Autonomous vehicles: Cross jurisdictional regulatory perspectives

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The use of autonomous vehicles is expected to grow precipitously, and with it, novel legal questions will undoubtedly arise. As a result, robust legislative and industry responses are viewed by some as a pre-requisite to increased adoption of this revolutionary shift in technology. In this article, we summarize recent regulatory developments in Canada, Japan, the U.K., the European Union, the U.S., and China, and highlight the state of the autonomous vehicles regulatory landscape across these jurisdictions.

Background

As a starting point, each of the jurisdictions we have highlighted below has, in one way or another, adopted the SAE International vehicle automation classifications[1]. Against this backdrop, we examine how select countries around the world have begun to regulate various levels of vehicle automation.

Japan

In Japan, the government amended the *Road Transportation Vehicle Act* (the RTVA) and the *Road Traffic Act* (the RTA) in April 2020, which generally allows Level 3 automated vehicles to be used on public roads.[2] Under the RTVA, "Autonomous driving system" (ADS) is defined and can be translated as "a set of sensors and artificial intelligence that replace all driver capabilities with a recording device."[3] The RTVA outlines technical specifications that ADS systems must comply with. Additionally, manufacturers and importers of ADS-equipped vehicles must provide model-specific ADS specifications to users.[4]

The RTVA permits the Minister of Land, Infrastructure, Transport and Tourism to set conditions on the usage of each automatic operating device.[5] The conditions can include, among other conditions:

- Road conditions: general road, motorway, specialized road, highway, etc.; and
- Geographic conditions: urban areas, mountainous areas and other specialized areas.[6]

Under the RTA, the driver of a level 3 ADS-equipped vehicle cannot use the ADS technology unless the usage conditions have been met.[7] If the driving environment conditions no longer meet the requirements under the RTVA, the driver must take over. Therefore, the driver must be in a position to facilitate a prompt take-over.[8]

Significantly, under the RTA, the driver of an ADS-equipped vehicle must use a vehicle recording device[9]. The police may request disclosure of the applicable recording from the driver.[10] If the police are of the opinion that the provided records are insufficient, they may issue penalties against the driver including a driving prohibition.[11] Under the RTA, level 4 autonomous vehicles are essentially limited to authorized public road testing.

Additionally, on September 8, 2021,[12] the Ministry of Land, Infrastructure, Transport and Tourism, and the Ministry of Economy, Trade and Industry announced that it would carry out a new project named "Road to the L4".[13] In this project, the Japanese government aims to increase and implement the use of Level 4 autonomous vehicles. The goal is to deploy the use of Level 4 autonomous vehicles in more than 40 locations by 2025.[14]

United Kingdom and Europe

Most jurisdictions in Europe have created specific AV agencies and implemented legislation to govern the testing of autonomous vehicles. While some jurisdictions have adopted somewhat of a roadmap for next step to address the *adoption* of autonomous vehicles on public roads, the current legal frameworks are likely to see further developments in the coming years as the technology continues to develop toward higher levels of autonomy and ADS adoption.

United Kingdom

In the UK, the Centre for Connected and Autonomous Vehicles was established in 2015 by the government as an expert unit working with industry and academia to develop regulations, invest in innovation and engage the public to utilize the self-driving technology in the U.K.[15]

In terms of legislation, *The Automated and Electric Vehicles Act 2018* received Royal Assent in 2018.[16] This legislation clarifies the U.K.'s liability scheme for autonomous vehicles:

- Where the vehicle is insured and there is an injury resulting from an accident, the insurer shall be liable for damages;
- Where the vehicle is not insured, the owner shall be liable; and
- Where a person allows the vehicle to drive itself when it is inappropriate to do so and causes an accident, neither the insurer nor the owner of the vehicle shall be liable.[17]

In April 2021, the Department for Transport in the United Kingdom announced that vehicles fitted with Automated Lane Keeping Systems are within the definition of automated vehicles under the *Automated & Electric Vehicles Act 2018* so long as the vehicles receive approval and that there is no evidence challenging the vehicle's ability to self-drive.[18] Automated Lane Keeping Systems will help a vehicle stay within its lane for travelling speed of 60 km/h or less without the need for further driver input.[19] The

Automated Lane Keeping Systems is the first type of hands-free driving legalized in the United Kingdom.[20]

In addition to the 2018 legislation, the Law Commission of England and Wales and the Law Commission of Scotland are in the process of carrying out a detailed review of legal reforms necessary to support autonomous vehicles in the U.K., scheduled to be released at the end of 2021.[21]

The European Union

Although each country within Europe is devising its own legal framework on autonomous vehicles (as we have highlighted with the three examples below), the European Union's regulations, directives, and other acts must be harmonized to the laws of its member states. On May 17, 2018, the European Commission released a strategy paper, "On the road to automated mobility: An EU strategy for mobility of the future" aiming to make Europe a world leader in the deployment of connected and automated vehicles.

