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MOTOR THIRD-PARTY LIABILITY INSURANCE AND AUTONOMOUS VEHICLES

Abstract

The author examines the issue of using autonomous vehicles, or “smart cars,” in the context of the existing regulatory framework governing insurance for damages arising from the use of motor vehicles. In this regard, the paper addresses the adequacy of current legal solutions concerning MTPL insurance and autonomous vehicles. It specifically highlights the challenges that the emergence of autonomous vehicles presents in relation to the concept of liability, a central component of this type of insurance. The analysis includes the current legal framework at the European Union level and domestic legislation, pointing out potential directions for improving legislative solutions, particularly in terms of shifting paradigms in understanding liability and liable parties, advocating for a new, specialized, and comprehensive approach to regulating matters related to traffic damage insurance more broadly.

Keywords: insurance, autonomous vehicles, liability, insurance policy.

I INTRODUCTION

The concept of insurance, as a social and business activity whose primary purpose is to prevent or mitigate economic damage arising from risks, or as an “institution developed from the human need to control surrounding risks”² has undergone significant evolution over the centuries.³ From the rudimentary forms of insurance recorded in the Code of Hammurabi, through the recognition of life

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² Nataša Petrović Tomić, *Pravo osiguranja Sistem – Knjiga I, Official Gazette of the RS*, Belgrade, 2019, p. 41

³ Ivana Soković, „Značaj osiguranja i perspektive razvoja u Srbiji”, *Tokovi osiguranja*, br. 2/2024, str. 265-279.

insurance as relevant and permissible (which at the time marked a significant revolution in the insurance industry), to increasingly sophisticated policies covering risks in the cyber world, insurance has mirrored the socio-economic development of society through its evolutionary leaps in defining risks, coverage, insurance terms, and other principles of insurance law.

This chronological development of insurance reveals a consistent pattern: the growth of the insurance industry depends on the development of other branches of the economy. Given that technology, or more specifically technological advancement, is the primary driver of the industry, it leads to the conclusion that the insurance sector is also dependent on technological development.

Today, on the brink of the Fourth Industrial Revolution, a “technological revolution that will fundamentally alter the way we live, work, and relate to one another”⁴ new questions arise about the synchronization of technological advancement and the insurance market. In the era of digitalization, nanotechnology, biotechnology, 3D printing, the Internet of Things (IoT), artificial intelligence (AI), quantum computing, and automation, the future of specific branches of insurance will come into question.⁵

One of the most significant branches of insurance that will face fundamental changes is the *conditio sine qua non* of every national legal framework in the field of insurance, i.e. motor third-party liability (MTPL) insurance.⁶ This branch insures vehicle owners against liability for damages caused to third parties.⁷

Due to the tremendous technological leap propelling the Fourth Industrial Revolution, some of the most significant changes will occur in the motor liability insurance market as a result of the emergence of autonomous vehicles i.e. vehicles in which the role of the human driver is minimized or entirely eliminated. The emergence of “smart cars” controlled by AI challenges the insurance concept based on risk coverage derived from liability. Under such circumstances, established principles for compensation based on subjective or objective liability may become obsolete.

Therefore, in the coming years, one of the key questions in motor liability insurance will be the redefinition of existing concepts related to policyholders, insurance premium calculations, risk assessment, liability, and other components integral to this type of insurance.

⁴ Klaus Schwab, *The Fourth Industrial Revolution – What It Means and How to Respond*, Foreign Affairs, 2015, <https://www.foreignaffairs.com/world/fourth-industrial-revolution>, accessed: 19. 5. 2024.

⁵ Jelena Kočović, Tatjana Rakonjac Antić, Marija Koprivica, Kristina Bradić, „Pravci razvoja tržišta osiguranja“, *Tokovi osiguranja*, br. 3/2024, str. 536-548.

⁶ There are only a few countries in the world that have not implemented mandatory insurance for damages caused by motor vehicles. For more details, see Ivica Jankovec, *Obavezno osiguranje za štete od motornih vozila*, Savremena administracija, Belgrade, 1977, pp. 14–16.

⁷ Law on Compulsory Traffic Insurance, Official Gazette of the RS, Nos.51/2009, 78/2011, 101/2011, 93/2012 and 7/2013 - Decision of the Constitutional Court.

II AUTONOMOUS VEHICLES

The news that the first “license” for an autonomous vehicle⁸ was issued in the Republic of Serbia marked a significant milestone in 2023 regarding autonomous vehicles and our country. This represents a substantial step forward in the use of such vehicles on domestic roads.

