



Institut suisse de droit comparé
Schweizerisches Institut für Rechtsvergleichung
Istituto svizzero di diritto comparato
Swiss Institute of Comparative Law

E-Avis ISDC 2022

LEGAL OPINION ON THE REGULATION OF CERTAIN ASPECTS OF AUTOMATED DRIVING

Italy, Spain, Sweden, United Kingdom

Current to: 01.03.2022

Please refer to as: H. Westermark / M.C. Gaeta / J. Curran / R. Polanco Lazo
Legal opinion on the Regulation of certain aspects of Automated Driving, current to : 01.03.2022.
E-Avis ISDC 2022, available on www.isdc.ch.

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E-Avis ISDC

Série de publications électroniques d'avis de droit de l'ISDC / Elektronische Publikationsreihe von Gutachten des SIR / Serie di pubblicazioni elettroniche di pareri dell'Istituto svizzero di diritto comparato / Series of Electronic Publications of Legal Opinions of the SICL

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I. FACTS

On December 3, 2021, the Bundesamt für Strassen (ASTRA) asked the Swiss Institute of Comparative Law (SICL) to conduct a comparative study on the regulation of certain aspects of automated driving. ASTRA submitted a number of questions and indicated a number of jurisdictions to be examined.

In order to shorten the time for finalizing the study, the SICL and ASTRA agreed to certain limitations of the scope of ASTRA's initial request with regards to both the questions and the number of jurisdictions to include.

The jurisdictions examined in this legal opinion are Italy, Spain, Sweden and the United Kingdom. In addition, and given that a majority of these countries are EU Member States, the report includes information on relevant EU law and initiatives in relation to automated driving.

II. QUESTIONS

Following discussion between ASTRA and the SICL, the parties agreed to include the following questions in the study. The questions are essentially a translation into English of ASTRA's initial questions in German.¹

i. Overview of the regulation on automated driving

1. Has the country adopted regulations on automated driving or are such regulations currently under development?

ii. Type approval of automated vehicles

2. Are there regulations governing the type approval/homologation of automated vehicles and the bodies responsible for this?

iii. Requirements applicable to drivers and the driving of automated vehicles

3. What general requirements apply to the drivers of automated vehicles?
4. Under what conditions are drivers allowed to activate the automated driving system and what are the obligations of the driver when the system is activated?
5. Under what conditions may driverless vehicles be used?

iv. Data protection and the collection and storage of data

6. What data must be collected and processed by the automated vehicle?
7. How is the data stored and who can access the data?
8. What are the requirements regarding the deletion of data?

v. Other key requirements

9. Do the regulations include additional requirements?²

¹ Apart from a major limitation in scope by excluding liability issues, the original questions from Astra have been subject to only minor amendments.

² For instance, are there penal provisions, specific liability rules, etc.

III. SUMMARY & COMPARATIVE OBSERVATIONS

1. Introduction and international perspective

The development of automated driving technology³ has sparked a need for regulatory responses, in particular in relation to road safety, data protection, and civil and criminal liability. This study focuses on a number of regulatory questions related to road safety and data protection. They concern primarily the requirements and role of the drivers of automated vehicles (hereafter AVs) and the collection and storage of data in relation to automated driving.

The international standard for describing automation in the context of motor vehicles and their operations on roadways is the **SAE Levels of Driving Automation**.⁴ The SAE levels range from 0 (no driving automation) to 5 (full driving automation), where level 3 and higher enables the vehicle to drive without assistance from the driver. However, an important distinction is made between level 3 in relation to levels 4 and 5. Level 3 automation requires the driver to be ready to take over the driving upon request by the automated system. The same obligation does not apply for levels 4 and 5 automation since they should be able to solve all situation by themselves or make sure that the vehicle stops safely without any assistance from a human.

It should be noted that the scope of this study includes all these three levels of automation and the preferred terminology is therefore “automated vehicles” / “automated driving” rather than “autonomous vehicles”.⁵ The distinction between the different levels of automation is important as a majority of existing regulation can be applied to level 3, while the higher levels often require further legislative action. The difference in levels of automation, is one of many challenges for the legislator. It should also be noted that future technological developments are likely to require regulatory responses that cannot yet be fully anticipated.

At the international level, the United Nations (UN) has adopted a number of conventions and other legal instruments relating to traffic and road safety, and technical requirements. The two main legal instruments defining the international legal road traffic framework are the 1949 Geneva Convention on Road Traffic and the 1968 Vienna Convention on Road Traffic. The **1968 Vienna Convention on Road Traffic** is currently being amended so that the restrictive approach to automated driving will be replaced by more liberal rules enabling the parties to the convention to develop their national legislation in this area.⁶ In particular, the amendments entail that the requirement that every moving vehicle shall have a driver is deemed to be satisfied if the vehicle is using an automated driving system that is compliant with national and international regulations.⁷ The amendments are subject to approval by the countries party to the Convention and expected to enter into force in July 2022 at the earliest.

³ An automated driving system can have different levels of automation ranging from assistance to the physical driver to completely self-driving capability.

⁴ For a detailed description of the different SAE levels of automation see <https://www.sae.org/blog/sae-j3016-update> (22.03.2022).

⁵ The term "autonomous vehicle" indicates that the vehicle is completely self-driving without any need of human interaction, thereby corresponding to only level 4 and 5 automation.

⁶ The 1968 Vienna Convention on road traffic is available at: https://treaties.un.org/Pages/ViewDetailsIII.aspx?chapter=11&mtdsg_no=XI-B-19&src=TREATY (25.03.2022).

⁷ See the proposal that includes an amendment of Article 1 and the introduction of 34 bis at: <https://unece.org/fileadmin/DAM/trans/doc/2020/wp1/ECE-TRANS-WP1-2020-1e.pdf> (07.03.2022).

Various legal instruments relating to automated driving are being developed by the the **United Nations Economic Commission for Europe (UNECE)**. Primarily two UNECE Working Parties have been concerned with this work: WP.1 (Global Forum for Road Traffic Safety) and WP.29 (World Forum for Harmonization of Vehicle Regulations).⁸

In 2020, the UNECE adopted the UNECE Automated Lane Keeping System (“ALKS”) Regulation, which is the first binding international regulation on level 3 vehicle automation.⁹ It should also be mentioned that there are discussions regarding the type of activities permitted for “drivers” of level 3 automation that requires the driver to be ready to take over the driving upon request by the automated system.¹⁰ This question is linked to the overall regulatory challenge of adopting rules on the transition of the driving task from the automated system to the driver. Among other things, considerations must be taken of the type of situations requiring a transfer and the amount of time given to a driver when he or she needs to take control of the vehicle. This is also linked to the general question of responsibility for the driving at any given point in time: is it the automated driving system or the driver?

The UNECE is also developing detailed rules on the collection and storage of data in a specific regulation expected to be finalised in the end of 2022 - the Regulation on Storage System for Automated Driving (DSSAD).¹¹

In 2018, the **European Commission** published the strategy paper *On the road to automated mobility: An EU strategy for mobility of the future*, with the stated aim to make Europe a world leader in the deployment of connected and automated mobility.¹² The strategy provides a common vision and identifies supporting actions for developing and deploying key technologies, services and infrastructure, which will ensure that EU legal and policy frameworks are ready to support the deployment of safe connected and automated mobility.¹³

Rules on type approval of vehicles are largely harmonised within the EU.¹⁴ Currently, there are no specific rules applicable to AVs, but a final draft regulation on type approval of automated driving systems is expected in 2022. In the absence of specific rules, Member States wishing to introduce AVs can use the exemption for new technologies, which is granted on the basis of a national ad-hoc safety assessment.¹⁵

⁸ Further information available at <https://unece.org/automated-driving> (25.03.2022).

⁹ The regulation is available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G20/087/82/PDF/G2008782.pdf?OpenElement> (25.03.2022).

¹⁰ See in particular Global Forum for Road Traffic Safety (WP.1) resolution on safety considerations for activities other than driving undertaken by the driver when the automated driving system is exercising dynamic control, available at: <https://unece.org/transport/documents/2021/07/working-documents/global-forum-road-traffic-safety-wp1-resolution> (31.03.2022).

¹¹ Ds 2021 :28, p. 108.

¹² The strategy paper is available at: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2018:0283:FIN:EN:PDF> (25.03.2022).

¹³ Ibid, p. 2.

¹⁴ See in particular Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC.

¹⁵ See in particular Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC, Article 39. It should also be noted that the Commission has published guidelines on the exemption procedure for the EU approval of automated vehicles,

Requirements regarding safety and the protection of vehicle occupants in AVs are addressed in EU Regulation 2019/2144. However, they merely refer in general terms to various technical systems aimed to ensure safety, data recording, etc., and states that detailed provisions on uniform procedures and technical specifications for the systems will be adopted in separate implementing acts.¹⁶

2. Comparative observations

All jurisdictions examined in this study have test schemes permitting automated driving, governed either by specific regulation (Italy, Spain and Sweden) or by non-binding guidance (UK). However, with the exception of Spain's framework regulation on automated driving, the countries have thus far not adopted any general applicable regulation. The Spanish regulation – which entered into force on 21 March 2022 – contains, however, few specific legal obligations, leaving the future legal requirements to be decided in administrative regulations.

Discussions on the adoption of generally applicable legislation on automated driving are ongoing in the different countries and the publication of reports and inquiries in that regard provide guidance on expected future regulation. This is particularly true for Sweden and the UK: for these jurisdictions detailed information, including **draft legislation**, is available in the two Government appointed **Swedish inquiries Ds 2021:28 and SOU 2018:16**, and in a recently published **UK Joint Law Commission Report**.

As regards **type approval/homologation of vehicles**, the countries included in this study do not have regulations specifically addressing AVs. With the exception of certain general obligations (such as indication of the degree of automation of vehicles equipped with automated driving systems required under Spanish law), the EU Member States Italy, Spain and Sweden are seemingly waiting for EU legislative action before adopting any detailed rules. The UK Joint Law Commission Report proposes a new pre-deployment approval scheme for AVs before they are allowed on the road followed by a second "authorisation" stage before a vehicle may be regarded as self-driving. This second stage requires proof that the specified automatic driving system feature can control the vehicle in order to drive safely and legally. The UK proposal also stipulates that the manufacturer or developer that puts the vehicle forward for authorisation and takes responsibility for its actions must be approved by the authorisation authority with regard to whether it has sufficient skill and the financial resources to keep the vehicle up-to-date and compliant with traffic laws.

None of the jurisdictions in this study have adopted general rules governing the **rights and duties applicable to the drivers of AVs and regarding the activation of the automated driving system**. However, these issues are addressed in legislative proposals and/or in regulations on testing activity of AVs. In comparison to current rules which refers to the "driver" of the vehicle, they introduce new concepts: the Swedish "standby driver" (*förare i beredskap*), the UK "user-in-charge, and the Italian "supervisor" (*supervisore*). The Italian regulation on testing of AVs contains a number of obligations to be fulfilled by the supervisor, in particular: having a driving license for minimum five years; having successfully passed a safe driving course or a specific course for self-driving vehicle testing at an accredited body in one of the countries of the European Union; and having conducted tests on

available at https://ec.europa.eu/growth/news/guidelines-exemption-procedure-eu-approval-automated-vehicles-2019-04-09_en (25.03.2022).

¹⁶ Regulation (EU) 2019/2144 of the European Parliament and of the Council of 27 November 2019 on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, Article 11.

automated vehicles in a protected site or on a public road. Contrary to the Italian regulation on the testing of AVs, the Swedish and UK proposals do not foresee specific AV-related requirements, thereby limiting the requirements to general qualifications (such as relevant driving licence) for the vehicle in question. According to the Swedish draft legislation, the “stand-by driver” must be ready – without delay - to take control of the driving if this is requested by the automated driving system. Since it is intended to be adaptable and thereby covering specific functions of a vehicle, the concept does not require the standby driver to be inside the vehicle. For instance, a standby driver may carry out a driving task of several vehicles in situations such as column driving. This is different from the UK concept “user-in-charge” that involves a human in the driving seat of the vehicle.