Currently, there is no legislative framework specifically dedicated to the necessary approvals of autonomous vehicles. However, the European Union is relying on the existing regulations, directives, and other acts for regulating autonomous vehicles. For example, directive 2007/46/EC, modernized in 2018, established a framework on how new vehicles should operate and be designed.[22]

Also, the following directives are particularly germane to autonomous vehicles:

- Directive 85/374/EEC – liability for defective products
- Directive 2001/95/EC – general product safety
- Directive 2006/42/EC – machinery

In the context of autonomous "machinery"[23], liability for damage is difficult to pinpoint[24]. Damages arising out of machine defects or user errors may be traced back to specific entities or individuals, who would then be held liable under Directive 85/374/EEC. However, autonomous machines entail intricate software programming, integration of the software with the relevant hardware, execution of the autonomous program, and the operation and monitoring of the system as a whole.[25]

In other words, the legal framework under Directive 85/374/EEC may not necessarily lead to an unequivocal and cogent result. As it stands, Directive 85/374/EEC fails to account for specific factors like the particular software powering the autonomous machine and the technological maturity of the autonomous system.

Similar concerns lie with Directive 2001/95/EC and Directive 2006/42/EC. Safety protocols and regulatory requirements with respect to the design, construction, and operation of autonomous vehicles appear to be absent from these directives. As various states within Europe define what it means for a machine to be autonomous differently and create appropriate but potentially divergent regulatory schemes, it would be judicious for the European Union to demonstrate pan-European leadership by working to update its current framework and work with member states to harmonize their respective legal frameworks.

France

On December 2, 2020, the French government published its proposed “order on the criminal liability rules applicable to the use of a vehicle with driving delegation and its conditions of use" seeking to provide clarification regarding the legal regime for self-driving cars.[26]

Under the proposed order, provisions relating to the criminal liability for traffic offences will not apply to a driver who has delegated the driving functions of the vehicle to an automated system, subject to certain exceptions. For example, if the driver was exercising dynamic control of the vehicle at the time of the offence or failed to take control of the vehicle despite being required by regulation. In these instances, the driver would continue to face criminal liability.[27]

Further, the proposal imposes upon vendors and lessors of autonomous vehicles a duty to inform consumers regarding the conditions of use. Similarly, it clarifies the mandatory security measures, safety tests, and specific accreditations for autonomous vehicles used in areas like transportation and construction.

On July 1, 2021, the Minister of the Interior of France released a decree amending the provisions of the *Highway Code* and the *Transport Code* to allow for autonomous vehicles.[28] With this decree, France proceeded to adopt a regulatory framework for the deployment of autonomous vehicles.

This decree allows a driver to disclaim liability when the automated driving system operates in accordance with its conditions of use.[29] This decree also regulates the interaction between the driver and the automated driving system as well as the expected attention from the driver when the automatic driving system is engaged.[30]

This decree also allows the autonomous vehicles to be operated on predefined routes and zones starting in September 2022.

Germany

On July 28, 2021, Germany’s amended the *Road Traffic Act and the Compulsory Insurance Act* (the *Germany Autonomous Driving Act*), entered into force. As a result of this amendment, Germany no longer requires a driver operating the vehicle and intends to allow for Level 4 autonomous vehicles to be used on public roads.[31]

Under the *Germany Autonomous Driving Act*:

- A vehicle with an autonomous driving function no longer requires a natural person to drive the vehicle during operation. However, in order to ensure compliance with current international regulations, a “technical supervisor” must monitor the vehicle;
- To obtain an operating permit, numerous requirements with respect to the autonomous driving function must be satisfied;
- There are more in-depth obligations for manufacturers and owners of autonomous vehicles, including data processing requirements and mechanisms for data and privacy protection; and

- There are special specifications on accident prevention systems, which expound how damage avoidance and reduction can be achieved in an ethically justifiable manner.[32]

Specifically, under the *Germany Autonomous Driving Act*, autonomous vehicles must have an accident avoidance system. The accident avoidance system must be designed to avoid damage and must give the highest priority to the protection of human life if an accident is unavoidable. If an injury to human life is unavoidable, the system must not differentiate human life on the basis of personal characteristics, such as age, sex, and physical or mental constitution.[33]

Italy

Under the Decree 28/2/2018 of the Ministry of Infrastructures and Transport,[34] there are significant restrictions placed on autonomous vehicles in Italy. The current regulatory regime in Italy is principally aimed at the testing of Level 3 and Level 4 autonomous vehicles on public roads and the testing of Level 5 autonomous vehicles is not permitted.[35] Although the testing of autonomous vehicles is permitted with the appropriate authorization on certain roads, there must be a human driver present inside the vehicle to be able to take manual control at any given time[36].