In this regard, it is important to clarify what autonomous vehicles are and how they function. In brief, their essence can be summarized as follows:⁹

- autonomous vehicles do not require a human operator, i.e. a driver;
- these vehicles are designed in a way that allows the software to perform driving tasks—day or night, in adverse weather conditions, etc., similar to how a human operator would;
- autonomous vehicles are programmed to be the perfect model of a car, entirely focused on driving, adhering to traffic regulations, ensuring the safety of passengers and pedestrians, and capable of responding to various emergency situations.

In recent years, significant progress has been made in designing and manufacturing of such vehicles aiming to minimize potential risks inherent to human drivers. This progress relies on artificial intelligence and software systems, which form the core of autonomous vehicles. Manufacturers hope that autonomous vehicles will reduce the number of fatalities in traffic accidents “because the computers in these vehicles will never get tired, get drunk, or otherwise get distracted like human operators.”¹⁰ Essentially, the primary role of autonomous cars is to ensure that “the vehicle behaves appropriately, even when the driver does not.”¹¹

Regarding the classification of autonomous vehicles, the generally accepted standard divides them into levels ranging from “level 0” to “level 5” depending on the degree of driving automation. For example, the U.S. National Highway Traffic Safety Administration (NHTSA)¹² defines the levels as following:

Level 0 encompasses most traditional vehicles, i.e. non-autonomous vehicles.

Levels 1–2 indicate that human operators are primarily responsible for basic driving functions, while automated features serve as secondary functions (e.g. parking sensors, cruise control, etc.).

⁸ News: „Srbija izdala prvu dozvolu za vozilo bez vozača trećeg stepena“, <https://n1info.rs/magazin/scitech/srbija-izdala-prvu-dozvolu-za-vozilo-bez-vozac-a-3-stepena/>, accessed: 20. 5. 2024.

⁹ Anthony Paolino, The Ultimate Insurance Policy: Autonomous Vehicles and Artificial Intelligence, A Statutory Proposal for a Complicated Product, *Arizona Law Journal of Emerging Technologies*, Arizona, 2018, p. 3

¹⁰ Jeffrey K. Gurney, „Sue My Car Not Me: Products Liability and Accidents Involving Autonomous Vehicles“, *JOURNAL OF LAW, TECHNOLOGY & POLICY* [Vol. 2013], 2013, p. 251

¹¹ Amar Kumar Moolayilal, The Modern Trolley Problem: Ethical and Economically-Sound Liability Schemes for Autonomous Vehicles, 9 *CASE W. RESERVE J.L. TECH. & INTERNET* 1, 2-4 (2018).

¹² National Highway Traffic Safety Administration, part of the U.S. Department of Transportation, <https://www.nhtsa.gov/vehicle-safety/automated-vehicles-safety>, accessed: 19. 5. 2024.

Levels 3–5, on the other hand, represent highly automated vehicles, where automated systems are primarily responsible for driving, and the role of the human operator is secondary or entirely absent.

It is important to highlight that the distinction between levels 3 and 5 lies in the degree and intensity of the human operator's active involvement during driving. For instance, level 3 autonomous vehicles use automated systems capable of reacting to changes in the driving environment, often referred to as "dynamic driving". However, such vehicles require the human operator to take control whenever the system is uncertain about the precise action.¹³

Level 4, implies almost identical human operator's involvement as level 3 vehicles, but the initiative to take control lies with the driver. The vehicle will not request the driver to take over control; instead, the driver can, but is not obligated to, intervene during an emergency.¹⁴

Finally, level 5 vehicles eliminate any possibility for the driver to intervene, as pedals and steering wheels are completely removed. In this way, the driver actually becomes a passenger in their own car.

In the context of domestic legislation, autonomous vehicles are recognized in the Road Traffic Safety Act as vehicles manufactured or modified to include an "automated driving system" that "allows the vehicle to move on the road with partial driver control or without complete control."¹⁵

Additionally, the Rulebook on the Conditions for Conducting Autonomous Driving defines the automated driving system as "a combination of hardware and software components which, depending on the level of automation, perform the dynamic driving task within a defined operational range."¹⁶

Regarding the use of autonomous vehicles on domestic roads, the Road Traffic Safety Act and the aforementioned Rulebook predict the possibility of obtaining permits solely for testing purposes,¹⁷ limited to vehicles with up to level 4 automation.¹⁸ However, it is important to note that both the Road Traffic Safety Act and the Rulebook remain unclear regarding the source of classification concerning levels of automation.

