
Autonomous Vehicles and AI: A Question of Liability

25th October 2021 | 8.30—16.30
Prague, Národní 3, Czech Republic

The conference will be held simultaneously online and on site, or only online depending on the epidemiological situation.

More information and registration: <https://www.ilaw.cas.cz/vyzkum/ciliav>

If you prefer to attend the conference in person, please register until 17th October 2021.

The participation at the conference is free of charge.

Programme:

8.30—9.30 **Registration**

9.30—9.45 **Opening and welcome**

Ján Matejka (Director of the Institute of State and Law)

9.45—10.15 **Autonomous vehicles – a question of liability**

Eva Fialová (Institute of State and Law)

10.15—10.45 **Trial and error: the legal framework for the testing of automated vehicles**

Nynke Vellinga (University of Groningen)

10.45—11.00 **Break**

11.00—11.30 **Autonomous Vehicles Confused: How Liability for Accidents Should Respond to Engineering Solutions for Adversarial Machine Learning**

Steven van Uytsel (Kyushu University)

11.30—12.00 **Autonomous vehicles, standardization & cybersecurity**

Veronika Žolnerčíková (Institute of State and Law)

12.00—12.30 Ethical Principles for CAVs: towards a no-blame safety culture

Nathalie Devillier (Grenoble Ecole de Management)

12.30—13.30 Lunch Break

13.30—14.00 Automated vehicles: from the mandatory insurance to the growth of optional insurances

Iolande Vingiano-Viricel (Aix-Marseille University)

14.00—14.30 Producer's Liability for Damages caused by Autonomous Vehicles under German and European Law

Martin Ebers (University of Tartu)

14.30—15.00 Data-driven technologies and the problem of responsibility

Václav Janeček (Masaryk University and University of Oxford)

15.00—15.15 Break

15.15—15.45 Ongoing Commission work on AI liability: what are the issues?

Dirk Staudenmayer (European Commission)

15.45—16.15 The EU Approach to the Liability for AI systems. Key Policy Decisions, Milestones, and Future Expectations

Teresa Rodríguez de las Heras Ballell (University Carlos III of Madrid)

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16.15—16.30 Closing remarks

List of Abstracts:

Autonomous vehicles – a question of liability

When it comes to the legal aspects of autonomous vehicles, the issue of liability for damage caused by autonomous vehicles always comes to the fore. In our project, we focused on civil liability. With liability for damage, we use to ask who is liable for the damage and, more importantly, who will compensate it. The Czech Civil Code knows the strict liability of the vehicle operator. The operator does not automatically equal the driver. This concept seems to be the most suitable for autonomous vehicles. However, the operator should have a statutory recourse against the manufacturer, driver or provider of the physical or data infrastructure.

Eva Fialová is a researcher at the Institute of the state and Law of the Czech Academy of Sciences. She has experience in the information technology law, especially in the area of algorithms and autonomous systems, AI and data protection. Eva Fialová also cooperates on a project aiming at drafting of legislation for autonomous vehicles in the Czech Republic.

Trial and error: the legal framework for the testing of automated vehicles

The testing of vehicles of different levels of automation on public roads is a necessary step in the development of safe automated vehicles. Unfortunately, accidents have also shown that these trials are not without serious risks. A legal framework on the testing of automated vehicles can balance both the interest of the testing for the development of safe automated vehicles in the future and the interest of road safety in the present. Within Europe, different jurisdictions take different approaches regarding a legal framework for testing. In, for instance, the United Kingdom a soft law approach is taken, whereas elsewhere, for example in the Netherlands, a hard law approach prevails. This contribution aims to map out the differences and commonalities of the approaches taken by these and other jurisdictions towards the regulation of the testing of automated vehicles. In doing so, the consequences of the different approaches will be highlighted.