At the time of this publication, Italy has not implemented any further regulations with respect to fully autonomous vehicles.[37]

United States

Until recently, federal input on the rapid emergence of autonomous vehicles has been conspicuously absent. For example, the *federal Safely Ensuring Lives Future Deployment and Research In Vehicle Evolution Act* or the *Self Drive Act*,[38] which had been dormant since 2017, was reintroduced again in June 2021.[39]

The re-introduced *Self Drive Act* seeks to advance safety by prioritizing the protection of consumers, reaffirm the role and responsibilities of federal and state governments, update the Federal Motor Vehicle Safety Standards to account for advances in technology and the evolution of highly automated vehicles, and maximize research and development opportunities for autonomous vehicles in the U.S.[40]

As well this proposed legislation requires the manufacturers of autonomous vehicles to have a cybersecurity plan, including having a written cybersecurity policy and appointing an officer for the management of cybersecurity. However, the *Self Drive Act* does not provide in depth requirements regarding how auto manufacturers should ensure that their self-driving vehicles go through software updates. Additionally, the *Self Drive Act* does not address liability and damages for accidents involving autonomous vehicles.[41]

At the state level, most jurisdictions have in place regulatory schemes in place with respect to the testing of autonomous vehicles. Some states, however, have more advanced and comprehensive legislation than others. For example, California's law on autonomous vehicles is quite comprehensive.[42] In addition, California's law addresses the distinction between autonomous vehicle manufacturers from original equipment manufacturers (OEMs)[43]. Notably, however, the current law in California does not

expressly shield OEMs from liability relating to autonomous vehicles, unlike states like Nevada, and Florida. In other words, if a vehicle manufactured by an OEM is subsequently modified into an autonomous vehicle, and that now autonomous vehicle is involved in an accident, the OEM's liability and its extent remain unclear under California's law. The legal uncertainty could have far-fetching impacts on risk allocation between commercial parties, especially in areas like construction.

Unlike California, Nevada expressly limits product liability actions against OEMs where the action involves a defect in an autonomous vehicle in certain situations.[44] Nevada's legal stance is in line with Nevada's push to be the state at the forefront of driverless vehicle innovation. Under Nevada's law, an OEM would not be liable for defects in an autonomous vehicle if the defect was caused when the original vehicle was converted by a third party into an autonomous vehicle or if equipment installed by the autonomous vehicle creator was defective.[45] Similar to Nevada, Florida provides a legal framework, whereby an OEM is shielded from liability where its vehicle was subsequently converted into an autonomous vehicle by a third party.[46]

China

China's legal framework is developing with few exceptions, such as the Shenzhen Special Administrative Region (Shenzhen). More recently and on March 24, 2021, the Ministry of Public Security of China issued the *Draft Proposed Amendments of the Road Traffic Safety Law* (the *Draft Amendments to RTSL*) for public feedback and input.[47] Regarding automated vehicles, the *Draft Amendments to RTSL* define the requirements for road testing and allocation of liability for accidents. The *Draft Amendments to RTSL* require that manufacturers conduct road testing for automated vehicles in closed roads before they can apply for a temporary license to conduct further road testing in public roads. Road testing on public roads can only be conducted at designated times, areas and routes in accordance with the law.[48] During testing, the driver must be sitting in the driver's seat and must be able to take over when needed.[49]

The *Draft Amendments to RTSL* contain a very short provision regarding liability allocation for road traffic violations or accidents involving vehicles with automated driving functions and manual operation.[50] It only states that the responsibility of the driver and the automated driving system developer shall be determined in accordance with the law.[51] This provision does not apply to automated vehicles that do not have manual operation functions.