When it comes to motor liability insurance provisions, particularly in the Compulsory Traffic Insurance Law, it is important to emphasize that the text of this law has not undergone any revisions to align with the "pioneering" introduction of autonomous vehicles on domestic roads.

¹³ Amar Kumar Moolayilal, *The Modern Trolley Problem: Ethical and Economically-Sound Liability Schemes for Autonomous Vehicles*, 9 CASE W. RESERVE J.L. TECH. & INTERNET 1, 2018, p. 2.

¹⁴ *Ibid.*

¹⁵ Law on Compulsory Traffic Insurance, Official Gazette of the RS, 41/2009, 53/2010, 101/2011, 32/2013 – Decision of the CC, 55/2014, 96/2015 – Decision of the CC, 9/2016 – Decision of the CC, 24/2018, 41/2018, 41/2018 – other law, 87/2018, 23/2019, 128/2020 – other law and 76/2023), article 7 para. 1 item 105.

¹⁶ Rulebook on the Conditions for Conducting Automated Driving, Official Gazette of the Republic of Serbia, No. 104/2023, Article 2, Paragraph 1, item 1.

¹⁷ Road Traffic Safety Act, Article 122a.

¹⁸ Rulebook on the Conditions for Conducting Automated Driving, Article 3, para. 3.

Thus, current domestic regulations remain silent on the issue of insuring autonomous vehicles, which is almost certain to cause significant practical problems concerning potential damages that autonomous vehicles may cause. This is particularly relevant to the issue of driver liability, considering that the nature and conceptual idea of autonomous vehicles implies a substantial reduction or elimination of driver responsibility, given that the driver's role in operating such vehicles is reduced or completely excluded.

III THE CONCEPT OF LIABILITY FOR DAMAGE CAUSED BY MOTOR VEHICLES

First, it is important to note that at the EU level, the issue of liability for damages caused by motor vehicles is left to national legislations.¹⁹ On the other hand, motor liability insurance is uniformly regulated at the EU level through the (revised) Motor Insurance Directive.²⁰

In this regard, when it comes to the regulation of liability, it is important to analyze existing liability systems and rules regarding motor vehicles. In comparative law, generally we can distinguish three main liability systems for damages caused by the use of motor vehicles:²¹

- objective liability system (based on the principle of causality) – characteristic of Austria, Switzerland, Germany, Poland, the Czech Republic, Slovakia, Hungary, and others;
- presumed fault system – characteristic of Italy, Belgium, Luxembourg, France, and Denmark;
- fault-based liability system – characteristic of Predominantly used in the United Kingdom and Ireland.

In the context of liability, special attention is drawn to the German legislative framework. Regarding general liability rules, in the German legal system, much like in ours, the same principles apply to accidents involving multiple vehicles causing damage to third parties or to each other.²² Mutual liability of motor vehicle owners

¹⁹ Position on the EC proposal to revise the MID, <https://www.insuranceeurope.eu/publications/1807/position-paper-on-european-commission-proposal-to-revise-motor-insurance-directive/>, accessed: 29. 6. 2024.

²⁰ Directive (EU) 2021/2118 of the European Parliament and of the Council of 24 November 2021 amending Directive 2009/103/EC relating to insurance against civil liability in respect of the use of motor vehicles, and the enforcement of the obligation to insure against such liability (Text with EEA relevance) PE/60/2021/REV/1 OJ L 430, 2. 12. 2021, p. 1–23 (BG, ES, CS, DA, DE, ET, EL, EN, FR, GA, HR, IT, LV, LT, HU, MT, NL, PL, PT, RO, SK, SL, FI, SV).

²¹ Ivica Jankovec, *Obavezno osiguranje za štete od motornih vozila*, Savremena administracija, Belgrade, 1977, p. 56.

²² Zoran Ilkić, „Odgovornost osiguranika od auto-odgovornosti za prouzrokovanu štetu“, *Zbornik radova Pravnog fakulteta u Novom Sadu* – 1/2012, Novi Sad, 2012, p. 509.

is assessed based on their contribution to the damage and the degree of risk posed by their vehicles. Compensation is determined by evaluating which participant primarily caused the damage, or whether the damage resulted from an extraordinary or predominantly ordinary operational risks. The element of fault is considered only to the extent that its influence is not covered by other circumstances.