Nynke Vellinga is a postdoctoral researcher at the STeP research group of the Faculty of Law of the University of Groningen, The Netherlands. Back in 2020, Nynke successfully defended her PhD thesis, titled 'Legal Aspects of Automated Driving. On Drivers, Producers, and Public Authorities', at the same university. Currently, Nynke is a member of the ITU focus group on AI for autonomous and assisted driving. The legal framework for cybersecurity in automated vehicles (as part of the Cybersecurity Noord-Nederland project) is one of Nynke's main research focuses.

Autonomous Vehicles Confused: How Liability for Accidents Should Respond to Engineering Solutions for Adversarial Machine Learning

Autonomous vehicles are said to bring safety to the roads. Machines are expected not to make the same driving mistakes as humans. Indeed, machines will not drive intoxicated or get too tired to drive. However, the application of adversarial machine learning to autonomous vehicles has shown that the reaction of these vehicles to altered traffic signs may be the cause of unpredictable reactions. Rather than stopping in front of a vandalized stop sign, the autonomous vehicle may speed. This may lead to accidents. Therefore, scholars have developed various liability and compensation schemes to deal with accidents by autonomous vehicles.

The following liability and compensation schemes have been suggested to deal with the civil liability of accidents of autonomous vehicles: operator liability, product liability, strict liability, no-fault compensation, and negligence. Each of these schemes are judged against victim and innovation friendliness. The former is being framed as easiness to obtain compensation, while the latter is understood as a burden on the industry.

Operator liability, strict liability and no-fault compensation are considered as victim friendly. Product liability and negligence put a burden on the victim to prove either a defect of the product or a fault of the manufacturer. Only by shifting the burden of proof to the manufacturer would these systems be made victim friendly. In terms of innovation, the situation is not obvious. Operator liability, product liability and negligence make it difficult for a manufacturer to anticipate the size of the financial burden in case of an accident. This would be different with strict liability and no-fault compensation.

Much of the discussion above is framed in relation to vehicles that are operating autonomously on their own. There is, however, more and more research on infrastructure enabled autonomy. In system, autonomous vehicles will be operating in connection with road side units, cloud services, and other traffic participants. As this will bring together products, services, and behavior, a mix of different liability regimes will make it difficult for the victim to obtain compensation. Therefore, a one-stop window may facilitate obtaining compensation. No-fault compensation could be ideal.

Steven Van Uytsel is Professor in the Faculty of Law at Kyushu University (Japan). He received his legal education at the University of Antwerp, including a semester length exchange at Uppsala University. He completed his LL.M. & LL.D. at Kyushu University and his Master of Arts (Japanese Studies) at the Mercator Hogeschool. Steven specializes in competition law, for which he has received several grants from the Japanese Society for the Promotion of Science. He was lead editor of Research Handbook on Asian Competition Law

(Edward Elgar, 2020) and editor of *Collective Actions: Enhancing Access to Justice and Reconciling Multilayer Interests* (Cambridge, 2012). More recently, Steven has expanded his research to include artificial intelligence. For his research on artificial intelligence, he has obtained several grants such as JSPS Grant in Aid for Scientific Research (C) (April 2018-March 2021) for doing research on Artificial Intelligence, Price Setting Strategies and Antitrust Law: Towards a Regulatory Framework, Kyushu University's Progress 100 – RINK Grant for researching Regulating Algorithms: Multi-Disciplinary Perspectives on New Technology & the Law (2018-2020) and Kyushu University's Tsubasa Grant to research Misleading Algorithms: Interdisciplinary Perspectives on the Implications for Law (2018-2020). The latter mentioned grant has led, among others, to the following publications: *Autonomous Vehicles Business, Technology and Law* (Springer 2020, co-edited with D. V. Vargas); *Testing Autonomous Vehicles On Public Roads: Facilitated by a Series of Alternative, Often Soft, Legal Instruments* (Van Uytsel and Vasconcellos Vargas (eds.)) (Springer, 2020); *Different Liability Regimes: One Liability Regime Preferable above the Other?*, in *Autonomous Vehicles: Business, Technology and Law* (Van Uytsel and Vasconcellos Vargas (eds.)) (Springer, 2020); *New Fixes for Old Traffic Problems: Connected Transport Systems and AIMES*, in *Autonomous Vehicles: Business, Technology and Law* (Van Uytsel and Vasconcellos Vargas (eds.)) (Springer, 2020, co-authored with Majid Sarvi and Saeed Asadi); *Adversarial Machine Learning: A Blow to the Transportation Sharing Economy*, in *Legal Tech and the New Sharing Economy* (Corrales, Forgó, Kono, Teramoto, Vermeulen (eds.)) (Springer, 2020, co-authored with D.V. Vargas), pp. 179-208; *Legislating Autonomous Vehicles against the Backdrop of Adversarial Machine Learning Findings*, *IEEE Xplore*, <https://ieeexplore.ieee.org/document/8965002> (2020), pp 1-10