In January 2021, the Ministry of Industry and Information Technology of China released the "*Draft for Comments of the Administrative Measures for Road Testing and Demonstration Application*" (the "*Draft Road Testing Regulation*") for public input. This draft regulation provides more detailed and specific requirements for road testing of automated vehicles.[52] On July 27, 2021, the Ministry of Transport, the Ministry of Industry and Information Technology, and the Ministry of Public Security jointly promulgated this draft into law.[53]

Shenzhen

On March 23, 2021, the Standing Committee of the Shenzhen Municipal People's Congress issued the *Draft for Comments of the Regulations of Shenzhen Special*

Economic Zone on the Administration of Intelligent and Connected Vehicles (the "*Shenzhen Draft Regulations*").[54] This regulation applies to automated cars within the Shenzhen Special Administrative Region and it incorporates the road testing requirements introduced by the *Draft Road Testing Regulation*. Shenzhen aims to be the first city in China to allow the commercialization of autonomous cars. In addition, the *Shenzhen Draft Regulations* allow road testing for automated cars that are capable of being operated without a driver.[55]

Generally, manufacturers may sell motor vehicles in China only upon meeting the standards published by the Ministry of Industry and Information Technology of China. However, the *Shenzhen Draft Regulations* permit manufacturers to sell autonomous vehicles within Shenzhen upon meeting a special set of local standards.[56]

Automated vehicles can be operated on the roads of Shenzhen once they are registered with Public Security Traffic Administrative Bureau and the applicable certificates of registration, plates and licenses are issued.[57] The *Shenzhen Draft Regulations* also regulate cybersecurity for automated cars including requiring companies to establish a cybersecurity evaluation and management system.[58]

The *Shenzhen Draft Regulations* also contain provisions for determining liability for traffic violations and accidents of autonomous vehicles:

- With a driver present, the driver shall be liable in case of an accident; however, if the accident is caused by the defect in the automated technology, the driver can sue the manufacturer or distributor of the vehicle to recover damages paid to the victim.[59]
- Without a driver present, the controller or owner of the vehicle shall be liable in case of an accident. Similar to automated cars with a driver, if the accident is caused by the defect in the automated technology, however, the controller or owner can sue the manufacturer or distributor of the vehicle to recover damages paid to the victim.[60]

Most regulations regarding autonomous vehicles in China have been published recently and are still in the process of public consultation. To that end, we expect significant legal development in the near future, including, regulations focussed in early-adoption industry use cases.

Canada

At the federal level in Canada, the *Motor Vehicle Safety Act* regulates the manufacture and importation of motor vehicles.[61] Provinces and territories in Canada have developed and/or are developing their own regulatory regimes as to the testing and deployment of autonomous vehicles on public roads.

In August 2021, Transport Canada released the Guidelines for Testing Automated Driving Systems in Canada Version 2.0 (the Guidelines) which replaces the regulator's 2018 edition of such Guidelines.[62] The Guidelines seeks to clarify the different roles and responsibilities of federal, provincial, territorial, and municipal governments in approving and facilitating testing of autonomous vehicles as well as explaining the process for

organizations to obtain approvals from different levels of government prior to conducting testing.[63]

In addition, there is limited public use of autonomous vehicles in Canada. On January 1, 2019, O. Reg. 517/18*: Pilot Project - Automated Vehicles* came into force in Ontario. Under this regulation, with authorization, level 3 automated vehicles can be driven on Ontario public roads. However, a human driver is required at all times in the vehicle to take back the driving task when alerted to do so by the vehicle and must be in full care and control of the Level 3 vehicle. The existing law, including distracted driving and impaired driving, continues to apply to the drivers.[64] Québec also has a similar legal regime.[65] In addition, as early as October 1, 2021, Ontario began to solicit feedback on proposed amendments to Ontario Regulation 306/15: Pilot Project - Automated Vehicles and Revised Regulations of Ontario 1990, Regulation 628: Vehicle Permits.[66]

Concluding remarks

The review of regulatory developments across different jurisdictions reveals a continued focus to develop and update existing regulatory frameworks to assist with the adoption of autonomous vehicles. Interestingly, there are inconsistencies across jurisdictions in the manner in which autonomous vehicles are defined in the specific regulatory scheme. For example, in Canada, the regulatory testing schemes make specific reference to SAE Levels of automation, whereas under for example the U.K. scheme, the legislation adopts a specific definition for "automated vehicles" in reference to a "vehicle driving itself on a public road or other public place. While we expect continued developments of the regulatory landscape governing autonomous vehicles in Canada, U.S., Europe, U.K., China, and Japan, as with other jurisdictions across the globe, it will be interesting to watch how regulators in each jurisdiction will adjust the traditional motor vehicle safety, liability, and insurance legislative schemes to prepare for increased levels of automation.

BLG's Autonomous Vehicles Group

With broad industry experience and particular expertise in regulatory frameworks to assist with the adoption of autonomous vehicles, BLG's Autonomous Vehicles Group is here to help clients navigate the opportunities and challenges this revolutionary era of autonomy is expected to bring. For more information on AV, please reach out to your BLG lawyer or one of the key contacts listed below.