On the other hand, when addressing liability in the use of autonomous vehicles, it is important to note that Germany adopted the Autonomous Driving Act in 2021,²³ authorizing the use of autonomous vehicles up to level 4 automation, as classified by the Society of Automotive Engineers (SAE). This legislation stipulates that if drivers operate vehicles up to level 3 automation will remain liable under Germany's Traffic Act²⁴ for any damages caused. However, for vehicles level 4 and above, the user of the vehicle will no longer be held liable under the provisions of the German Traffic Act.²⁵ Instead, this liability shifts to a so-called "technical supervisor", who is also responsible for deactivating the system controlling the autonomous vehicle in place of the driver.²⁶

When it comes to the rules of liability in the case of an accident caused by a moving motor vehicle in the Republic of Serbia, the legal framework principally stipulates that "in the event of an accident caused by a moving motor vehicle due to the exclusive fault of one owner, the rules of fault-based liability apply",²⁷ while "if neither party is at fault, the owners share liability equally unless fairness demands otherwise".²⁸

Thus, the Serbian legal solution prescribes that the primary criterion for determining liability in accidents caused by moving motor vehicles is based on fault, specifically the exclusive fault of one owner. In situations where neither participant in the accident is at fault, the secondary criterion applies, which involves the rules of strict liability. In some cases, these criteria are applied concurrently.²⁹ In this case, liability is not based on fault but on the use of a dangerous object, as „liability is

²³ Amendment Act of the Road Traffic Act and the Compulsory Insurance Act – the Autonomous Driving Act Bundesgesetzblatt – BGBl I No. 49 of July 27, 2021.

²⁴ Straßenverkehrsgesetz in der Fassung der Bekanntmachung vom 5. März 2003 (BGBl. I S. 310, 919), das zuletzt durch Artikel 8 des Gesetzes vom 21. November 2023 (BGBl. 2023 I Nr. 315) geändert worden ist.

²⁵ Ibid, section 18(1)(1).

²⁶ Martin Ebers, Civil Liability for Autonomous Vehicles in Germany, <https://ssrn.com/abstract=4027594>, accessed: 1. 7. 2024.

²⁷ Law of Contracts and Torts, Official Gazette of SFRY, No., 29/78, 39/85, 45/89 - Decision of the Constitutional Court of Yugoslavia and 57/89, Official Gazette of FRY, No. 31/93, Official Gazette of Serbia and Montenegro, No. 1/2003 - Constitutional Charter and Official Gazette of the RS, No. 18/2020, Article 178 para. 1.

²⁸ Law of Contracts and Torts, Article 178 para. 3.

²⁹ "The bases of strict liability and fault-based liability exist simultaneously for the owner of the motor vehicle, as the holder of a dangerous object, and the person operating the vehicle at the time of the harmful event, and such liability of the injurer toward the injured party is joint and several." – (Judgment of the Court of Appeals in Niš, Gž 2475/2019(1), May 23, 2019).

attached to those who derive direct benefits from the use of such objects or the performance of such activities“³⁰

This approach is the result of the historical development of the concept of liability. „With the development of the automobile industry, the increase in the number of motor vehicles, and the rise in accidents caused by the use of motor vehicles, liability for damages gradually evolved from classic fault-based liability of the injurer, through presumed fault, to liability regardless of fault“³¹

This would further mean that the person obligated to compensate for the damage is the owner of the vehicle, regardless of whether the damage was caused by their fault. Additionally, the basis for liability is not only found in the risk created by the use of a dangerous thing, but it is also necessary that the person using such a thing derives a certain benefit. The only circumstances that can exclude the existence of objective liability are the interruption of the causal link due to force majeure or due to the actions of a third party, or due to the fault of the injured party itself.³²

Accordingly, the injured party is not required to prove either the fault of the motor vehicle owner or even the causal link showing that the damage resulted from the use of the motor vehicle. This is because it pertains to a form of liability where fault is irrelevant, and the causal link, establishing that the damage was caused by the motor vehicle, is presumed by law.³³

The burden of proving that the damage was not caused by the use of the motor vehicle as a dangerous object, and that, in the specific case, the effect of the cause of the damage could not have been foreseen, avoided, or eliminated, falls on the motor vehicle user.³⁴

IV AUTONOMOUS VEHICLES AND LIABILITY

1. EU Legislation

When addressing autonomous vehicles, the important issue is the presence or absence of driver's fault in causing accidents. Considering that the driver's role in autonomous vehicles is reduced (and even eliminated in level 5 autonomous vehicles), it is reasonable to question the adequacy of current legal framework and automobile liability insurance concepts regarding autonomous vehicles.

³⁰ Z. Ilkić, p. 508

³¹ I. Jankovec, p. 5.

³² Mihailo Konstantinović, *Skica Zakona o obligacionim odnosima*, Article 137.

³³ Decision of the Supreme Court of Serbia, Rev. No. 632/1998, July 17, 1998.