Autonomous vehicles, standardization & cybersecurity

Alongside the regulatory discourse on making autonomous vehicles conform to the law, there is a discussion on technical standards and their role in the process. Technical standards contain a product description from a technical perspective, its construction, materials, and other criteria. Whereas international organizations as the United Nations Economic Commission for Europe and within the European Commission discuss the legislative proposals, other organizations discuss the necessity to widen the portfolio of technical standards to be applied to AI. These include the International Standardization Organization as well as the three standardization organizations of the European Union. Standardization and compliance testing will play a significant role in autonomous mobility. The sector of road mobility already relies greatly on standardization and homologation of vehicles - an approval process necessary to allow the vehicle on the road. A procedure of testing that a particular product meets the criteria set by a relevant standard enables the developers and manufacturers to assess the conformity of the product before it reaches the market, absolving them from some legal obligations arising from the undesired behavior of the product.

An exciting aspect concerning autonomous vehicles is how to set the requirements for cybersecurity. The Cybersecurity Act adopted by the EU (Regulation 2019/881) allows certifying products, services, and processes. This framework changes the approach to certification in the EU and can also be applied to autonomous vehicles. How, why, and what changes it may bring is the topic of this talk.

Veronika Žolnerčíková is an expert in ICT law, a researcher at the Institute of State and Law of the Czech Academy of Sciences and specialist at the C4E Center of Masaryk University. She is currently a Ph.D. student at the Institute of Law and Technology, Faculty of Law, Masaryk University. Her research topic is the legal aspects of artificial intelligence. She also worked with the law of new technologies in her previous practice at the Legislative Department of the Ministry of Justice. She has experience with software law mainly from legal practice. She teaches software law at Masaryk University and the Technical University in Brno.

Ethical Principles for CAVs: towards a no-blame safety culture

In spite of a solid framework of EU legislation already in place at EU and national level, certain specific features of AI make enforcement of such rules more challenging. This presentation will highlight the principles adopted by the EC Expert Group, to which the author participated, on "Ethics of Connected and Automated Vehicles: Recommendations on road safety, privacy, fairness, explainability and responsibility" (link: [New recommendations for a safe and ethical transition towards driverless mobility | European Commission \(europa.eu\)](https://ec.europa.eu/eip/eip-ethics-of-connected-and-automated-vehicles-recommendations-on-road-safety-privacy-fairness-explainability-and-responsibility)). Then, the EC Proposal for the AI Act's impact on CAVs manufacturers will be described regarding: human oversight, cybersecurity and access to data and documentation. However, an international approach of ethics remains essential to achieving widespread deployment and adoption of CAVs.

Nathalie Devillier is Research Professor of Digital Law at Grenoble Ecole de Management, focusing on technologies and the law and created the specialization course "Managers, Digital and the Law". She is Scientific Advisor for the "GDPR Training" SPOC (Small Private Online Course) funded by the European Union Knowledge Innovation Community of the European Institute of Innovation & Technology for Health. Member of the European Commission Expert Groups on "Ethics of Connected and Automated Vehicles" and Liability and New Technologies (Rapporteur on cyber security issues), Dr. Devillier has earned the ANSI-accredited Certified Information Privacy Professional/Europe (CIPP/E) credential through the International Association of Privacy Professionals (IAPP). Dr Devillier has published books on eHealth Law and is involved in international cooperation at the ITU with the organization of a workshop on "Cybersecurity and Managers: Opportunities and Challenges" (WSIS Forum 2017), and as reviewer for the ITU Journal.

