situation of the tortfeasor and of the injured party, as well as other circumstances of the case so justify".</p>
<b>Romania</b>	<p>Article 252 of the Romanian <a href="#">New Civil Code</a> provides that every natural person is entitled to the protection of the inherent values of a human being, such as life, health, physical and psychological integrity, dignity, intimacy of private life, freedom of consciousness (free will), scientific, artistic, literary and technical creation.</p> <p>Articles 1381 to 1395 NCC, supported by consistent case-law, identify the following types of damage: patrimonial damage (quantifiable in money, including present and future loss, including loss of opportunity, provided that such loss is real and reparable); physical damage (affecting the life and physical integrity of a person, including aesthetic damage); and non-material (moral) damage (which touches, inter alia, on the emotional or societal personality, honour or dignity of the victim).</p> <p>The damage must:</p> <ul style="list-style-type: none"> <li>– be certain (real and serious, not just possible);</li> <li>– be personal to the victim (but can be both individual and collective);</li> <li>– be direct (the tort concerns the victim directly, but the damage can be caused both directly and indirectly);</li> <li>– have resulted from hindering a legitimate right or interest of the victim.</li> </ul> <p>Section 6 of the NCC, entitled "Repair of the damage in the case of civil tort law" is the final article in Chapter IV, which deals with civil liability, and applies to all types of liability regulated in that Chapter (liability for own conduct; liability for the conduct of another; and liability for "things"). It therefore applies to both fault-based and strict liability cases.</p> <p>Article 1391(1) NCC, which is part of Section 6, provides for compensation for moral damage and allows for compensation to be awarded in the case of harm to the physical integrity or to the health of a victim where such harm limits the victim's family and social life.</p> <p>The High Court of Cassation and Justice (HCCJ), in its <a href="#">Decision no 12 of 16 May 2016</a> (Official Gazette no 498 of 4 July 2016) held, in the context of a criminal case involving personal injury caused by negligence, that only the direct victim is entitled to obtain compensation for any harm limiting his or her family and social life under Article 1391(1) NCC ('enjoyment damage').</p> <p>Pursuant to Article 1391(2) NCC, however, courts may also award compensation for the pain and suffering caused by the death of the victim, to the victim's relatives in the ascending or descending line, his or her siblings and partner, as well as any other person who can present evidence of such a harm or damage ('moral damage by ricochet or reflection').</p> <p>Article 253 NCC is applicable to Article 1391 NCC. Article 253(1) NCC provides that a natural person whose non-patrimonial or moral rights have been infringed or threatened may apply to the courts for an injunction to prevent an imminent tort; for an injunction to stop an ongoing tort or to prohibit its repetition; or for a declaration establishing the tortious nature of an act.</p> <p>In order to establish damage, the HCCJ, in its settled case-law, has decided that the type and the importance of the damage to non-patrimonial or moral values, the personal</p>



situation of the victim, the social environment of the victim, her or his education, culture, morality standards, personality and social status must be taken into account.

In relation to evidence of moral damage, there is no unified case-law. Several courts (e.g., the Reșița city court in its unpublished civil decision no 283/27.1.2011, and the [Râmnicu Vâlcea](#) city court) have determined that, due to the subjective, internal nature of moral damage, proving that the tortious act took place is enough and the existence of the damage and the causation between the act and the damage are presumed. The court thus made a finding of non-patrimonial damage on the basis of the mere existence of the tortious act that could cause such damage. Such a solution, although atypical of the general regime of tort law, are justified on the basis that evidence of moral damage is particularly difficult to present.

Other courts (e.g., the Cluj Appeal Court in its unpublished decision no 681/16.2.2011, and the Ploiești Appeal Court in its [Decision no 683/21.4. 2010](#)) have stated that, in order to award moral damage, it is necessary for the claimant to present minimum arguments and elements of proof of the degree to which the claimant's non-patrimonial or moral rights have been harmed.

The HCCJ has stated, in its [Decision no 2356/20.4.2011](#), that moral damage represents harm to the physical existence, physical integrity, health, dignity, honour, or professional prestige of a person. For a claim in damages to arise and be upheld, it is not sufficient to determine the fault of the defendant, but the claimant must prove that moral damage was suffered. The claimant is therefore obliged to prove the existence of the damage and the causal link between the damage and the tortious act.