³⁴ Slobodan Stanišić, *Odgovornost u slučaju udesa izazvanog motornim vozilom u pokretu*, Master's Thesis, Faculty of Law, UNION University in Belgrade, 2006, p. 25.

This issue has already been discussed within European Union bodies. The European Commission, in a Communication addressed to the European Parliament³⁵, made specific recommendations suggesting that liability issues (and consequently motor vehicle liability insurance) should be resolved under the framework of the Motor Insurance Directive³⁶ and the Product Liability Directive.³⁷

The key features of the Motor Insurance Directive include the following:

- each Member State must ensure that civil liability related to vehicle use is covered by insurance;
- such insurance must cover any loss or injury caused in the territory of other Member States, in accordance with their laws;
- compulsory insurance covers property damage and bodily injuries.

On the other hand, although the Motor Insurance Directive offers a comprehensive approach to insurance internationally, it still does not address fundamental questions related to potential damages caused by autonomous vehicles. The Directive does not address the core issue of autonomous vehicles that the owner/user has minimal or no involvement in driving, and essentially becomes a potential victim of their own vehicle. In other words, the Directive does not recognize the challenges associated with the driver liability in situations where the user becomes entirely dependent on the autonomous vehicle and the software embedded within it.

This raises significant question about whether the Motor Insurance Directive, in its current form, can effectively regulate liability and ensure a fair distribution of risk.³⁸

When it comes to the Product Liability Directive, the so-called New Directive on Defective Product Liability was adopted in 2024. According to its adoption proposal, this Directive aims to „align the EU liability framework with the digital age, the circular economy business model, and global value chains“.³⁹

The aforementioned Directive on Defective Product Liability (a revised version of the original directive) seeks to modernize the existing regulatory framework

³⁵ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE, THE COMMITTEE OF THE REGIONS On the road to automated mobility: An EU strategy for mobility of the future, COM/2018/283 final, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018DC0283>, accessed: 25. 5. 2024.

³⁶ Directive (EU) 2021/2118 of the European Parliament and of the Council of 24 November 2021 amending Directive 2009/103/EC relating to insurance against civil liability in respect of the use of motor vehicles, and the enforcement of the obligation to insure against such liability (Text with EEA relevance) PE/60/2021/REV/1 OJ L 430, 2.12.2021, p. 1–23 (BG, ES, CS, DA, DE, ET, EL, EN, FR, GA, HR, IT, LV, LT, HU, MT, NL, PL, PT, RO, SK, SL, FI, SV).

³⁷ Council Directive 85/374/EEC concerning liability for defective products, OJ L 210, 7.8.1985, p. 29–33 (DA, DE, EL, EN, FR, IT, NL).

³⁸ Francesco Paolo Patti, „The European Road To Autonomous Vehicles“, Bocconi Legal Studies Research Paper Series, Number 3395206, 2019, p. 6.

³⁹ New Product Liability Directive, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/739341/EPRS_BRI\(2023\)739341_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/739341/EPRS_BRI(2023)739341_EN.pdf), accessed: 20. 5. 2024.

governing strict liability for manufacturers of defective products. As one of its most significant innovations is recognition of AI and software systems as “products”. This enables compensation for damages caused by defective AI systems without requiring the injured party to prove the manufacturer’s fault.

Moreover, the proposal clearly states that liability may extend beyond hardware manufacturers to include software providers and digital service providers whose contributions affect the functionality of the product (e.g. navigation services in an autonomous vehicle).⁴⁰

Additionally, in order to ensure a comprehensive liability regime within the EU, fault-free liability for defective products applies to all movable goods, including those integrated into other movable or installed in immovable goods.

However, despite these advancements and the enhanced regulatory framework⁴¹ (particularly regarding the New Directive on Defective Product Liability), the issue of motor vehicle liability insurance for autonomous vehicles remains a grey area. It continues to be insufficiently regulated because none of the current EU directives provide a coherent and comprehensive framework for addressing motor vehicle liability insurance in the context of autonomous vehicles.

This is further acknowledged by the revised Motor Insurance Directive of 2021, which mandates the European Commission to continuously monitor and review the 2009 Motor Insurance Directive. This review is to determine whether the Directive still fulfills its purpose, considering technological advancements such as the increased use of autonomous and semi-autonomous vehicles.⁴²

In this regards, the European Commission has been tasked with preparing a report by 2030 that evaluates the adequacy of the 2021 Motor Insurance Directive concerning autonomous vehicles.

Thus, it is evident that, at the EU level, the issue of insurance and autonomous vehicles is considered in a *de lege ferenda* context.