The collection and storage of data involves different interests. For privacy reason, the collection and storage should be as limited as possible. At the same time, there is a need for a considerable amount of data for the purpose preventing crimes and to ensure that individuals can exercise their rights in civil law cases. The manufacturers of AVs also have an interest in collecting large amount of data in order to improve the performance and the security of their automated driving system. Any national regulation specifically addressing AV’s must comply with the general applicable rules laid down in the EU General Data Protection Regulation (GDPR).¹⁷ The data that needs to be collected and stored by the AV according the Swedish draft legislation concern (1) the activation and deactivation of automated driving; (2) the vehicle's request to the driver to switch from automated driving to manual driving; (3) error messages from the vehicle during automated driving, and; (4) the speed of the vehicle if an incident occurs. For each of the data, the vehicle’s chassis number and the date and time of the event are collected and stored. These requirements seem to be in line with those proposed in the UK Joint Law Commission Report.

The responsibility of storing the data and the modalities for a third party to **access the data** are other issues that need regulatory responses. Both the Swedish and the UK proposals consider that the manufacturer or other private party - rather than a public authority - is best suited to store the data. As regards third party access to the data, the UK Joint Law Commission Report is rather general and simply proposes that a duty should be placed on those controlling AV data to disclose data to insurers where the data is necessary to decide claims fairly and accurately. The different issues that will arise in that regard should ideally be solved by agreement between insurers and manufacturers, for instance by uploading data to a neutral server and shared according to protocol. The Swedish draft legislation focuses on the access of data in criminal matters (upon request by the police, the prosecutor is tasked with deciding on the access), but does not propose any rules for the access in cases of civil liability.

As regards the **deletion of data**, the Swedish draft legislation suggests a storage of maximum 6 months. That is considerable shorter than the UK Joint Law Commission Report 39 months' storage period, which corresponds to the standard limitation period (three years) under English law for bringing legal claims.

¹⁷ As regards the UK, it should be noted that the national data protection regime (known as the UK-GDPR) is almost identical to the EU GDPR.

IV. COUNTRY REPORTS

A. ITALY

1. Regulation on automated driving

In Italy there is no regulation on autonomous driving or, more specifically, autonomous vehicles (AVs). However, in 2017 Italy authorised road testing of ‘Smart Road’ and connected driving solutions by the adoption of **law no. 205/2017 (Art 1, para 72)**.¹⁸ The text of the law called for the introduction of a decree of the Minister of Infrastructure and Transport to implement methods and operational tools for testing. This decree – the 2018 **Ministerial Decree on smart road**¹⁹ - is likely to be the basis for the foreseen further legislative interventions and has a dual purpose. On the one hand, it aims to promote the technological adaptation of the infrastructure according to the ‘Smart Roads rules’ in line with the European and international requirements. On the other hand, it aims to guarantee and promote the autonomous and connected vehicles testing, in consideration of the possibility that autonomous vehicles will soon be introduced into the market. In particular, the Decree introduces **the role of the “supervisor”** (*supervisore*) (art 1, para 1, let. J and art. 10), starting from the assumption that in the highest automation level there is not a real driver but only a supervisor who must be able to resume the control of the vehicle if requested.

Until the possible introduction of specific legislation for the regulation of autonomous vehicles, **the legislation currently applicable to autonomous driving is the following**: Civil Code,²⁰ Road Traffic Code,²¹ Consumer Code,²² Private Insurance Code,²³ and Privacy Code,²⁴ applied directly or by analogy.

2. Type approval of automated vehicles

Art. 46 of the Italian New Road Traffic Code qualifies: “*vehicles, all machines which can flow on the roads driven by man*”²⁵. Only vehicles that have this characteristic can be homologated according to the ordinary procedure of homologation, provided by art. 75-78, New Italian New Road Traffic Code²⁶ as well as by Ministerial Decree 28.04.2008.²⁷

¹⁸ Italian Law of 27.12.2017, no. 205, available at www.normattiva.it.

¹⁹ Ministero delle Infrastrutture e dei Trasporti , Decree of 28.02.2018, on the implementation methods and operational tools of road testing of Smart Road solutions and connected and automatic driving, available on www.gazzettaufficiale.it.

²⁰ Royal Decree 16.03.1942, n. 262, Italian Civil Code, available at www.normattiva.it.

²¹ Italian Legislative Decree 30.04.1992, n. 285, New Road Traffic Code, available at www.normattiva.it.

²² Italian Legislative Decree 6.09.2005, n. 206, Consumer Code, available at www.normattiva.it.

²³ Italian Legislative Decree 7.09.2005, n. 209, Private Insurance Code, available at www.normattiva.it.

²⁴ Italian Legislative Decree 30.06.2003, n. 196, Italian Privacy Code, available at www.normattiva.it.

²⁵ Italian Legislative Decree 30.04.1992, n. 285, New Road Traffic Code, available at www.normattiva.it.

²⁶ Italian Legislative Decree 30.04.1992, n. 285, New Road Traffic Code, available at www.normattiva.it.

²⁷ Italian Ministerial Decree 28.04.2008, on the transposition of Directive 2007/46/EC of the European Parliament and of the Council of 5.09.2007, relating to the approval of motor vehicles and their trailers, as well as systems, components and technical units intended for such vehicles and repealing the Ministerial Decree 2.05.2001, no. 277, Provisions concerning the homologation procedures for motor vehicles, trailers, agricultural machinery, operating machinery and their systems, components and technical entities, available at www.gazzettaufficiale.it.

However, it should be noted **that Italy signed the Vienna Convention on Road Traffic (1968)**²⁸ and therefore will be called upon to adapt to the new provisions that will be provided by the entering into force of the last **amendment**, that provides for automated driving. In particular art. 46 of the New Italian Road Traffic Act (but in general should be revised part of the New Italian Road Traffic Act) must be modified in order to include the provision of **art. 34 bis of the Vienna Convention** according to which the obligation that each vehicle have a driver is considered satisfied when the vehicle uses an automatic driving system compliant with national and international regulations.

The ordinary procedure of homologation provides that the vehicles are subject to the **verification of the identification data and their correspondence to the technical prescriptions and to the constructive and functional characteristics** foreseen by the New Italian Insurance Code (**art. 75, para. 1, New Italian Road Traffic Code**). Furthermore, the Minister of Transport may decree specific rules for the national approval of systems, components and technical units, as well as the suitable procedures for their installation as elements of replacement or integration of vehicle parts, on types of cars (art. 75, para. 3 *bis*, New Italian Road Traffic Code). The assessment may concern single vehicles or groups of specimens of the same type of vehicle (art. 75 para. 2, New Italian Road Traffic Code). In compliance with **art 76, New Italian Road Traffic Code**, the **competent department of the Ministry of Transport** after completing the assessment pursuant to art. 75, New Italian Road Traffic Code, **issues the approval certificate** to the vehicle manufacturer (or groups of the same vehicle).

After the issue of **approval certificate certifying the existence of the eligibility requirements for circulation**, the vehicles are subject to **homologation**, carried out on a **vehicle prototype**, according to the procedures established by Decree of the Ministry of Transport 28.04.2008. The same decree indicates the documentation that the interested party must exhibit in support of the application for approval (**Article 75, paragraph 3**).

Concerning the autonomous vehicles, the possibility to be homologated according to the ordinary procedure, depends on the level of automations as classified by the **SAE J3016 Standard of levels of driving automation**).²⁹ **Up to level 2 of automation**, the vehicle is **driven by physical persons**, so it is clear that **traditional homologation rules** can be applied to them. Level 3 of automation is the first level of automation in which the driving software is driving itself, but the driver has to be able to resume the control of the vehicle if asked by the driving features. For this reason, it is possible to consider that **ordinary homologation procedure can apply also to level 3 of automation**. As a matter of fact, vehicles characterised by this level of automation are already on the market and has been homologated according to the ordinary procedure.

Some **doubts about the applicability of the ordinary homologation procedure** could arise with reference to **level 4 of driving automation**, in which the cases of human intervention are significantly reduced or completely eliminated. According to this thesis, pedals and a steering wheel should be installed, but part of the literature considers that already for level 4 of automation they are not mandatory. This means that the homologation procedure should provide **more requirements for homologation**, concerning **ADAS** and, in general, to **driving software**.

Having reached level 5 of automation (i.e. completely autonomous vehicles), it is not possible to apply the ordinary homologation procedure, because the figure of the human driver disappears. **This means that it cannot be applied to fully autonomous vehicle (self-driving cars) in the definition of art. 46 of the new road traffic code** because such vehicles are not driven by persons. This implies that

²⁸ Vienna Convention of Road Traffic of 8.11.1968

²⁹ SAE standard J3016, 'Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles' of 2014 (revised in 2016 and then in 2021, but the automation levels are the same). More details are available here: <https://www.sae.org/blog/sae-j3016-update>

autonomous vehicle cannot be homologated according to ordinary homologation procedures currently in force in Italy.

However, Italian legislation provides for the **approval of experimental vehicles**, such as the level 4 and 5 automated vehicles which are still being tested in Italy, before their introduction on the market. In case of testing, **art. 9, Ministerial Decree n. 277/2001 provides an exception** to the ordinary procedure. Thus, a producer can ask the Italian Ministry of transport to not apply the legislation governing homologation **“when the exception is required, for experimental reasons” (Art. 9, para 1, let b)**. The same article defines the homologation for experimental reasons as **“temporary homologation” (Art. 9, para 2)**. Temporary homologation can eventually be turned into a final homologation if the experimentation gets positive results **(art. 75, para 5, Italian Road Traffic Code)**. Another way to obtain the homologation of a vehicle in Italy is to ensure that **the vehicle gets the ordinary homologation in another country and then is recognised in Italy. This is offered** under conditions of reciprocity. (Art. 75, para 5, New Italian Road Traffic Code). However, there is still the issue of the circulation of these vehicles in Italy when the autonomous driving mode is active, because the Italian legislation allows this mode of driving only for experimental purposes in the Smart Road Decree (D.M. 2802.2018).

Concerning the testing phase, according to **art. 9, para 3, of the Ministerial Decree of 28.02.2018 (c.d. Smart Road Decree)**,³⁰ the approval of the testing could be released only to the **vehicles** which already **get the homologation** in the version **without automated systems technology**. The application for the authorisation must contain the documents listed in the art. 11, of the same D.M. 28.02.2018. Furthermore, the authorisation is issued for one or more vehicles, with reference to each of which the owner is indicated, belonging to the same class and category pursuant to art. 47 of the New Italian Road Traffic Code, equipped with automatic driving technologies, with similar functional performances and able to guarantee an identical level of safety on the road. Following the authorisation, the vehicles are entered in a **special register** kept by the authorising subject and are supplied with a special **authorisation mark for experimentation (VGA standing for ‘Veicolo sperimentale a guida autonoma’)**, the characteristics of which are set out in Annex B of the Smart Road Decree.³¹ The mark must be displayed on both the front and rear side of the vehicle during the experimental activity (art. 9, para. 4, M.D. 28.02.2018).

³⁰ Italian Ministerial Decree 28.02.2018, Implementation methods and operational tools of road testing of Smart Road solutions and connected and automatic driving.