According to the case-law<sup>[1]</sup>, it is difficult to determine the level of compensation to be awarded for moral damage. In the absence of material elements of proof, it is for the court to determine a global amount, based on the consequences of the harm suffered by the victim. The exact amount cannot be determined by means of mathematical or economic criteria, but the court must decide appropriate damages that represent equitable compensation, depending on the concrete circumstances of the case. The Romanian courts also apply the principle of reasonable proportionality ratio according to the type and degree of harm suffered, underlined by the settled case-law of the European Court of Human Rights (e.g., case *Tolstoy Miloslovsky v. United Kingdom* and *Ernestina Zullo v. Italia*) in determining the appropriate level of compensation.

<sup>[1]</sup> Criminal sentence no 291/A/3.10.2007 of Cluj County Court, remained final by criminal decision no 44/R/2008 of Cluj Appeal Court – unpublished and criminal sentence no 494/3.6.2009 of Bucharest City Court 1 – unpublished.

## Slovakia

The Slovak [Civil Code](#) (CC) regulates liability for material and, in certain cases, also non-material damage.

Article 415 CC provides for a general obligation to act in a way that does not cause damage to another's health or property, or to nature or the environment. Article 420 CC establishes general liability for damage arising out of a breach of a legal obligation. This is a fault-based liability provision.

In general, compensation is provided for actual (material) damage and loss of profits (Article 442 CC). There are, however, circumstances in which compensation for non-material harm is provided for.



	<p>In the case of a breach of an intellectual property right, Article 442a CC provides for financial compensation for non-material harm, provided that other forms of compensation (such as an apology) are not considered to be adequate.</p> <p>In the case of damage to health, in addition to compensation for medical and other expenses relating to the victim's recovery (Article 449 CC), non-material harm in the form of the victim's pain and suffering and worsened social situation is also compensated for by means of a lump sum (Article 444 CC).</p> <p>The CC also provides for the protection of the victim's personality. In particular, under Article 11 CC, a person has a right to the protection of his or her personality, life and health, honour, dignity, privacy, name and expressions of a personal nature (personality rights). A person may request cessation of the unlawful interference with his or her personality rights, the removal of the consequences of such an interference, and adequate compensation (Article 13(1) CC). If such compensation is insufficient, he or she may claim monetary compensation for non-material harm (Article 13(2) CC). The amount of such compensation is determined by the court, taking into account the circumstances of the case and the severity of the harm caused (Article 13(3) CC).</p> <p>Depending on the circumstances, the court may decrease the compensation awarded, as appropriate (Article 450 CC).</p>
Slovenia	<p>Article 132 Slovenian <a href="#">Obligations Code</a> (OZ) (<a href="#">EN version</a>) provides that damage entails the diminution of property (ordinary damage), the prevention of the appreciation of property (loss of profits), the infliction of physical or mental distress or fear on another person, and damage to the reputation of a legal person (non-material damage).</p> <p>The OZ distinguishes between material and non-material damage. According to Article 132 OZ, ordinary damage and loss of profits are considered to be material damage while causing personal injury, mental distress or fear in another person and damage to the reputation of a legal person are considered to be non-material damage.</p> <p>Non-material damage is provided for in Articles 178 to 185 OZ.</p> <p>Article 178 OZ states that where a personal right has been infringed, the court may order the publication of its judgement, a correction of the infringing statement at the defendant's expense, a retraction of the statement, or another measure by means of which it is possible to achieve the purpose of the compensation. Legally recognised forms of non-material damage for which a natural person can claim monetary compensation are limited to those listed in Articles 179 to 182 OZ. According to established case-law, monetary compensation (liability for damages) cannot be awarded in other cases of non-pecuniary damage.</p> <p>Article 179(1) OZ provides that monetary compensation independent of the reimbursement of material damage is payable to the victim for:</p> <ol style="list-style-type: none"> <li>(1) physical distress;</li> <li>(2) mental distress arising from a reduction of enjoyment of life, disfigurement, damage to name or reputation, truncation of a freedom or a personal right, or the death of a close associate; and</li> <li>(3) fear.</li> </ol> <p>Monetary compensation is awarded only if the circumstances of the case, particularly the level and duration of distress and fear, justify such compensation, even in the case of non-material damage.</p>