⁴⁰ Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on liability for defective products, 28. 9. 2022 COM(2022) 495 final 2022/0302 (COD), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0495> , p. 6, accessed: 25. 5. 2024.

⁴¹ The use of artificial intelligence at the EU level, including the use of autonomous vehicles, is regulated under the Artificial Intelligence (AI) Act, with additional efforts underway to develop a Directive on Liability for Damage Caused by Artificial Intelligence.

⁴² Directive (EU) 2021/2118 of the European Parliament and of the Council of 24 November 2021 amending Directive 2009/103/EC relating to insurance against civil liability in respect of the use of motor vehicles, and the enforcement of the obligation to insure against such liability (Text with EEA relevance), PE/60/2021/REV/1, OJ L 430, 2.12.2021, pp. 1–23 (BG, ES, CS, DA, DE, ET, EL, EN, FR, GA, HR, IT, LV, LT, HU, MT, NL, PL, PT, RO, SK, SL, FI, SV), introductory provisions, point 39.

2. Domestic Legislation

In the context of domestic legislation, the regulatory framework regarding autonomous vehicles and motor liability insurance also does not provide a specialized and specific solution. Regarding the obligation to insure vehicles, the current principle is that “the owner of a motor vehicle is required to conclude a liability insurance contract for damage caused to third parties through the use of the motor vehicle, resulting in death, bodily injury, impairment of health, destruction or damage to property, except for damages to property taken for transportation”⁴³

In this regard, considering that *liability*, as the core principle of traffic insurance, assumes the person as the risk-bearer (or fault), it remains unclear what kind of liability the owner or driver of an autonomous vehicle would be insured for, given that their involvement in driving is either significantly reduced or completely excluded. If one of the fundamental postulates of motor liability insurance is the idea of relieving the insured from paying compensation for damages, or the concept of preventing the reduction of the insured’s property⁴⁴ due to the liability of the owner or driver of a motor vehicle, it is clear that such an approach does not align with the fundamental concept of using autonomous vehicle.

Thus, the issue of liability in the context of autonomous vehicles is the main area where existing legal solutions and their potential amendments should be examined, precisely because the main *raison d’être* of autonomous vehicles is to relieve the driver from liability or to reduce the inherent risks that arise as a result of responsibility for traffic accidents.

Therefore, the concept of subjective liability as the primary rule for compensating third parties for damage caused by the use of motor vehicles can be highly problematic when it comes to damage caused by autonomous vehicles, as driver’s fault typically does not exist in such situations.

On the other hand, in cases where damage occurs in a collision between two autonomous vehicles, the owners of the vehicles would be equally liable unless fairness requires otherwise.⁴⁵ In such cases, the issue of fairness would be left to judicial discretion, which would require a detailed examination of the high-tech aspects of autonomous vehicle use, and their nature, and would likely lead to the development of new liability rules by judicial practice.

Situations where the current legal solution on liability for accidents caused by moving motor vehicles may cover the use of autonomous vehicles are those where damage is caused to third parties by multiple vehicle owners. In such situations,

⁴³ Law on Compulsory Traffic Insurance, Article 18, para. 1.

⁴⁴ Vladimir Čolović, „Pravna priroda osiguranja od auto-odgovornosti“, Godišnjak fakulteta pravnih nauka, Banja Luka, No. 10, 2020, p. 14.

⁴⁵ Law of Contracts and Torts, Article 178, para. 3.

each of the owners would be liable for compensating the full damage, without the possibility of claiming reduced liability to a third party, because this solution was designed to improve the position of the injured party.⁴⁶

In any case, the rules on liability for damages arising from the use of motor vehicles, as defined by the Law of Contracts and Torts, cannot adequately address situations where autonomous vehicles are involved in an accident.

Therefore, the area where a temporary answer to the question of what liability rules are most appropriate for autonomous vehicles could be found is in the rules of product liability for defective items. General legal provisions define that “anyone who places a product on the market that they have manufactured, which poses a risk of harm to people or property due to a defect they did not know about, is liable for the damage caused by that defect.”⁴⁷ Additionally, “the manufacturer is liable for dangerous characteristics of the product if they have not taken all necessary measures to prevent damage that could have been predicted through warnings, safe packaging, or other appropriate measures.”⁴⁸