³¹ Annex B of the Ministerial Decree 28.02.2018 is available here:
https://www.gazzettaufficiale.it/do/atto/serie_generale/caricaPdf?cdimg=18A0261900200010110001&dgu=2018-04-18&art.dataPubblicazioneGazzetta=2018-0418&art.codiceRedazionale=18A02619&art.num=1&art.tiposerie=SG

**VEICOLO SPERIMENTALE
A GUIDA AUTOMATICA**

Ministero delle Infrastrutture e dei Trasporti
Dipartimento per i trasporti, la navigazione,
gli affari generali e il personale
Direzione Generale per la motorizzazione

REPUBBLICA ITALIANA

Contrassegno numero:

Scadenza:

Front side of the VGA - Annex B of the Smart Road Decree

Ragione sociale del titolare dell'autorizzazione

Autorizzazione n.

Del:

Numero di telaio del veicolo autorizzato:

Il presente contrassegno certifica che il veicolo è autorizzato a circolare sperimentalmente sulle strade pubbliche italiane, con le limitazione indicate nell'autorizzazione, ai sensi del decreto del Ministro delle infrastrutture e dei trasporti del 28 febbraio 2018

Durante le prove sperimentali, il presente contrassegno deve essere apposto sia sul lato anteriore che in quello posteriore del veicolo in modo tale che il recto sia chiaramente visibile per i controlli

Back side of the VGA - Annex B of the Smart Road Decree

The vehicles authorised for experimentation circulate, during the experimental activity, with a **test licence plate** issued pursuant to decree of the Italian President of the Republic n. 474/2001 (art.9, para 5, M.D. 28.02.2008). The authorisation refers to the execution of experiments on one or more road areas, with the identification the specific road infrastructures indicated by the applicant after having obtained the authorisation from the entity that owns the road (Art. 9, para. 6, M.D. 02.28.2008).

With regard to the **competent authorities** for the **authorisation of vehicles testing** and their **homologation**, the competence has always been of the Ministry of Infrastructure and Transport. However, in the light of the goals of the European Union that aim at the development of **sustainable technology**, which is particular important in the field of transport, the **Ministry of Infrastructure and**

Transport has become the Ministry of Infrastructure and Sustainable Mobility. (www.mit.gov.it).³² This is currently the competent authority for the homologation and testing of autonomous vehicles.

3. Requirements applicable to the drivers of automated vehicles

According to New Road Traffic Code, **the requirements for the drivers of the traditional vehicles** are stated by New Road Traffic Code and are two: (i) the driver must be **suitable for physical and physiological requirements** (art. 115, para. 1); (ii) the driver must comply with **the age requirements** (18 years old for driving a traditional car). Certain weight limits also apply (art. 115, para. 1, lett. c)).

The driving licence is provided by New Road Traffic code which states that car licence B is needed for driving a car whose maximum authorized weight does not exceed 3.500 kg and it is designed and built to carry no more than eight people in addition to the **driver (art. 116, par. 3, let. f)**.

The aforementioned requirements are the main requirements for driving traditional vehicles and it is believed that they can also be applied to semi-autonomous vehicles, **up to level 2 of the driving automation** level according to **SAE J3016 Standard of levels of driving automation**³³. Indeed, according to SAE J3016 Standard of levels of driving automation the driver has the main lateral and longitudinal driving task and the ADAS constitute a valid support for the driving activities. As expressly provided by the SAE International for **level 0, 1 and 2 of driving automation, the driver is driving the vehicle** whenever the driver support features are engaged, even if he/her is off the pedals and is not steering. So, it is clear that for this minimum level of automation the driving task remains the same as that of the traditional vehicles. Thus, the driver requirement remains unchanged.

Reaching an intermediate level of automation, the **driver requirement remains unchanged because the driver must drive the car when the driving features request it**. This is also what is currently happening in practise as vehicle with level 3 of automation are already on the market in Italy.

On the contrary, it would be **possible to consider an amendment of the driving license requirements for level 4 of vehicle automation. At that level**, the main driving functions are entrusted to the vehicle and the **driver has a more supervisory role**, although he or she must be able to understand driving technologies and interact with them according to the principles of **the human-machine interface (HMI)**.

The current driver requirement cannot be applied to vehicles with level 5 of automations (self-driving cars). Given that one of the strengths of autonomous vehicles is precisely that of being able to transport minors or people with physical or physiological disabilities – persons who do not fulfil the requirements of driver as provided for by art. 115 of the New Highway Code – the requirements could not be applied.³⁴

³² Prime Minister Decree (D.P.C.M.) 23.12.2020, n. 190, article 6, n. 3, letter b, available at www.normattiva.it

³³ SAE standard J3016, 'Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles' of 2014 (revised in 2016 and then in 2021, but the automation level are the same). More details are available here: <https://www.sae.org/blog/sae-j3016-update>

³⁴ Note that there are rules that could be applicable by analogy to the vehicles level 5 of automation. One example is that of warning others (drivers or pedestrians) of particular dangers: where regulations require new drivers to affix a marking to the outside of the vehicle, an AV operator could be required to call attention to the level of automation by affixing a marking to the outside of the vehicle.

4. Conditions permitting activation of the automated driving system

Currently Italy has no **specific regulation** concerning the conditions under which an automated driving system may be activated. In practice, **the activation of automated driving system up to level 2 of automation is permitted under the same conditions as any conventional vehicle**. For **level 3 of automation**, although the international **standard UN-ECE R-157³⁵** would only permit vehicles to drive in automatic mode on separate carriageways without pedestrians or cyclists and without exceeding 60 km/h, **Italy does not have adequate legislation for level 3 automation to be permitted**. For the high level of vehicle automation (**level 4 and 5**), there is no regulation on conditions permitting their activation. For test drives (for experimental purposes) these AVs must use specific smart roads equipped with adequate technical infrastructure.

With regard to the obligations of the driver of the autonomous vehicle a first distinction should be made between the cases in which the vehicle is driven by the driver, and that in which the vehicle is driven by the driving system. In the first case the **driver should comply with the obligations provided for traditional driving** found in Title V of the New Italian Road Traffic Code (art. 140 - 193).³⁶

For **levels 3-5**, it would be desirable that **further obligations be foreseen for the driver in addition to the traditional one**. However, as mentioned above, the only specific regulation on autonomous vehicles exists as part of the experimentation of the same in testing situations: **D.M. 20.02.2018** on the implementation methods and operational tools of the on-road **testing** of smart road and connected and automatic driving solutions.³⁷ This regulation could be **used in the future as basic provision to be applied by analogy in cases of non-experimentation**.

The Smart Road Decree provides more details concerning the **conditions permitting the activation of the automated driving system**. **Article 12 of that Decree** states the characteristics of autonomous driving for the admission to testing: (a) guarantee, in all conditions, compliance with the rules referred to in Title V of the New Italian Road Traffic Code and, in general, operate in such a way as to not constitute a danger or hindrance to traffic; (b) be able to interact safely with all possible road users, including the weakest and most vulnerable such as people with reduced mobility or disabilities and children; (c) be suitable at all times to allow the supervisor to switch from the automatic mode to the manual mode; (d) be equipped with intrinsic safety protections to guarantee data integrity and communication security, as well as to prevent unauthorised access and, in any case, to neutralise its harmful or dangerous effects; (e) be able, for the entire duration of the tests, to record detailed data with a frequency of at least ten hertz including at least: (1) time elapsed since the beginning of the recording, coinciding with the beginning of the experimentation; (2) automatic or manual current driving mode; (3) date, time, position in WGS84 coordinates and instantaneous speed; (4) instantaneous acceleration; (5) distance travelled from the start of the trial; (6) activation of commands for the lateral dynamics of the vehicle; (7) activation of commands for the longitudinal dynamics of the vehicle; (8) number of revolutions per minute of the engine, or other indicator equivalent; (9) gear ratio engaged, or other equivalent indicator; (10) current value of the yaw, roll and pitch angle; (11) use of lighting and signalling devices visual and acoustic; (12) data acquired from the sensors forming part of the object system evidence; (13) any V2V and V2I messages received and transmitted.

³⁵ More information on international standard UN-ECE R-157 are available here: <https://unece.org/sustainable-development/press/un-regulation-automated-lane-keeping-systems-alks-extended-trucks>

³⁶ Italian Legislative Decree 30.04.1992, n. 285, New Road Traffic Code, available at www.normattiva.it.

³⁷ Italian Decree 28.02.2018, Implementation methods and operational tools of the on-road testing of Smart Road and connected and automatic driving solutions

In terms of requirement, art. 10 of the Smart Road Decree provides specific **requirements** for the role of the supervisor that should be added, if applicable, to the provision of Title V of the New Italian Road Traffic Code. These include that **the driver/supervisor**: (i) have the **driving license for at least 5 years**, (ii) has successfully **passed a safe driving course** or a specific course for self-driving vehicle experimenters at an accredited body in one of the countries of the European Union, (iii) **has conducted tests on automated vehicles** in a protected site or on a public road, even abroad, as long as it was in a state where the testing of automated vehicles is regulated, at least one thousand kilometres, and (iv) possesses the **necessary knowledge**, adequately documented, to take part in the tests as a supervisor (art. 10, para 1, D.M. 20.02.2018). Furthermore, the supervisor must be able to promptly **switch between driving in automatic mode to driving in manual mode** and vice versa (art. 10, para 2, D.M. 20.02.2018).

5. Conditions for using driverless vehicles

The conditions for using autonomous vehicles on public roads are strictly related to the development of adequate driving infrastructures in order to be able to appropriately implement the three types of driving connection currently existing: vehicle to device communication (**V2D**); vehicle to infrastructure communication (**V2I**); vehicle to vehicle communication (**V2V**).

Autonomous vehicles are often defined as **connected and automated vehicles** to emphasize their ability to connect to the network. In some limited cases the connection can take place **via Bluetooth**, (e.g. communication between the vehicle and a smartphone), but most of the communications require an **Internet connection**. In fact, through the internet connection, vehicles can be put in communication with devices (eg. smartphones), with the surrounding infrastructure (eg. traffic lights) and with other (semi) autonomous vehicles.³⁸

6. The data collected and processed

Personal data are regulated under the **General Data Protection Regulation (Reg. 2016/679/UE)**,³⁹ implemented in Italy by **d.lgs. no. 101/2018**,⁴⁰ that amended the **Italian Privacy Code (D.lgs. no. 196/2003)**.⁴¹ There is no Italian regulation on the collection and processing of data that specifically apply to AVs.

The connectivity of AVs results in the collection, processing, and transfer of personal data. More precisely, manufacturers can collect data not only on the performance of their products (which also

³⁸ See Annex 3 on Smart Road Decree and the Internet of Things.

³⁹ Regulation of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, 2016/679/UE, (General Data Protection Regulation - GDPR), available at www.eur-lex.europa.eu

⁴⁰ Italian legislative decree 10.08.2018, n. 101, Provisions for the adaptation of national legislation to the provisions of regulation (EU) 2016/679 of the European Parliament and of the Council, of 27 April 2016, relating to the protection of individuals with regard to the processing of personal data, as well as the free circulation of such data and repealing Directive 95/46/EC (General Data Protection Regulation), available at www.normattiva.it.