	<p>The amount of compensation for non-material damage depends on the importance of the right affected and the purpose of the compensation and should not support tendencies that are incompatible with the nature or purpose of the compensation (Article 179(2) OZ).</p> <p>If a person dies as a consequence of a tort, the court may award just monetary compensation to the victim's immediate family members (spouse, children and parents) for their mental distress (Article 180(1) OZ). In the event of the victim becoming seriously disabled, the court may award just monetary compensation to the victim's spouse, children or parents for their mental distress (Article 180(2) OZ). Such compensation may also be awarded to a sibling if there was a life-long union between the sibling and the victim (Article 180(3) OZ) and to the victim's long-term partner (Article 180(4) OZ).</p> <p>A person who was coerced into unlawful sexual intercourse or another sexual act by means of fraud, force or the abuse of a relationship of subordination or dependence and a person whose dignity or morals were violated by the criminal act of another has the right to fair monetary compensation for mental distress (Article 181 OZ).</p> <p>At the request of a victim, the court may also award compensation for future non-material damage if, according to the customary course of events, it is foreseeable that the damage will be long-lasting (Article 182 OZ).</p> <p>The Court awards fair monetary compensation for damage to the reputation or good name of a legal person if it finds that the circumstances so justify, even in the case of non-material damage (Article 183 OZ).</p> <p>Article 185 OZ provides that the provisions on shared liability and reduced compensation that apply to material damage (Articles 170 and 171 OZ) also apply to non-material damage.</p> <p>Having taken the victim's financial situation into consideration, the court may order the payment of a sum lower than that needed to compensate for the damage where the damage was not inflicted intentionally or by gross negligence, the defendant is in a weak financial situation and the payment of full compensation would entail great hardship to him or her (Article 170(1) OZ). If the defendant inflicted the damage when acting for the benefit of the claimant, the court may order a reduction of compensation, taking into account the diligence shown by the defendant (Article 170(2) OZ).</p> <p>In the case of contributory negligence on the part of the claimant,, compensation is reduced in proportion to the claimant's contribution to the damage (Article 171(1) OZ). If it is impossible to determine which part of the damage is the consequence of the claimant's conduct, the court awards compensation having taken into account all the circumstances of the case (Article 171(2) OZ).</p>
<b>Spain</b>	<p>There is consensus in Spanish case-law and academia that the principle underlying the rules on civil liability for damage is <i>restitutio in integrum</i>, so that the scope of compensation covers both material and non-material damage, as well as compensation for actual loss and loss of profits.</p> <p>The Spanish <a href="#">Civil Code</a> (CC) contains general rules on civil liability for damage, including on fault-based liability. However, in the case of death or personal injury, or damage to property, provisions of the <a href="#">Criminal Code</a> (CrC) on civil liability may apply since, according to Article 1092 CC, "civil obligations arising from crimes or misdemeanours shall be governed by the provisions of the Criminal Code". (Articles 109 to 110 CC). Article 110 CrC lists the following elements as included in civil liability: "restitution, repairing the damage and compensation for material and moral damage".</p>

On the other hand, civil obligations which arise from acts or omissions in which there was fault or negligence for which there is no criminal liability are subject to the provisions of chapter II of Title XVI of the CC ("on obligations which are entered into without an agreement" or tort law). According to Article 1902 CC, "The person who, as a result of an act or omission, causes damage to another person by his or her fault or negligence shall be obliged to repair the damage caused". Since there are no specific rules in that chapter on the scope of that obligation to make good the damage, relevant provisions on contractual liability laid down in the CC apply *mutatis mutandis*.

Under contract law, where there is an agreement (between a "creditor" and a "debtor" linked by an obligation) Article 1101 CC would apply, according to which "Persons who, in the performance of their obligations, incur in wilful misconduct, negligence or default, and those who in any way contravene the content of those obligations, shall be liable to pay damages". The damage covered comprises not just the value of the actual loss suffered, but also loss of profits (Article 1106 CC). The debtor is liable for damage which, in good faith:

- was or could have been foreseen at the time of the contract; and
- is a necessary consequence of the debtor's failure to perform.