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Footnotes

[1] The SEA classifications range from Level 0 (no autonomy) to Level 5 (full autonomy). SAE Standards News: J3016 automated-driving graphic update

[2] Autonomous driving in Japan - part 1: road traffic law

[3] *Ibid.*

[4] *Ibid*.

[5] Legalization of Self-Driving Vehicles in Japan: Progress Made, but Obstacles Remain.

[6] Legal regulation of autonomous driving technology: Current conditions and issues in Japan, page 2.

[7] Autonomous driving in Japan - part 1: road traffic law.

[8] Legal regulation of autonomous driving technology: Current conditions and issues in Japan.

[9] Traffic Act Section 63, clause 2-2, Law No. 20, 2019. Enacted May 28, 2019. Enforced June 5 of the same year

[10] Traffic Act Section 119, clauses 1-6 and 7-2, Law No. 20, 2019. Enacted May 28, 2019. Enforced June 5 of the same year

[11] *Ibid*.

[12] Japan launches new project to popularize L4 driving assistance by 2025.

[13] The Ministry of Economy, Trade and Industry of Japan.

[14] *Ibid*.

[15] Centre for Connected and Autonomous Vehicles.

[16] See our previous bulletin on this issue.

[17] UK Legislation

[18] Safe Use of Automated Lane Keeping System (ALKS): Summary of Responses and Next Steps at page 41.

[19] *Ibid* at page 45.

[20] Self-driving' cars to be allowed on UK roads this year.

[21] The Law Commission

[22] DIRECTIVE 2007/46/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, repealed by REGULATION (EU) 2018/858 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

[23] In its report on the evaluation of Council Directive 85/374/EEC, the European Council noted that concepts of damages, defect, and product may change as emerging

technologies become more common place. Currently, an autonomous vehicle and its components may be defined as both a vehicle and machinery.

[24] Evaluation of Council Directive 85/374/EEC on the approximation of laws, regulations and administrative provisions of the Member States concerning liability for defective products.

[25] Ibid, pg. 6.

[26] France Plans on Adopting New Rules for Self-Driving Cars

[27] France Plans on Adopting New Rules for Self-Driving Cars

[28] The Minister of the Interior of France

[29] CLEPA. Also see, interieur.gouv.fr

[30] *Ibid*.

[31] Library of Congress

[32] The full draft law in German

[33] *Supra* note 24.

[34] The full Decree in Italian.

[35] *Ibid*.

[36] *Ibid*.

[37] Ministry of Sustainable Infrastructure and Mobility

[38] H.R. 3388.

[39] Congress: H.R.3711 - *Self Drive Act*

[40] H.R. 3388

[41] Green, Alexandra, Case Note, *THE SELF DRIVE ACT: AN OPPORTUNITY TO RE-LEGISLATE A MINIMUM CYBERSECURITY FEDERAL FRAMEWORK FOR AUTONOMOUS VEHICLES*, 60 SANTA CLARA L. REV. 217 (2020) at 239-240.

[42]DIVISION 16.6. Autonomous Vehicles [38750 - 38755] (Division 16.6 added by Stats. 2012, Ch. 570, Sec. 2.), also see: Department of Motor Vehicles, State of California

[43] *Ibid*.

[44] Nevada Revised Statues 482A.090 Manufacturer or developer not liable for certain damages.

[45] *Ibid.*

[46] House Bill 7072

[47] China's Legislation on Autonomous Cars Rolls out.

[48] *Ibid.*

[49] Draft Proposed Amendments of the Road Traffic Safety Law, s 155.

[50] *Ibid*.

[51] *Ibid*.

[52] Ministry of Industry and Information Technology of the People's Republic of China

[53] The full legislation is in Chinese.

[54] China's Legislation on Autonomous Cars Rolls out.

[55] *Ibid.*

[56] *Ibid.*

[57] *Ibid*.

[58] *Ibid.*

[59] *Ibid*.

[60] *Ibid.*

[61] *Motor Vehicle Safety Act*, SC 1993, c 16.

[62] Transport Canada

[63] Guidelines for testing automated driving systems in Canada

[64] Ontario's Automated Vehicle Pilot Program

[65] Modes of Transportation IN AN AUTONOMOUS VEHICLE

[66]Proposed Amendments to Ontario Regulation 306/15: Pilot Project - Automated Vehicles and Revised Regulations of Ontario 1990, Regulation 628: Vehicle Permits (ontariocanada.com)

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