⁴¹ Italian legislative decree 30.06.2003, n. 196, Code regarding the protection of personal data, containing provisions for the adaptation of national law to regulation (EU) no. 2016/679 of the European Parliament and of the Council, of 27 April 2016, concerning the protection of individuals with regard to the processing of personal data, as well as the free circulation of such data and which repeals Directive 95/46/EC.

makes it possible to quickly detect a malfunction and determine liability in case of car accident) but also users' personal information, who are often unaware of this processing of their personal data. The data processed can be **personal data or non-personal data, including data generated directly by the automated and connected vehicles (metadata).**

While Italy will follow the GDPR for personal data related to the use of AV, the Italian Data Protection Authority (Garante per la Protezione dei Dati Personali)⁴² is also studying the phenomena of the IoT, which is relevant to AV. All the main relevant documents on the topics are available on its continually updated webpage. That page offers an overview on the Italian and European initiatives.⁴³ At the same time the Italian DPA is also monitoring the field of artificial intelligence with particular regard to data protection aspects.⁴⁴

With specific regard to self-driving cars, research commissioned by the **Fédération Internationale de l'Automobile (FIA)**, focusing on the flow of data exchanged between cars and their respective manufacturers, revealed the quantity and quality of data that last-generation vehicles are able to exchange.⁴⁵ Additionally, based on the results of this research, FAI launched the **My Car My Data project**⁴⁶ to raise awareness about the processing of personal data and the need to introduce specific legislation.

7. Storage and access to the data

There is no Italian regulation on storage and access to data that specifically apply to AVs. The GDPR⁴⁷ and the **EDPB Guidelines 1/2020**⁴⁸ are also applicable to personal data storage. To these two instruments is added the **ePrivacy Directive**⁴⁹ which will be replaced by the new **ePrivacy Regulation**⁵⁰. The ePrivacy Directive has been implemented in Italy by Italian Legislative Decree 28.05.2012, no. 69,⁵¹ amending the Italian Privacy Code art. 121-134.

⁴² All the information on Garante per la Protezione dei Dati Personali, are available on its official website: www.garanteprivacy.it

⁴³ Webpage on Internet of Things edited by Garante per la Protezione dei Dati Personali <https://www.garanteprivacy.it/temi/iot>

⁴⁴ Webpage on Artificial Intelligence edited by Garante per la Protezione dei Dati Personali: <https://www.garanteprivacy.it/temi/intelligenza-artificiale>

⁴⁵ 'FIA Reveals what data is being tracked and how the public reacts to connected cars' (2015) <https://www.fia.com/news/fia-reveals-what-data-being-tracked-and-how-public-reacts-connected-cars>.

⁴⁶ MyCar My Data Project Website www.mycarmydata.org

⁴⁷ European Data Protection Board (EDPB) Guidelines no. 01/2020 on processing personal data in the context of connected vehicles and mobility related applications, 9.02.2021, available at www.edpb.europa.eu

⁴⁸ Regulation of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, 2016/679/UE, (General Data Protection Regulation - GDPR), available at www.eur-lex.europa.eu

⁴⁹ Directive of the European Parliament and of the Council of 12.07.2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications), 2002/58/EC, available at www.eur-lex.europa.eu

⁵⁰ Proposal for a Regulation of the European Parliament and of the Council concerning the respect for private life and the protection of personal data in electronic communications and repealing Directive 2002/58/EC (Regulation on Privacy and Electronic Communications), SWD(2017) 6 final, amended on 10.02.2021.

⁵¹ Italian Legislative decree 28.05.2012, no. 69, Amendments to the legislative decree 30.06.2003, n. 196, containing the Italian Data Protection Code, in implementation of directives 2009/136/EC, regarding the processing of personal data and privacy protection in the electronic communications sector, and

8. Deletion of the data

The **deletion of data** is **regulated under the GDPR**.⁵² Italy has not legislated further with specific attention to AVs.

9. Other key requirements or issues subject to regulation

As regards liability rules, Italian **administrative and criminal law requires personal liability**, and no sanction can be imposed on a person for the behaviour of another person.⁵³ **This means that if there is no driver with control of the vehicle, at least no administrative or criminal sanctions can be imposed** on the owner of the vehicle or its passengers. Instead, it can be assumed that if the vehicle commits an infringement, it will be the owner that will be liable (rather than the driver). Administrative offense applicable by analogy are art. 140, 142, 143, 146, 147, 148, 149, 152, 189, New Road Traffic Code.

Civil liability can rest with three different subjects: anyone considered the **producer** (as per art. 114 of the Italian Consumer Code) of the vehicle; the **owner** of the vehicle (for the sole fact that he/she purchased a self-driving car and therefore is considered responsible for the damage caused by the same) (currently according to art. 2015 and 2054, Italian Civil Code, but probably at least art. 2054 will have to be changed, as it refers mainly to the driver's liability); and to the **passenger** on board the vehicle (art. 2051, Italian Civil code).

2009/140/EC in the field of networks and services of electronic communication and of Regulation (EC) no. 2006/2004 on cooperation between national authorities responsible for the enforcement of consumer protection legislation, available at www.normattiva.it

⁵² Regulation of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, 2016/679/UE, (General Data Protection Regulation - GDPR), available at www.eur-lex.europa.eu

⁵³ This is stated in art. 11, Law 24.11.1981, n. 689, for administrative sanctions, and in art. 40, Italian Criminal Code for the criminal sanctions. Royal Decree 19.10.1930, no. 1398, Italian Criminal Code, available at www.normattiva.it.

B. SPAIN

1. Regulation on automated driving

Spain has recently approved a **framework regulation concerning automated vehicles, the Law 18/2021 of 20 December 2021**, which will enter into force on 21 March 2022.⁵⁴

In general terms, this law introduces a series of modifications to the current regulation of vehicles, contained in the Law on Traffic, Circulation of Motor Vehicles and Road Safety (Royal Legislative Decree 6/2015, of October 30, 2015).⁵⁵ However, the new legislation introduces few specific obligations regarding automated vehicles, leaving the future detailed regulatory framework in the hands of the General State Administration, through administrative regulations that have not yet been issued.⁵⁶

2. Type approval of automated vehicles

According to Article 66 of Royal Legislative Decree 6/2015 (as amended), the circulation of all vehicles requires that they previously obtain the corresponding vehicle registration certificate, aimed at verifying that they are in perfect working order and that their characteristics, equipment, spare parts, and accessories comply with the technical requirements established by regulation. **In the case of vehicles equipped with automated driving systems**, their characteristics, both in terms of the degree of automation and the operational environment of use, shall be stated in the registration certificate **in accordance with the regulations**. The circulation of vehicles that are not equipped with the aforementioned license is prohibited.⁵⁷

⁵⁴ Ley 18/2021, de 20 de diciembre, por la que se modifica el texto refundido de la Ley sobre Tráfico, Circulación de Vehículos a Motor y Seguridad Vial, aprobado por el Real Decreto Legislativo 6/2015, de 30 de octubre, en materia del permiso y licencia de conducción por puntos, available at: <https://www.boe.es/eli/es/l/2021/12/20/18/con> (23.02.2022)

⁵⁵ Real Decreto Legislativo 6/2015, de 30 de octubre, por el que se aprueba el texto refundido de la Ley sobre Tráfico, Circulación de Vehículos a Motor y Seguridad Vial, available at: <https://www.boe.es/eli/es/rdlg/2015/10/30/6/con> (23.02.2022)

⁵⁶ Art. 4 Real Decreto Legislativo 6/2015 (as amended): "Competencias de la Administración General del Estado.

Sin perjuicio de las competencias que tengan asumidas las comunidades autónomas, y además de las que se asignan al Ministerio del Interior en el artículo siguiente, corresponde a la Administración General del Estado: (...)

k) La regulación del vehículo automatizado, de conformidad con lo dispuesto en la ley."

⁵⁷ Art. 66 Real Decreto Legislativo 6/2015 (as amended): "Permisos de circulación.

1. La circulación de vehículos exigirá que estos obtengan previamente el correspondiente permiso de circulación, dirigido a verificar que estén en perfecto estado de funcionamiento y se ajusten en sus características, equipos, repuestos y accesorios a las prescripciones técnicas que se fijen reglamentariamente.

En el caso de vehículos dotados de sistema de conducción automatizada, sus características, tanto de grado de automatización como del entorno operacional de uso, se consignarán en el permiso de circulación conforme se desarrolle reglamentariamente.

Se prohíbe la circulación de vehículos que no estén dotados del citado permiso.

2. El permiso de circulación debe renovarse cuando varíe la titularidad registral del vehículo, y queda extinguido cuando éste se dé de baja en el correspondiente registro, a instancia de parte o por comprobarse que no es apto para la circulación, en los términos que reglamentariamente se determine.

3. La circulación de un vehículo sin el permiso de circulación, bien por no haberlo obtenido o porque haya sido objeto de declaración de pérdida de vigencia, de nulidad o anulada, da lugar a la inmovilización del mismo hasta que se disponga del mismo, en los términos que reglamentariamente se determine."

The second final provision of Law 18/2001 empowers the Government to regulate the procedure for certifying that a vehicle equipped with an automated driving system complies with the traffic regulations, as well as the definition of the automation capabilities and the operational environments of use to be recorded both in the Vehicle Register and in the vehicle registration certificates. However, these regulations have not yet been issued.⁵⁸

According to the changes introduced by Law 18/2001, the Ministry of the Interior is responsible for drawing up the traffic and road safety regulations to be complied with by vehicles equipped with an automated driving system. The Ministry of the Interior exercises these powers through the Central Traffic Chief Office (*Jefatura Central de Tráfico - JCT*), which is an autonomous agency.⁵⁹ The only exception refers to the technical requirements for the homologation of vehicles, the development of which corresponds to the Ministry of Industry, Commerce and Tourism.⁶⁰ Again, these regulations have not been issued yet.

3. Requirements applicable to the drivers of automated vehicles

The new Spanish law does not include provisions regulating the use and duties of drivers of automated vehicles, as such. Instead, Article 11 bis of the Law on Traffic (as amended), establishes that the owner of the automated driving system must inform the JCT's Vehicle Registry about the capabilities or functionalities of the automated driving system and its operational design domain at the time of registration. The owner must continuously report on changes thereafter, whenever there is any update of the system throughout the useful life of the vehicle.⁶¹

⁵⁸ Disposición final segunda, Ley 18/2021: "Habilitaciones normativas.

1. Se habilita al Gobierno para dictar las disposiciones necesarias para desarrollar esta ley.

2. Asimismo se habilita específicamente al Gobierno: (...)

k) para regular el procedimiento por el que se certifique que un vehículo dotado de un sistema de conducción automatizado cumple con las normas de circulación, así como la definición de las capacidades de automatización y de los entornos operacionales de uso que se harán constar tanto en el Registro de Vehículos como en los permisos de circulación."

⁵⁹ In accordance with article 98.1 of Law 40/2015, of October 1, of the Public Sector Legal Regime, autonomous bodies are public law entities, with their own legal personality, treasury and assets and autonomy in their management, which carry out activities proper to the Public Administration. Ley 40/2015, de 1 de octubre, de Régimen Jurídico del Sector Público, available at: <https://www.boe.es/eli/es/l/2015/10/01/40/con> (02.03.2022).

⁶⁰ Art. 5 Real Decreto Legislativo 6/2015 (as amended): "Competencias del Ministerio del Interior. Sin perjuicio de las competencias que tengan asumidas las comunidades autónomas y de las previstas en el artículo anterior, corresponde al Ministerio del Interior: (...)

u) De conformidad con lo dispuesto en la Ley, las normas en materia de tráfico y seguridad vial que deberán cumplir los vehículos dotados de un sistema de conducción automatizado para su circulación, a excepción de los requisitos técnicos para la homologación de los vehículos cuyo desarrollo corresponde al Ministerio competente en materia de industria."

⁶¹ Art. 11 bis Real Decreto Legislativo 6/2015 (as amended): "Obligaciones del titular de un sistema de conducción automatizado.

El titular del sistema de conducción automatizado de un vehículo deberá comunicar al Registro de Vehículos del organismo autónomo Jefatura Central de Tráfico las capacidades o funcionalidades del sistema de conducción automatizada, así como su dominio de diseño operativo, en el momento de la matriculación, y con posterioridad, siempre que se produzca cualquier actualización del sistema a lo largo de la vida útil del vehículo."