Having in mind that the key characteristic of autonomous vehicles is the presence of software that controls the vehicle, i.e. the vehicle is so automated that it substantially reduces the driver’s involvement in the driving process (or even eliminates it entirely), such a vehicle could be considered a “thing” or “product” for which the manufacturer is liable for. In the context of domestic regulation, this would imply the application of supplementary regulations governing liability for damage caused by defective products, or the Consumer Protection Law, which is significantly aligned with the 1985 Product Liability Directive. Such a solution could be in line with one of the potential proposed solutions at the EU level, which suggests maintaining the *status quo* regarding legal amendments.⁴⁹ However, while such a solution would not require changes to existing regulations, on the other hand, it would likely open Pandora’s box due to the following major issues recognized in EU discussions on this matter:⁵⁰

- First and foremost, the rules on product liability for defective products only cover the manufacturer’s liability for defective products. The concept of “defectiveness” is narrowly defined, and it is difficult to determine for technically complex products such as autonomous vehicles. For example, damage arising from regular use, wear and tear, poor maintenance, inadequate repairs, or certain road conditions or weather events would not

⁴⁶ Slobodan Perović, Commentary on Law of Contracts and Torts, Faculty of Law in Kragujevac and Cultural Center in Gornji Milanovac, 1980, p. 531.

⁴⁷ Law of Contracts and Torts, Article 179, para. 1.

⁴⁸ Law of Contracts and Torts, Article 179, para. 2.

⁴⁹ EU Common Approach on the liability rules and insurance related to the Connected and Autonomous Vehicles, European Parliamentary Research Service, 2018, p. 29.

⁵⁰ *Ibid*, str. 21.

be covered under this form of liability. In this regard, participants in the production of autonomous vehicles, such as software developers, vehicle manufacturers, component manufacturers, importers, distributors, and sellers, could use various mechanisms available to them under the rules governing manufacturer liability for defective products to minimize or exclude such liability.

- Moreover, the costs of unknown and still undefined risks that may arise from the use of autonomous vehicles would fall to the injured party, as such risks would not be covered by an appropriate insurance policy.
- The high-tech nature of autonomous vehicles, combined with broad provisions on manufacturer liability for defective products and provisions regulating the exclusion of such liability, especially regarding the concept of “reasonableness,” could overload the courts and their decision-making processes. Courts would be put in the position of interpreting and applying provisions on manufacturer liability for defective products in disputes involving very complex technological issues.

Additionally, one of the most significant problems when applying the product liability rules for defective products to autonomous vehicles is the concept that “the seller is liable for the lack of conformity of the goods delivered under the contract if:

- 1) the lack of conformity existed at the time the risk passed to the consumer, regardless of whether the seller was aware of it;
- 2) the lack of conformity appeared after the risk passed to the consumer and stems from a cause that existed before the risk passed to the consumer;
- 3) the consumer could easily detect the lack of conformity if the seller declared the goods to be in conformity with the contract.”⁵¹

This also applies to rules stating that, “the seller is liable for non-conformity of the goods that appears within two years from the time the risk passes to the consumer.”⁵²

In the specific case of an error in the autonomous vehicle’s software, which may occur as a result of a computer malfunction, and which arises within two years of the risk passing to the consumer (i.e. after the purchase of the autonomous vehicle), the existing legal solution would not be able to address the issue of autonomous vehicle use.

Therefore, applying manufacturer liability rules for defective products can only partially and temporarily serve as an appropriate legal framework when it comes to regulating liability issues for autonomous vehicles.

⁵¹ The Consumer Protection Law, Official Gazette of the Republic of Serbia, No. 88/2021, Article 50, para. 1.

⁵² The Consumer Protection Law, Article 52, para. 2.

V Autonomous Vehicles and Insurance

What must be kept in mind is that, in any case, the provisions on manufacturer liability for defective products (both at the EU level and in the Republic of Serbia) do not correspond in any way to the provisions governing compulsory motor liability insurance.

Even if it is considered that the provisions governing the protection of injured third parties can meet the demands imposed by the use of autonomous vehicles, given that the relevant provisions of the Motor Vehicle Liability Insurance Act predict that “a claim based on motor liability insurance is filed by the injured party directly to the insurance company”,⁵³ thus establishing a direct mechanism for protecting the injured party,⁵⁴ the question arises as to whether the driver of an autonomous vehicle could be treated as an injured party, considering that the driver, in a certain sense, becomes a passenger in their own vehicle.

Therefore, in the context of motor liability insurance, it is certain that this part of the legislation requires significant interventions, primarily regarding the individuals who would be required to obtain motor liability insurance and pay the corresponding premium. Currently, there is wide space for adopting conceptually new solutions that would significantly change the existing legislative framework.