In the event of wilful misconduct, the debtor is liable for all the damage which is known to have arisen from the failure to perform the obligation (Article 1107 CC).

With regard to non-material (moral damage), according to the settled case-law of the Spanish Supreme Court, the notion of non-material damage does not include any aspects of material damage and occurs when the intangible right of a person has been undermined. Such intangible rights include honour, privacy and image, as provided for in Law 1/1982 of 5 May 2007 on civil protection of the right to honour, personal and family privacy, and to self image. It also includes distress and pain and suffering (*pretium doloris*) following the death of a loved one (judgment of 31 October 2002 of the Civil Chamber of the Supreme Court), [STS 7230/2002](#), ECLI: ES:TS:2002:7230).

The case-law has extended the notion of non-material damage to cover situations of "psychological or spiritual suffering, powerlessness, unease, anxiety and distress, in the form of a permanent mood or a certain degree of intensity" (judgment of 31 May 2000 of the Civil Chamber of the Supreme Court, [STS 4430/2000](#), ECLI: ES:TS:2000:4430). Providing evidence of the basic facts giving rise to loss of health or psychological damage, such as establishing the need for medical care during a given period, is sufficient to establish non-material damage.

With regard to quantum, since non-material damage has an emotional dimension, the court's award always includes a subjective component (judgment of 12 May 2014 of the Administrative Chamber of the Supreme Court, [STS 2421/2014](#), ECLI: ES:TS:2014:2421). The court's final award in damages is to be assessed in a reasonable, balanced manner, with regard to all the circumstances of the case and the need to provide full compensation, which may include loss of revenue, setting out the reasons for the assessment.

Given the absence of specific rules on the quantification of moral damage, the courts have accepted the use of scales as provided for in the tables annexed to Law 35/2015 of 22 September ([Ley 35/2015](#), de 22 de septiembre, de reforma del sistema para la valoración de los daños y perjuicios causados a las personas en accidentes de circulación), as guiding criteria (judgment of 8 April of 2016 of the Civil Chamber of the Supreme Court, [STS 1420/2016](#), ECLI: ES:TS:2016:1420).

## Sweden

The main basis for compensation for tortious damage is found in Swedish tort law, *Skadeståndslag* (SkL). There are four groups of damage:

- personal injury (chapter 2, §1 SkL);
- other types of damage to the person: non-material (non-patrimonial) damage, such as distress or damage to mental health (chapter 2, §3 SkL);
- damage to property (chapter 2, §1 SkL); and
- financial damage, with no correlation to physical injury or damage to property, such as loss of profits (chapter 2, §2 SkL) (def: chapter 1, §2 SkL<sup>18</sup>).

Non-material (non-patrimonial) damage comprises a serious attack on another person or on that person's freedom, peace or honour. There is no need for physical damage; psychological damage is enough. It is however necessary that the attack is targeted at a person or a specified group of persons. In the case of a group, it is not enough for that group to consist of people occupying a particular building. The courts apply an objective test to determine whether there is non-material (non-patrimonial) damage and do not take account of the point of view of the victim.

<sup>18</sup> Persson et. al. (2018) 253-254. In principle, an AI programmer can be held liable for a fault in programming resulting in damage, although this is not very likely.



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The findings of this European added value assessment (EAVA) suggest that the revision of the EU civil liability regime for artificial intelligence systems (AI) would likely generate substantial economic and social added value. The current preliminary analysis suggests that by 2030, EU action on liability could generate €54.8 billion in added value for the EU economy by stepping up the level of research and development in AI and in the range of €498.3 billion if other broader impacts, including reductions in accidents, health and environmental impacts and user impacts are also taken into consideration. A clear and coherent EU civil liability regime for AI has the potential to reduce risks and increase safety, decrease legal uncertainty and related legal and litigation costs, and enhance consumer rights and trust. Those elements together could facilitate the faster and arguably safer uptake and diffusion of AI. Member States have not yet adopted specific legislation related to the regulation of liability for AI, with some exceptions related to drones, autonomous vehicles and medical AI applications. Timely action at EU level would therefore reduce regulatory fragmentation and costs for producers of AI while also helping to secure high levels of protection for fundamental and consumer rights in the EU.

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