In addition, in the exceptional cases where driverless vehicles are authorized for testing purposes, some requirements have been established for the drivers of automated vehicles (see section B.5 below).

4. Conditions permitting activation of the automated driving system

Currently, Spain has no regulations specifically describing the circumstances in which drivers are allowed to activate the automation system. Nor are there specific regulations on the obligations of such driver once the system is activated.

However, the Directorate General of Traffic (*Dirección General del Tráfico* - DGT), an agency dependent on the JCT, has adopted the classification of autonomous vehicles developed by the Society of Automotive Engineers (SAE).⁶² According to the latest version of such classification, vehicles can be classified in Level 0 (No Driving Automation), Level 1 (Driver Assistance), Level 2 (Partial Driving Automation), Level 3 (Conditional Driving Automation), Level 4 (High Driving Automation), and Level 5 (Full Driving Automation).⁶³

For the moment, only vehicles up to level 2 are allowed in practice. This is because it is mandatory for drivers to be in a position to control their vehicle at all times.⁶⁴ Drivers are obliged to maintain the necessary field of vision and permanent attention to driving, to ensure their own safety, that of the passengers of the vehicle and that of other road users.⁶⁵

5. Conditions for using driverless vehicles

In Spain, the use of fully driverless vehicles is not allowed outside of testing environments. Article 47 of Royal Decree 2822/1998 of December 23, 1998, approving the General Vehicle Regulations⁶⁶

⁶² P. Álvarez Olalla, Desafíos legales ante la circulación de los coches autónomos: Implicaciones éticas, responsabilidad por accidente y ciberseguridad. Revista Doctrinal Aranzadi Civil-Mercantil num.2/2017, Ed. Aranzadi, 2017, BIB 2017\10732, p. 2.

⁶³ SAE, Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles J3016_202104.

⁶⁴ Art. 17.1, Reglamento General de Circulación: "1. Los conductores deberán estar en todo momento en condiciones de controlar sus vehículos o animales." Real Decreto 1428/2003, de 21 de noviembre, por el que se aprueba el Reglamento General de Circulación para la aplicación y desarrollo del texto articulado de la Ley sobre tráfico, circulación de vehículos a motor y seguridad vial, aprobado por el Real Decreto Legislativo 339/1990, de 2 de marzo, available at: <https://www.boe.es/eli/es/rd/2003/11/21/1428/con> (24.02.2022).

⁶⁵ Art. 13 Real Decreto Legislativo 6/2015 (as amended): "Artículo 13. Normas generales de conducción.
1. El conductor debe estar en todo momento en condiciones de controlar su vehículo. Al aproximarse a otros usuarios de la vía, debe adoptar las precauciones necesarias para su seguridad, especialmente cuando se trate de niños, ancianos, personas ciegas o en general personas con discapacidad o con problemas de movilidad.
2. El conductor de un vehículo está obligado a mantener su propia libertad de movimientos, el campo necesario de visión y la atención permanente a la conducción, que garanticen su propia seguridad, la del resto de ocupantes del vehículo y la de los demás usuarios de la vía. A estos efectos, deberá cuidar especialmente de mantener la posición adecuada y que la mantengan el resto de los pasajeros, y la adecuada colocación de los objetos o animales transportados para que no haya interferencias entre el conductor y cualquiera de ellos. (...)"

⁶⁶ Real Decreto 2822/1998, de 23 de diciembre, por el que se aprueba el Reglamento General de Vehículos, available at: <https://www.boe.es/eli/es/rd/1998/12/23/2822/con> (24.02.2022).

granted the DGT the power to grant special authorizations for the performance of extraordinary research tests or trials carried out by manufacturers, second-stage manufacturers, and official laboratories.⁶⁷

The DGT has issued a **directive (Instrucción 15/V-113) regulating the requirements for testing and trials with autonomous vehicles of level 3, 4 and 5**.⁶⁸ The directive defines an autonomous vehicle as: “Any vehicle with motor capacity equipped with technology that allows it to be operated or driven without requiring the active control or supervision of a driver, whether such autonomous technology is activated or deactivated, permanently or temporarily. For these purposes, those active safety or driving assistance systems included as vehicle equipment that necessarily require active human control or supervision for their operation or driving shall not be considered autonomous technology. Those vehicles incorporating technology with functions associated with automation levels 3,4 and 5 listed in Table I are the object of this directive”. The duration of the authorization shall be for a maximum term of 2 years, and may be extended successively for identical periods of time.

This directive was modified in October 2020, extending the list of requirements to accommodate configurations or technologies not foreseen in the initial version of the directive.⁶⁹

The same Instrucción 15/V-113 establishes certain requirements for the driver of a fully autonomous vehicle:⁷⁰

- a. It shall be designated and identified by the applicants of the special authorization.
- b. The applicant shall provide a statement of the aptitude of the designated driver, accrediting that s/he is familiar with the autonomous vehicle technology, has received the required training for the type of test requested and has the capacity to drive, handle or control the vehicle, in terms of safety and under any conditions.
- c. The driver of the autonomous vehicle shall at all times be responsible for the driving and handling of the vehicle.
- d. It shall be required that when the car is moving, the driver is at all times in a position to take full control of the vehicle, whether s/he is inside the passenger compartment or driving or operating it remotely. In any case, the driver shall be obliged to take full control of the vehicle in any eventuality that poses a risk situation for the occupants of the vehicle or for other road users.

⁶⁷ Art. 47: “Pruebas o ensayos de investigación extraordinarios realizados por fabricantes, carroceros y laboratorios oficiales.

1. Con sujeción a las normas establecidas en la presente subsección podrán otorgarse a los fabricantes de vehículos o a sus representantes legales, a los carroceros y a los laboratorios oficiales, que sean titulares de permisos temporales de empresa, autorizaciones para realizar con un determinado vehículo pruebas o ensayos de investigación extraordinarios, que les permitirá:

a) Realizar excepcionalmente ensayos en autopistas, autovías y demás vías públicas del territorio nacional, para los que sea necesario sobrepasar las limitaciones genéricas de velocidad establecidas para este tipo de vías. (...)

b) Circular por el territorio nacional llevando en el vehículo carga de cualquier tipo y los demás dispositivos o personas necesarios para la realización de ensayos.(...)”

⁶⁸ DGT, Instrucción 15/V-113 - Autorización de pruebas o ensayos de investigación realizados con vehículos de conducción automatizada en vías abiertas al tráfico en general, available at: <https://www.dgt.es/export/sites/web-DGT/galleries/downloads/muevete-con-seguridad/normas-de-traffic/VEH-vehiculos/15.V-113-Vehiculos-Conduccion-automatizada.pdf> (23.02.2022)

⁶⁹ DGT, Escrito Directriz SGGMT 7/2020: “Modificación anexo de la Instrucción DGT 15/V-113 de Autorización de pruebas o ensayos de investigación realizados con vehículos de conducción automatizada en vías abiertas al tráfico en general”, available at: https://www.dgt.es/export/sites/web-DGT/galleries/downloads/muevete-con-seguridad/normas-de-traffic/VEH-vehiculos/Escrito_Directriz_SGGMT_7_2020_Modificacion_anexo_de_la_Instruccion_DGT_15_V_113.pdf (23.02.2022)

⁷⁰ DGT, Instrucción 15/V-113, op. cit.

- e. The driver of the autonomous vehicle must hold a valid driving license for at least two years, corresponding to the category of the vehicle subject of the test or trial.

6. The data collected and processed

Currently, Spain does not have a specific regulation concerning the data collected and processed by automated vehicles. However, as the use of such vehicles makes it possible that personal data (home address, usual routes, places of work, leisure activities, etc.) could be sent to third parties without the subject's informed consent,⁷¹ such use could trigger the application of general laws on data protection. These include the Organic Law 15/1999, of December 13, 1999, on the Protection of Personal Data,⁷² and the Organic Law 3/2018, of December 5, on the Protection of Personal Data and Guarantee of Digital Rights.⁷³ These laws require that the persons with respect to whom personal data are collected be previously informed in an express, precise and unequivocal manner, and that their processing requires express consent.⁷⁴

The directive for exceptional authorization of fully automated vehicles described before, include some provisions on data collection, but only to assure that the software used during the tests and trials is up to date and meets minimum safety requirements, namely emergency shutdown and override of the autonomous system.⁷⁵

7. Storage and access to the data

Currently, Spain does not have a specific regulation concerning the storage and access to data collected by automated vehicles. As explained above, if such data would include personal data, that could trigger the application of general laws on data protection. According to Organic Law 15/1999, the processing of data on behalf of third parties must be regulated in a contract, expressly stating that the data will be only processed in accordance with the instructions of the data controller, that it will not apply or use them for purposes other than those stated in the contract, nor will it communicate them, even for storage, to other persons.⁷⁶

8. Deletion of the data

Currently, Spain does not have a specific regulation concerning the storage duration of the data collected by automated vehicles or their deletion. Again, as explained above if such data would include personal data, that could trigger the application of general laws on data protection, which include the right of deletion or cancellation of personal data, at the request of the data subject.⁷⁷

⁷¹ Álvarez Olalla, op. cit., p. 9.

⁷² Ley Orgánica 15/1999, de 13 de diciembre, de Protección de Datos de Carácter Personal, available at: <https://www.boe.es/eli/es/lo/1999/12/13/15/con> (24.02.2022).

⁷³ Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales, available at: <https://www.boe.es/eli/es/lo/2018/12/05/3/con> (24.02.2022).

⁷⁴ See Art. 5 Organic Law 15/1999 and Art. 6 Organic Law 3/2018.

⁷⁵ DGT, Instrucción 15/V-113, op. cit.

⁷⁶ See Art. 12, Organic Law 15/1999.

⁷⁷ See Art. 16, Organic Law 15/1999, and Art. 15 Organic Law 3/2018.

9. Other key requirements or issues subject to regulation

Currently, Spain does not have penal provisions or specific liability rules concerning automated vehicles. Some authors have pointed out the need for such rules, particularly concerning criminal behavior such as hacking and penal liability of legal entities, and liability in case of accidents or software defects.⁷⁸

⁷⁸ See, Álvarez Olalla, *op. cit.*, and B. Macías Espejo, Criminal compliance program y exención de responsabilidad penal ante la hipotética, si no inminente, industrialización del coche sin conductor. *Revista Aranzadi Doctrinal* num.6/2020 Editorial Aranzadi, S.A.U., BIB 2020\12080.

C. SWEDEN

1. Regulation on automated driving

Sweden does not have general regulation on automated driving. Thus far, the regulation in this area is limited to a **Government Ordinance on trial activity of automated vehicles** adopted in 2017.⁷⁹

Current status - draft legislation

However, general regulation on different aspects of automated driving is currently subject to inquiries and discussions. The two principal inquiries on this topic, which both contain substantial discussions and draft legislation are **SOU 218:16 Vägen till självkörande fordon – introduktion (in English: The road to autonomous vehicles - introduction, hereafter SOU 2018:16)** and **Ds 2021:18 Ansvarsfrågan vid automatiserad körning samt nya regler i syfte att främja en ökad användning av geostaket (in English: Liability for automated driving and new regulation to encourage further use of geo-fencing, hereafter Ds 2021:28)**.