All of the above implies that the existing regulatory framework regarding motor liability insurance and autonomous vehicles is fundamentally inadequate, and that its certain existing segments can only serve as temporary and partial solutions until a new, specific, and comprehensive legislative solution is adopted.

One possible solution would involve the obligation to obtain so-called *no-fault* insurance, a model that already exists in Sweden and Belgium.⁵⁵ This type of insurance would be obtained by the owner, operator, or manufacturer of the autonomous vehicle, but it would not be based on liability. Instead, the injured party would be directly insured, not according to the rules governing civil liability, but for the risk that the vehicle was involved in an accident.⁵⁶ In this way, *no-fault insurance* would be tied to the autonomous vehicle itself, and the insured parties would include anyone who suffers damage caused by the autonomous vehicle. This model would imply that the insurer, as designated by the law, would procure an insurance policy

⁵³ The Law on Compulsory Traffic Insurance, Article 24, para. 1.

⁵⁴ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE, THE COMMITTEE OF THE REGIONS On the road to automated mobility: An EU strategy for mobility of the future, COM/2018/283 final, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018DC0283>, accessed 25. 5. 2024, p. 10.

⁵⁵ EU Common Approach on the liability rules and insurance related to the Connected and Autonomous Vehicles, European Parliamentary Research Service, 2018, p. 76.

⁵⁶ *Ibid*, p. 112.

that covers risks for damage to all persons in the autonomous vehicle, as well as all other participants in traffic.⁵⁷

Regarding those who would be obligated to secure such insurance contracts, one possible solution would involve the procurement of insurance by the vehicle owner, operator, and manufacturer (and possibly the software manufacturer) together. Their contribution to the premium could be defined in various ways, for example, the premium could consist of a fixed part paid by all listed parties, while the other part of the premium would be a variable amount depending on the likelihood of risk, i.e. damage. This would further imply the development of telematics for calculating the premium based on data collected by autonomous vehicles about their owners, drivers, as well as the vehicle and software manufacturers.

An additional option that could complement the previous solution would be a drastic change to the legislative framework regarding motor liability insurance. This is the *Pay As You Drive* principle, established by the German insurance company *Allianz*. This system implies a fully adjusted approach to structuring insurance policies, based on the processing of huge volumes of data. Thanks to the use of black boxes installed in vehicles, insurance companies are already able to monitor vehicle behavior and driver on the road, adjusting insurance coverage to specific risks.⁵⁸ This would further mean that such a policy would differentiate between time intervals when the vehicle is driven by a human and when it is operated by software, applying different liability regimes for potential damages accordingly.

VI Conclusion

Traditional motor liability insurance, or insurance against damages caused by the use of motor vehicles, is based on the assumption of human error as the risk that carries the liability of the driver or vehicle owner. With autonomous vehicles, this paradigm changes significantly because autonomous vehicles are designed to minimize or even completely eliminate the driver's involvement in operating the vehicle. Therefore, this drastic change in the concept of the driver's role in traffic requires significant changes in the regulatory framework governing this area.

With the introduction and increasing use of autonomous vehicles, it will be necessary to adopt an entirely different legislative paradigm in the field of insurance, as well as in the context of various other regulations that govern traffic and the responsibilities of all participants. In this regard, it is clear that the current regulations governing mandatory motor liability insurance do not provide a comprehensive

⁵⁷ Ibid.

⁵⁸ Bruno Sari, Alessandro Moraccini, *Insurance in the related Automobile Vehicle industry*, Law and Economics for Insurance and Finance, University of Bologna, 2020, p. 15

approach to this issue and do not offer adequate solutions when it comes to autonomous vehicles and the potential damages that may arise from their use. First and foremost, it is necessary to reconsider the initial concept that damages caused by the use of motor vehicles are based on driver's fault and to propose new legislative solutions that would take into account the fact that, in the case of autonomous vehicles, there is generally no driver's fault.

This would further mean shifting the liability from a subjective to an objective one, or even removing concept of liability entirely from the regulatory framework related to autonomous vehicles. Thus, in a fundamental paradigm shift, insurance policies would no longer be tied to liability as a risk, but rather to the autonomous vehicle itself, while the parties responsible for paying premiums for such insurance could include all the participants in the production or "conducting" the vehicle.

Such an approach would require a comprehensive consideration of the impact that autonomous vehicles will have on traffic as a whole and would demand adequate modification not only of the regulations governing insurance but also of the regulations that govern traffic operations in general, with mandatory alignment with international regulations, primarily at the EU level, to ensure a harmonized transition and standardization of regulations regarding damages caused by the use of autonomous vehicles at the international level.

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