Automated vehicles: from the mandatory insurance to the growth of optional insurances

Automated vehicles raise the question of the insurance. Indeed, the automated vehicles are not clearly defined either by the European law or by the French law. Based on the recently updated SAE Levels Taxonomy, it is possible to basically describe what the characteristics of an automated vehicle are from a legal perspective. Since automated vehicles are motor vehicles with part of automation this legally means that they must be insured due to the Motor Insurance Directive which requires a third-party insurance for all motor vehicles in circulation in the EU. The characteristics of the automated vehicle open the field of possibilities to the insurer who can imagine many new contracts covering a new risk centered on AI.

Iolande Viricel specializes in private law. Since 2014, her studies have focused on liability and insurance issues when automated and connected vehicles will be on the market. She has published a book entitled "Autonomous Vehicle: Who is Responsible?" in 2019 and created the first diploma "Legal aspects of autonomous vehicles" with Aix-Marseille University.

Producer's Liability for Damages caused by Autonomous Vehicles under German and European Law

The use of (partially) autonomous vehicles raises a number of legal problems. From the perspective of the injured party, the main question is who is liable for damages caused by such a vehicle. Many scholars assume that there will be a shift in liability to the detriment of the manufacturer, since the users of the vehicle cannot be held liable for the vehicle's actions. Accordingly, this paper examines - on the basis of German and European Product Liability Law - whether this is actually the case.

Martin Ebers is Professor of IT Law at the University of Tartu (Estonia) and permanent research fellow at the Humboldt University of Berlin. He is co-founder and president of the Robotics & AI Law Society (RAILS). In addition to research and teaching, he has been active in the field of legal consulting for many years. His main areas of expertise and research are IT law, private law, insurance law and European law. Most recently, he published the book „Algorithms and Law“ at Cambridge University Press and the "Rechtshandbuch für Künstliche Intelligenz und Robotik" at C.H. Beck.

Data-driven technologies and the problem of responsibility

This talk will argue that data-driven artificial agents, often referred to as artificial intelligence (AI) systems, are not moral agents. And since these AI technologies are always deployed in semantic contexts, none of the existing technical approaches to explainability can serve the goals of responsibility. Thus, and contrary to the received wisdom, it will be argued that AI systems do not invoke important questions of responsibility. In this sense, these systems do not invoke the question of responsibility of AI; and neither they invoke the question of responsibility for AI. By exposing this fallacious framing of AI responsibility issues, the talk will highlight the dangers of those AI liability proposals that assume some underlying (and in principle responsible) moral agency of an AI system. The speaker's overall thesis will be that liability for an AI system should be de-linked from the question of AI responsibility.

Václav Janeček is currently a Visiting Research Fellow at the Masaryk University's Institute of Law and Technology where he focuses on civil remedies for illegal online tracking. He is also a Research and Course Development Fellow in Law and Technology at the University of Oxford and a founding co-director of the Oxford LawTech Education Programme, a research-led interdisciplinary programme at the intersection of law and computer science.

Ongoing Commission work on AI liability: what are the issues?

Mr. Staudenmayer is involved in drafting European legislation on AI liability. Mr. Staudenmayer will talk about the current state of work and the prospects for the future.

Dirk Staudenmayer is Head of Unit for Contract Law of the Directorate-General Justice and Consumers at the European Commission. He is also teaching as Honorary Professor at the Law Faculty of the University of Münster (Germany) and author of numerous publications in particular in the areas of European contract, consumer and IT law. After undertaking his law studies in Germany and France, Staudenmayer was awarded a PhD magna cum laude from the University of Bonn (Germany). He worked at various positions in the European Commission, including as Assistant to the Director General and Head of Unit for Financial Services and Redress at the DG Health and Consumers.