In the absence of a legal framework for automated driving, the **draft legislation in the two inquiries SOU 2018:16 and Ds 2021:28 forms the basis of this country report**. It should be noted that the draft legislation is intended to apply to all levels of automation, although a large focus remains on less-than-complete automation (i.e., levels that require a human to immediately take over the command of the vehicle when so requested).⁸⁰

Inquiry SOU 2018:16 Vägen till självkörande fordon – introduktion

Finalised on 7 March, 2018, the government appointed inquiry **SOU 218:16 presented its proposal on how the current legal framework should be amended in order to enable the introduction of automated driving in ordinary traffic**. About 1,300 pages long and aiming to cover all regulatory issues related to automated driving, the inquiry includes detailed draft legislation. Following the publication of the proposal in SOU 2018:16, 135 key stakeholders such as Authority for Privacy Protection (*Integritetsskyddsmyndigheten*), the Transport Administration (*Trafikverket*) and the Police Authority submitted their comments on the draft legislation.⁸¹

Inquiry Ds 2021:28 Ansvarsfrågan vid automatiserad körning samt nya regler i syfte att främja en ökad användning av geostaket.

In 2020, the Ministry of Infrastructure (*Infrastrukturdepartementet*) decided to further inquire two specific aspects relating to automated driving: (1) develop and adapt the draft rules presented in SOU 2018:16 regarding the allocation of responsibility when using automated driving and (2) examine the need for new regulation in order to promote increased use of geo-fencing.⁸² The **inquiry – Ds 2021:28** was published on 1 October 2021.⁸³

⁷⁹ Förordning (2017 :309) om försöksverksamhet med automatiserade fordon.

⁸⁰ That means automated driving corresponding to SAE level 3 as opposed to the higher autonomy levels SAE 4 and SAE 5.

⁸¹ All stakeholder submissions are listed at <https://www.regeringen.se/remisser/2018/04/remiss-av-sou-201816-vagen-till-sjalvkorande-fordon/> (08.02.2022).

⁸² Ds 2021:28 Ansvarsfrågan vid automatiserad körning samt nya regler i syfte att främja en ökad användning av geostaket.

⁸³ <https://www.regeringen.se/rattsliga-dokument/departementsserien-och-promemorior/2021/10/ds-202128/> (10.02.2022).

2. Type approval of automated vehicles

The Swedish authority tasked with the approval of vehicles before they can be put on the market (type approval) is the **Transport Agency (*Transportstyrelsen*)**. Type approvals are generally referred to as being either national or international (either based on EU law or an UNECE regulation). In short, technical, safety and environmental standards regarding the main categories of vehicles, such as ordinary cars, are governed by EU law⁸⁴ whereas national legislation lays down requirements for other kinds of vehicles.⁸⁵

There are **currently no rules on type approval of automated vehicles**. Automated vehicles in test trial in accordance with the 2017 Government Ordinance on trial activity of automated vehicles are subject to specific regulation as regards technical information and are therefore exempted from the general rules on type approval.⁸⁶

The Swedish government appears to be waiting for regulations to be adopted at the EU level before taking any national regulatory measures.⁸⁷ This is reflected by the fact that the SOU 2018:16 and Ds 2021:28 do not contain any specific proposal on new regulation for type approval of automated vehicles.

3. Requirements applicable to the drivers of automated vehicles

There is currently no general regulation applicable to drivers of AVs. The Government Ordinance on trial activity of automated vehicles merely lays down the obligation to have a driver. In the Ordinance, the driver is defined as the person who activates the automated system.⁸⁸

However, **general requirements applicable to “drivers” of AVs have been addressed both in SOU 2018:18 and Ds 2021:28**. According to the draft legislation, one set of rules shall apply to all levels of automated driving (that is, SAE level 3 to 5 that enables the vehicle to drive itself).⁸⁹ Ds 2021:28 introduces a new concept that can be described as **“standby driver” (*förare i beredskap*)**.⁹⁰ The standby driver is the person who activates the automated driving system or, if the system is already activated, takes over the task from the person who has activated it. The person remains the standby driver until the system is deactivated or until this task is transferred to another person.

The **standby driver need not be physically inside the vehicle**. The draft legislation is developed with the consideration that the concept of the “driver” will need to be adapted to the specific function of

⁸⁴ See in particular Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC and Regulation (EU) 2019/2144 of the European Parliament and of the Council of 27 November 2019 on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/858 of the European Parliament and of the Council.

⁸⁵ See for instance Transportstyrelsen föreskrifter TSFS 2017:77.

⁸⁶ TSFS 2021:4 Transportstyrelsens föreskrifter om tillstånd att bedriva försök med automatiserade fordon (consolidated version) § 4.

⁸⁷ See for example Ds 2021:28 p. 67.

⁸⁸ Förordning (2017:309) om försöksverksamhet med automatiserade fordon, section 7.

⁸⁹ Ds 2021:28, p. 154.

⁹⁰ Ibid, p. 159.

the vehicle in question. For instance, a driver may carry out the driving task of several vehicles in situations such as column driving.⁹¹

The basic principle in the draft legislation is that the **standby driver must fulfil all the general requirements for driving a specific vehicle**. This means that a standby driver of, for instance, a bus or a heavy truck, must have the corresponding permit for driving those vehicles. The rules are laid down in the Driving Licence Act (*Körkortslag (1998:488)*), which transposes the EU Driving Licence Directive.⁹² The draft legislation does not contain additional requirements applicable to drivers of automated vehicles, such as a specific permit or a licence for standby drivers.

The inquiries briefly mention that in the longer perspective, depending on the technological development, the requirement of a driver/stand-by driver could be abolished.⁹³ However, they conclude that such a development is not possible without reform at the EU level given that all vehicles falling under the EU's harmonised driving licence requirements (such as regular cars, light and heavy trucks, buses and motorcycles) must have a driver regardless of the level of automation of the vehicle.⁹⁴ For vehicles not regulated in the EU Driving Licence Directive, the requirement of a driver can, however, be exempted by regulation.⁹⁵ Without going into any detail, Ds 2021:28 proposes that such vehicles can be exempted by regulation adopted by the government or by a government designated authority.⁹⁶

4. Conditions permitting activation of the automated driving system

The draft legislation does not regulate in any detail the conditions and situations in which the automated driving system can be activated. Therefore, **there are no general limitations on, for instance, the type of road or the weather conditions** that must exist for automation to be activated.

As mentioned above, Ds 2021:28 introduces the concept of “standby driver” (*förare i beredskap*). According to the draft law, the standby driver is the person who activates the automated driving or, if the system is already activated, takes over the task from the person who has activated it. A person thus remains the standby driver until the automated driving is deactivated or until another person takes over the task. According to Ds 2021:28, this definition should ensure that there is no uncertainty as regards the identification (at any point in time) of the standby driver.⁹⁷ The strong focus on the transition between the driver and the automated driving system is motivated by the underlying general principle that a driver is not responsible for the driving conducted by the automated driving system.⁹⁸

A major **regulatory challenge is the transition of the driving task from the automated system to the driver**. It raises several difficult questions such as the type of situations in which a transition should be made, the amount of time given to a driver when he or she needs to take control of the vehicle, and what kind of activities a driver can pursue during automated driving.⁹⁹ Other challenges are linked to

⁹¹ Ibid, p. 163.

⁹² In particular Directive 2006/126/EC of the European Parliament and of the Council of 20 December 2006 on driving licences.

⁹³ Ds 2021 :28, p. 158.

⁹⁴ Ibid, p. 158.

⁹⁵ Ibid.

⁹⁶ Ibid.

⁹⁷ Ibid, p. 162.

⁹⁸ Ibid, p. 164.

⁹⁹ Ibid, p. 164.

the fact that vehicles can have different levels of automation and that it may not be necessary for the driver to be physically present in the car.¹⁰⁰

The point of departure is that as long as the standby driver does not interfere with the automated driving system, he or she is not responsible for the driving. According to the draft law, **the standby driver must be ready – without delay - to take control of the driving if this is requested by the automated driving system.** Moreover, the standby driver must also be ready to, upon the request of the automated system, take any measures otherwise required in order to ensure traffic safety. The measure must be taken within a time period required by the situation in question.¹⁰¹

The **activities the standby driver may pursue** when the automated driving is activated is limited with reference to the aforementioned duties. Accordingly, the draft law provides that a standby driver can pursue other activities than supervising the driving *provided that* such activity can be immediately interrupted in order to take over the command of the driving when this is requested by the automated system.¹⁰² The two inquiries state that the activities permitted depend on the level of automation¹⁰³ and refer to the ongoing development at the UNECE of a resolution on the activities permitted for SAE level 3 automation.¹⁰⁴ The inquiries discuss activities in general terms and do not propose any detailed requirements, with the exception of mobile phones. According to the draft legislation, these should be prohibited for level 3 automation put permitted for level 4 and 5.¹⁰⁵ This is motivated by research showing that it takes longer to take command of the driving when using a handheld device in comparison to a fixed screen.¹⁰⁶ Moreover, vehicle-integrated screens can be designed to shut off automatically when a request of taking over command is made thus facilitating the capturing of the driver's attention.

5. Conditions for using driverless vehicles

According to the inquiries, the draft legislation is intended to apply to all levels of automation in which the automated system can take full command of the driving (SAE level 3 to 5). The proposed regulation is general in its scope and **driverless vehicles are therefore not intended to be subject to any specific limitations** (for instance, limited to only shuttle buses and/or specific routes and lanes). Accordingly, it should not make a difference whether or not the standby driver is physically present in the vehicle or at a remote location.

6. The data collected and processed

There is currently no specific regulation on data protection in relation to AVs. However, the draft legislation in SOU 2018:16 introduces a number of legal provisions to be applied alongside the general rules on data protection in the GDPR, including a detailed list of the data that must be collected and

¹⁰⁰ Ibid, p. 165

¹⁰¹ See amendments to draft law on automated driving (Förslag till lag om ändring i lagen (2019:000) om automatiserad fordonstrafik) Chapter 2 section 5 (Ds 2021:28, p. 31).

¹⁰² Ibid, Chapter 2 section 6.

¹⁰³ The SAE 3 level (conditional automation) requires that a driver is ready take command of the vehicle when the system reaches its limits whereas such taking over is not necessary for the higher level of automation (SAE 4 and 5).

¹⁰⁴ Ds 2021:28, p. 206 referring to the UNECE's Working Party on Road Traffic Safety (WP.1).

¹⁰⁵ Ds 2021:28, p. 205.

¹⁰⁶ Ibid, p. 207

stored.¹⁰⁷ This data concerns (1) the **activation and deactivation of automated driving**; (2) the **vehicle's request to the driver to switch from automated driving to manual driving**; (3) **error messages from the vehicle during automated driving**, and; (4) **the speed of the vehicle if an incident occurs**.¹⁰⁸ For each of the these data, the vehicle's chassis number and the date and time of the event are collected and stored.¹⁰⁹ For privacy considerations, the point of departure of the proposal is that as little data as possible shall be stored, therefore excluding, for instance, geolocation data. According to the draft legislation, data can be collected and stored only to the extent needed for the aim of preventing, detecting, investigating or prosecuting crimes, and to ensure that individuals can exercise their rights in civil law cases.¹¹⁰ The aforementioned requirements apply to vehicles designed to be operated both manually and automatically.¹¹¹

The 2018 draft regulation on the data to be collected and stored has been subject to stakeholder's comments. Some key stakeholders such as the Swedish Transport Agency (*Transportstyrelsen*) stated that the Swedish regulation depends on requirements in future international regulations and that the legislator therefore ought to wait with any legislative action.¹¹² Since the publication of SOU 2018:16, the UNECE has adopted rules on the collection and storage of data when using automated lane keeping system. These are laid down in the UN Regulation on Automated Lane Keeping Systems (the first binding international regulation on so-called SAE level 3 vehicle automation).¹¹³ Moreover, UNECE is currently developing more detailed rules on the collection and storage of data in a specific regulation expected to be finalised in 2022 - the Regulation on Storage System for Automated Driving (DSSAD).¹¹⁴ According to Ds 2021:28, the **draft legislation needs to be reassessed and amended taking into account stakeholders' comments and the development at the international level**.¹¹⁵

7. Storage and access to the data

According to the draft legislation in SOU 2018:16, the **data shall be stored outside the vehicle**.¹¹⁶ However, it may be stored temporarily in the vehicle pending storage in an outside location. The data stored outside the vehicle must be stored within the European Economic Area and be accessible in Sweden.¹¹⁷

At the time of the vehicle's registration with the road traffic register (*Vägtrafiksregistret*), a **so-called storage controller (*lagringsskyldig*) is designated with responsibility for the collection, storage and (upon request) issuing of the data**.¹¹⁸ According to the draft legislation, the manufacturer can ensure this task itself or outsource the task to a third party. Any company that wishes to be a storage controller

¹⁰⁷ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). The GDPR is supplemented by a number of provisions laid down in a specific act: *Lag (2018:218) med kompletterande bestämmelser till EU:s dataskyddsförordning*.

¹⁰⁸ SOU 2018 :16, p. 97.

¹⁰⁹ Ibid, p. 98.

¹¹⁰ Ibid, p. 99.

¹¹¹ Ibid, p. 98.

¹¹² Ds 2021:28, p. 249.

¹¹³ The Regulation is available at <https://unece.org/sites/default/files/2021-03/R157e.pdf> (15.03.2022).

¹¹⁴ Ds 2021 :28, p. 108.

¹¹⁵ Ibid, p. 249

¹¹⁶ SOU 2018 :16, p. 97.

¹¹⁷ Ibid, p. 98.

¹¹⁸ Ibid.

must have an authorization from the national data protection authority (*Integritetsskyddsmyndigheten*).

The conclusion that the car industry (manufacturers) rather than a public authority will be responsible for the collection and storage is largely based on the assessment that the industry in any event needs to collect this data. In particular, the data is needed if the use of automated driving is provided as an additional service.¹¹⁹ Moreover, in order to improve the safety of their products, there is a strong interest of the manufacturers to examine if an accident was caused by the automated system or the driver.¹²⁰

In cases of suspicion of a crime, the police authority can request access to the data. The **decision on access is taken by the prosecutor**.¹²¹ As regards civil liability and access provided to a private party such as an insurer, the SOU 2018:16 identifies that there could be situations of conflict of interest between the manufacturer and the owner of the vehicle.¹²² The inquiry refers to the possibility under current rules for a storage controller to refuse the disclosure of data, noting that this could be detrimental for the controller in a civil case. However, it does not propose any new provisions to address this specific question.¹²³

8. Deletion of the data

The draft legislation in SOU 2018:16 states that the storage period can be defined in a government ordinance but must not exceed 6 months. Beyond this time period, the data must be erased immediately, unless a request of access has been made before the deadline.¹²⁴ The storage period proposed is motivated by the fact that investigations of serious crimes often require a considerable amount of time.¹²⁵

9. Other key requirements or issues subject to regulation

SOU 2018:16 and Ds 2021:28 do not propose any additional regulation as regards **liability**. The current technology neutral legislation can, according to the inquiries, also apply without major difficulties to automated vehicles.¹²⁶ However, given the early stage of the development of automated driving, they do not rule out that future legislation may be needed. As regards product liability regulation, which is largely harmonised within the EU¹²⁷, an ongoing EU inquiry shows that there are uncertainties regarding the liability when software is provided separately (as opposed to an integrated part of the vehicle).¹²⁸

¹¹⁹ Ibid, p. 749.

¹²⁰ Ibid, p. 751.

¹²¹ Ibid, p. 100.

¹²² Ibid, p. 768.

¹²³ Ibid.

¹²⁴ Ibid, p. 100.

¹²⁵ Ibid, p. 764.

¹²⁶ Ds 2021:28, p. 241.

¹²⁷ Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products.

¹²⁸ Ds 2021:28, p. 241.

As regards penal law, the inquiries have identified the need to prevent abuse of the technology enabling automated driving. Among other things, a new provision is required in order to **penalise a standby driver that fails to take command of the driving when requested** by the automated system.¹²⁹

The instruction for the inquiry Ds 2021:28 included an assessment of the need for new rules in order to **promote the use of so-called geofencing (*geostaket*)** for automated vehicles.¹³⁰ While the Ds2021:28 concludes that an introduction of geofencing in a larger scale is not possible, it proposes that local authorities should be given possibilities to exempt vehicles using geofencing from certain traffic regulation requirements.¹³¹ For instance, goods transport vehicles using geofencing could be allowed to use bus lanes in cases of unused capacity in those lanes.¹³²

¹²⁹ Ibid, p. 183.

¹³⁰ Among other things, geofencing can be used as a tool for improving traffic flow and road safety, and to reduce emissions and noise

¹³¹ Ds 2021:28, p. 27.

¹³² Ibid, p. 309.

D. UNITED KINGDOM

1. Regulation on automated driving

On 26th January 2022, a report by the Law Commission of England and Wales and the Scottish Law Commission¹³³ was published (the “**Joint Law Commission Report**”), recommending the introduction of an Automated Vehicles Act under which a clear distinction would be made between vehicles which allow for assisted driving and those which have self-driving features.¹³⁴ The report has now been laid before the UK Parliament and the Scottish Parliaments, and the UK, Scottish and Welsh Governments will decide whether to accept the recommendations with a view to introducing legislation to bring them into effect.

It may also be noted that in preparation for the roll out of cars fitted with Automatic Lane Keeping Systems (“ALKS”) in 2022, the UK Government recently concluded a public consultation, part of which seeks views on the addition of AV-specific guidance to the *Highway Code* – a guide containing advice, laws, mandatory rules and other information applying to all road users in Great Britain.

At present, however, the only UK law specifically aimed at the regulation of automated driving is the ***Automated and Electric Vehicles Act 2018***.¹³⁵ This is concerned with two aspects of the development of automated vehicles: (1) the regulation of the insurance of automated vehicles (“AVs”); and (2) the provision of powers allowing the Government to take measures to regulate electric vehicle charging infrastructure.

Other than this, a ***Code of Practice on automated vehicle trialling*** has been issued by the UK Government, said to support and promote the safe testing and use of automated vehicle technologies and services on public roads. First published in 2015, the Code was later updated in 2019 and has the status of **non-statutory and non-binding guidance**. A failure to follow the Code, however, may be relevant to liability in any legal proceedings.¹³⁶

The type approval and regulation of AVs is otherwise subject to the laws and legal measures applying generally to all vehicles in operation on UK roads.

2. Type approval of automated vehicles

There are, at present **no regulations aimed specifically at the type approval of automated vehicles**. AVs are subject to the type approval¹³⁷ and safety and testing rules applying to all vehicles driven on UK roads.

¹³³ The Law Commissions of the UK are independent bodies created by statute which review laws and make recommendations to government and parliament about legislative reforms.

¹³⁴ Law Commission of England and Wales and the Scottish Law Commission, *Automated vehicles: joint report*, Law Com no. 404, Scot Law Com no. 258, published 25th January 2022, Crown Copyright, available at <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jxou24uy7q/uploads/2022/01/Automated-vehicles-joint-report-cvr-03-02-22.pdf> (21.02.2021).

¹³⁵ *Automated and Electric Vehicles Act 2018*, available at <https://www.legislation.gov.uk/ukpga/2018/18/contents/enacted> (15.02.2022).

¹³⁶ Gov.uk, *Code of Practice: automated vehicle trialling*, Updated 28 January 2022, available at <https://www.gov.uk/government/publications/trialling-automated-vehicle-technologies-in-public/code-of-practice-automated-vehicle-trialling> (15.02.2022).

¹³⁷ Namely, confirmation that production samples of a type of vehicle, vehicle system, component or separate technical unit will meet specified performance standards. See Vehicle Certification Agency,

The Vehicle Certification Agency (“VCA”), an executive agency of the Department for Transport, has responsibility for operating type approval schemes of both the UK and the United Nations Economic Commission for Europe (“UNECE”).¹³⁸ As well as issuing type approval for automotive products, it certifies that new vehicles, including AVs, conform to safety, security and environmental protection regulations.

In 2019, the VCA set up a **dedicated Automated Vehicle Technology Group** to engage in policymaking, provide technical scrutiny at the approval authority level, and to prepare itself to deliver what are known as “CAVPASS” (Connected and Automated Vehicle Process for Assuring Safety and Security)¹³⁹ certification services for connected and autonomous vehicle trials in the UK. The VCA planned to expand the Automated Vehicle Technology Group in 2021 to support areas of cyber security, verification and validation, functional safety and development of national and international regulation.¹⁴⁰ No further information is available on current activities.

The **Joint Law Commission Report proposes a new pre-deployment approval scheme for AVs** before they are allowed on the road.¹⁴¹ This will be followed by a second “authorisation” stage before a vehicle may be regarded as self-driving.¹⁴²

At the **first stage**, manufacturers who wish to include an automatic driving system in their vehicles would have a choice: they may obtain systems approval from a UNECE approval authority or, alternatively, they can apply for domestic approval under a new domestic AV technical approval scheme. The whole vehicle will then need to receive the new Great Britain whole vehicle approval that has replaced EU whole vehicle approval for most motor vehicles.¹⁴³

Once the vehicle has been approved, it may be placed on the market, but it would not be authorised to drive itself. An **additional “authorisation” stage** is envisaged before a vehicle is regarded as self-driving. Here, the authorisation authority would need to be satisfied that each specified automatic driving system feature can control the vehicle in order to drive safely and legally, even if an individual

What is Vehicle Type Approval, updated 3rd December 2021, available at <https://www.vehicle-certification-agency.gov.uk/vehicle-type-approval/what-is-vehicle-type-approval/> (21.02.2022).

¹³⁸ The UNECE aims to establish uniform standards across Europe of motor vehicle safety standards and environmental aspects. It administers an international agreement governing the approval of motor vehicles in 56 countries.

¹³⁹ CAVPASS is a project launched by the UK Government in September 2019, described as a project to develop a comprehensive safety and security assurance process to support the safe commercial deployment of automated vehicles: see Gov.uk, *Innovation is Great – Connected and Automated Vehicles*, Centre for Connected and Autonomous Vehicles, 2020, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/929352/innovation-is-great-connected-and-automated-vehicles-booklet.pdf (21.02.2022), p.4.

¹⁴⁰ Vehicle Certification Agency, *The Vehicle Certification Agency Business Plan: 2021-22*, Crown Copyright 2021, available at <https://www.vehicle-certification-agency.gov.uk/wp-content/uploads/2021/06/Vehicle-Certification-Agency-Business-Plan-2021-2022.pdf> (21.02.2022), para. 2.2.1.

¹⁴¹ See Law Commission of England and Wales and Scottish Law Commission, *Automated Vehicles: Summary of joint report*, Summary of LC Report No. 404, SLC Report No. 258, 26th January 2022, available at <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jxou24uy7q/uploads/2022/01/AV-Summary-25-01-22-2.pdf> (21.02.2022), at paras. 3.1 to 3.3.