The EU Approach to the Liability for AI systems: Key Policy Decisions, Milestones, and Future Expectations

The transformative potential of Artificial Intelligence (AI) on economies and societies is incontestable. In combination with other emerging technologies, the multiple applications and uses of AI in a multitude of domains accelerates the pace of the digital revolution of our societies and unleashes unprecedented possibilities. Despite these undisputable gains, the pervasive use of AI brings about risks and challenges, can cause damages and lead to losses.

Therefore, the most immediate concern is whether and to which extent current liability regimes are poised to effectively address losses resulting from AI and other emerging technologies. Throughout history, legal rules, concepts and principles have certainly accommodated to the challenges posed by scientific, technical and, more recently, technological progress. The adaptable principles of technological neutrality and functional equivalence have played a decisive role in the adaptation of legacy legal systems to digital technologies.

Nonetheless, AI, especially in conjunction with other converging technologies, proves to be highly disruptive. Certain disruptive features of AI can render current liability regimes insufficient or partially inadequate.

The adequacy and completeness of liability regimes in the face of technological challenges have an extraordinary societal relevance. Should the liability system reveal insufficiencies, flaws and gaps in dealing with damages caused by emerging technologies, victims may end up totally or at least partially uncompensated. The social impact of a potential inadequacy of existing legal regimes to address new risks created by AI might then compromise the expected benefits. Moreover, the magnitude of the harm caused by AI can be aggravated and damages can easily become viral and rapidly propagate in a densely-interconnected society.

The EU approach to the liability for AI is based on acknowledging these distinctive/disruptive characteristics (complexity, vulnerability, opacity, data-dependence, increasing autonomy) and assessing the need to accommodate existing rules and formulate well-suited new rules on a harmonized basis. The Paper will trace the evolution of the EU approach singling out the key policy decisions and the most relevant milestones in the regulatory/legislative process. The analysis of the EU EG Report, the proposal of Regulations, and other surrounding initiatives paves the way to the discernment of an EU approach to AI.

Teresa Rodríguez de las Heras Ballell is Associate Professor of Commercial Law at University Carlos III of Madrid.

2017-2018 Chair of Excellence at Oxford University (Uc3m-Santander Program), affiliated to Harris Manchester College.

Member of the EU Commission Expert Group on Liability/Technologies formation on Artificial Intelligence, DLT and IoT and member of the European Union Expert Group for the Observatory on the Online Platform Economy European Central Bank Legal Research Programme 2018 fellowship with a project on Fintech regulation/supervision. Member of UNIDROIT Study Group on MAC Protocol to the Cape Town Convention on international interests, member of the Aviation Working Group's Spanish Contact Group, member of the Rail Working Group, Spanish Delegate before UNIDROIT for MAC Protocol (CGE and Diplomatic Conference for adoption), Spanish Delegate before UNCITRAL Working Group VI on Security Interests. Elected member of the ELI Council (European Law Institute), Fellow of ELI, and Assessor to two ELI Projects. Of Counsel, Andersen.

Arbitrator at Madrid Court of Arbitration; arbitrator at Spanish Court of Arbitration and Expert/Arbitrator on disputes related to domain names .es, and member of Spanish Advertising Standards Tribunal (AUTOCONTROL).

Visiting professorships: James J. Coleman Sr. Distinguished Visiting Professor of Law at Tulane Law School; Visiting Fellow at Harris Manchester College, Oxford University; Fellow at Stanford Law School TTLF with projects on Digital Intermediaries, and Marie Curie Fellow at ZERP of University of Bremen, among others visiting professorships and fellowships - such as Columbia Law School, University of Washington, University of Tokyo or University College of London.

Regular participation in international conferences and publications in English, Spanish and Italian on platforms, digital intermediaries and digital law, Fintech; and international business transactions and secured transaction).

Research interests: digital law in commercial transactions and business activities (platforms, intermediary liability, privacy, IA and other emerging technologies, big data, smart contracts, Fintech, Insurtech, Regtech, crowdfunding); international business transactions (legal harmonization); and secured transactions and finance law.