¹⁴² See section 4. of this country report, below

¹⁴³ See Vehicle Certification Agency, *National Type Approval in the UK*, last updated 13th October 2021, available at <https://www.vehicle-certification-agency.gov.uk/vehicle-type-approval/national-type-approval-in-the-uk/#topic-title> (21.02.2022).

is not monitoring the driving environment or the way that it drives. A newly recognised legal actor, known as the “Authorised Self-Driving Entity” (or “ASDE”) – the manufacturer or developer that puts the vehicle forward for authorisation and takes responsibility for its actions – must also be approved by the authorisation authority with regard to whether it has sufficient skill and financial resources to keep the vehicle up-to-date and compliant with traffic laws. It is proposed that the authorisation authority will be designated by the Secretary of State for Transport and allocated to an appropriate Department of Transport Agency. Initially, this is envisaged as being the VCA.¹⁴⁴

3. Requirements applicable to the drivers of automated vehicles

There are **no specific requirements applying to drivers of automated vehicles**. Secondary legislation, in the form of the *Road Vehicles (Construction and Use) Regulations 1986*, applies generally to all drivers and provides that:

“[n]o person shall drive or cause or permit any other person to drive, a motor vehicle on a road if he is in such a position that he cannot have proper control of the vehicle or have a full view of the road and traffic ahead.”¹⁴⁵

This is not interpreted as precluding AVs from being driven on public roads, however. Guidance, in the form of the ***Code of Practice on automated vehicle trialling***,¹⁴⁶ which has the aim of promoting responsible testing, notes that even for organisations which conduct trials of AV technology on UK roads, no permits or surety bonds are needed. In addition to having a roadworthy vehicle and appropriate insurance in place, the Code interprets the 1986 Regulations as meaning that a trialling organisation must simply ensure that it has:

“[a] driver or operator, in or out of the vehicle, who is ready, able and willing to resume control of the vehicle.”¹⁴⁷

Although there is no limit as to which public roads testing may take place on, the Code recommends that the safety driver or operator must hold the appropriate category of driving licence for the vehicle under trial and that the licence holder has several years’ experience of driving the relevant category of vehicle. Other stipulations are made with regard to the training of safety drivers, limits on the amount of time they perform such a role and their behaviour as a driver.¹⁴⁸

Future requirements are also unlikely to make a distinction between drivers of AVs and those of other vehicles. The Joint Law Commission Report embraces the concept of a “user-in-charge”, namely, a human in the driving seat of the vehicle while it is driving itself. There is **no proposal for such a person to be specially qualified or licensed to use or control an AV**. A user-in-charge must simply be qualified and fit to drive:

“Like a driver, they must hold a valid driving licence and (for example) must not be under the influence of drink or drugs.”¹⁴⁹

¹⁴⁴ Law Commission of England and Wales and Scottish Law Commission, *Automated Vehicles: Summary of joint report, op. cit.*, paras. 3.4 - 3.7.

¹⁴⁵ *Road Vehicles (Construction and Use) Regulations 1986*, Statutory Instrument 1078 of 1986, available at <https://www.legislation.gov.uk/uksi/1986/1078/contents/made> (22.02.2022), section 104.

¹⁴⁶ See section 1. of this country report, above.

¹⁴⁷ Gov.uk, *Code of Practice: automated vehicle trialling, op. cit.*, Introduction section.

¹⁴⁸ *Ibid*, sections entitled “Licence requirements”, “Training”, “Safety driver hours” and “Behaviour”.

¹⁴⁹ Law Commission of England and Wales and Scottish Law Commission, *Automated Vehicles: Summary of joint report, op. cit.*, paras. 4.3 – 4.4.

4. Conditions permitting activation of the automated driving system

There is, at present, **no specific regulation** of the conditions or situations which permit activation of an automated driving system. A number of Acts and Regulations concerning the construction and use of vehicles on UK roads (including the *Road Vehicles (Construction and Use) Regulations 1986*, mentioned above),¹⁵⁰ but these apply generally to all vehicles, including AVs.¹⁵¹ However, specific guidance concerning AVs is offered by the non-binding Government-issued *Code of Practice on automated vehicle trialling*¹⁵² which concerns the **testing of automated vehicle technologies** on public roads. This provides that safety drivers and operators must be able to take control of the vehicle at all times.¹⁵³ This means that even for remote-controlled tests, safety drivers or safety operators should be able to anticipate the need to intervene and resume manual control if necessary. In particular:

“[T]hose looking to undertake a remote controlled trial of an automated vehicle on public roads will need to assure themselves that the remote-control system is able to deliver the same level of safety as having a driver inside of the vehicle.”¹⁵⁴

The *Code of Practice on automated vehicle trialling* also sets out various general vehicle requirements for AVs being trialled on public roads. In addition to confirmation that AVs must be roadworthy and meet Construction and Use Regulations, it is recommended that they be tested away from public roads until there is sufficient confidence in public road trials, that remote-controlled operation of an AV is able to deliver the same level of safety as an AV with a driver inside the vehicle and that AVs under trial or deployment should be fitted with a data recording device which should, as a minimum, be able to determine who or what was controlling the vehicle.¹⁵⁵

It should be noted that in preparation for the roll out of cars fitted with Automatic Lane Keeping Systems (“ALKS”) in 2022 (permitting users to drive at up to 37 miles per hour in a single lane without interacting with the vehicle other than keeping their attention on the road), the UK Government has been consulting on an **update to the Highway Code**.¹⁵⁶ The Highway Code is a set of information, advice, guidance and mandatory rules applying to all road users in Great Britain, including drivers, cyclists and pedestrians. Prepared by the Department for Transport and the Driver and Vehicle Standards Agency, the Code itself is not a legal document, but does contain rules backed up by traffic laws and guidance, which, if ignored, can lead to prosecution for traffic offences such as careless or dangerous driving.

Launched in Spring 2021, the consultation to update the Highway Code proposed the addition of the following text:

“Automated vehicles can perform all the tasks involved in driving, in at least some situations. They differ from vehicles fitted with assisted driving features (like cruise control and lane-keeping assistance), which carry out some tasks, but where the driver is still responsible for driving. If you are driving a vehicle with assisted driving features, you MUST stay in control of the vehicle.

¹⁵⁰ See section 3. of this country report, above.

¹⁵¹ See Clare Feikert-Ahalt, *United Kingdom*, in Law Library of Congress, *Regulation of Crash Avoidance Systems*, August 2021, available at <https://tile.loc.gov/storage-services/service/ll/lglrd/2021687415/2021687415.pdf?loclr=bloglaw> (22.02.2022), at p. 75.

¹⁵² See section 1. of this country report, above.

¹⁵³ Gov.uk, *Code of Practice: automated vehicle trialling*, *op. cit.*, Requirements to oversee trials section.

¹⁵⁴ *Ibid*, Remote-controlled operation section.

¹⁵⁵ *Ibid*, section entitled “Vehicle Requirements”.

¹⁵⁶ Department for Transport, *The Highway Code*, published 1st October 2015 – updated 29th January 2022, available at <https://www.gov.uk/guidance/the-highway-code> (23.02.2022).

Automated vehicles are vehicles that are listed by the Secretary of State for Transport. While an automated vehicle is driving itself, you are not responsible for how it drives, and you do not need to pay attention to the road. But you must follow the manufacturer’s instructions about when it is appropriate to engage the self-driving function.

*If the vehicle is designed to require you to resume driving after being prompted to, while the vehicle is driving itself, you **MUST** remain in a position to be able to take control. For example, you should not move out of the driving seat. You should not be so distracted that you cannot take back control when prompted by the vehicle.*

You are still responsible for the vehicle being in a roadworthy condition, having a current MOT test certificate if applicable, and being taxed and insured.”¹⁵⁷

The consultation closed on 28th May 2021, but there is, at present, **no further news on plans to advance these amendments to the Highway Code in Parliament** (originally intended for the end of 2021).

5. Conditions for using driverless vehicles

Driverless vehicles are not known to operate at present on UK public roads, and there is **currently no specific regulation** applying to them.

It may be noted that the *Code of Practice on automated vehicle trialling* contains a section on the **remote-controlled operation** of a vehicle, noting that the user will need to assure themselves that such a remote-control system is able to provide the same level of safety as having a driver inside of the vehicle.¹⁵⁸ It goes on to state that remote-controlled trials should have safeguards to handle any failures or disengagements, such as warning systems and the possibility to allow the safety operator to take control of the vehicle at any time.¹⁵⁹

Moreover, the **Joint Law Commission Report** makes a number of proposals with regard to the conceptual and legal framework it envisages for the use of driverless vehicles once they are introduced on to public roads.¹⁶⁰ This does not specifically address the kinds of circumstances in which driverless vehicles may be used, but rather makes recommendations with regard to the **broader system of legal accountability which will apply to “self-driving” vehicles** and their approval and authorisation for use on public roads.

6. The data collected and processed

There are, at present, **no domestic UK regulations concerning data collection and processing which specifically apply to AVs**. Since Brexit, the processing and collection of data which had previously been

¹⁵⁷ Department for Transport, *Closed consultation – Rules on safe use of automated vehicles on GB roads*, published 28th April 2021, available at <https://www.gov.uk/government/consultations/safe-use-rules-for-automated-vehicles-av/rules-on-safe-use-of-automated-vehicles-on-gb-roads> (23.02.2022).

¹⁵⁸ Gov.uk, *Code of Practice: automated vehicle trialling*, *op. cit.*, Remote-controlled operation section.

¹⁵⁹ *Ibid.*

¹⁶⁰ Law Commission of England and Wales and Scottish Law Commission, *Automated Vehicles: Summary of joint report*, *op. cit.*, section 4. See section 3. of this country report, above.

subject to the EU’s general data protection regime (“EU-GDPR”) is now covered by a new UK-specific data protection regime, known as the **UK-GDPR**. This is almost identical to the EU-GDPR.

In preparation for the Joint Law Commission Report, a public consultation was undertaken as part of which a joint consultation paper was published with an overview of the current legal background on the law of data protection and its application to AVs. This recognised that much of **the data that is generated by an AV will be personal data and must therefore be processed in accordance with data protection legislation**.¹⁶¹ Moreover, it is noted that additional protection is given to special category data under this legislation, due to its sensitive nature, and that AVs will generate such data. In particular, location data is recognised as being particularly revealing of “life habits”¹⁶² such as sensitive data about religion (through place of worship) or information pertaining to an individual’s sex life (through visits to a particular location).¹⁶³

For AVs conducting vehicle trialling, the *Code of Practice on automated vehicle trialling* does, however, recommend that such vehicles should be fitted with a data recording device and that data should, as a minimum, be able to determine who or what was controlling the vehicle. The **Code sets out more than a dozen types of data that recorders should record**, including whether the vehicle is operating in manual or automated mode, data about acceleration, speed, steering and braking command and activation, operation of the vehicle’s lights, indicators and ignition, geo-location and any intervention made by the safety driver or operator.¹⁶⁴ It is also recommended that in the event of an incident an event data recorder should be able to capture a suggested minimum period of 30 seconds before the incident and 15 seconds after.¹⁶⁵

Under **proposals set out in the Joint Law Commission Report**, it is recommended that **new data requirements be imposed for AVs**. The public authorisation authority will need to be satisfied that the AV can record and store the necessary data, and in particular, that location data is recorded for detected collisions and in relation to the activation of the automated driving system. Recommendation 73 states:

“The required data should include (but need not be limited to) the date, time and location of each occasion when:

- (1) a self-driving ADS feature is activated or deactivated;*
- (2) a transition demand is issued; and*
- (3) a collision is detected. [...]”*¹⁶⁶

It is also recommended that ASDEs – namely, the manufacturer or developer that puts the vehicle forward for authorisation – be required to present regulators with details of how data will be recorded,

¹⁶¹ Law Commission of England and Wales and Scottish Law Commission, *Automated Vehicles: Consultation Paper 3 - A regulatory framework for automated vehicles A joint consultation paper*, Law Commission Consultation Paper 252, Scottish Law Commission Discussion Paper 171, 18th December 2020, available at <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2021/01/AV-CP3.pdf> (28.02.2022), Appendix 4: data protection the legal background, at p. 357 et al.

¹⁶² See European Data Protection Board, *EDPB Guidelines 1/2020*, available at https://edpb.europa.eu/our-work-tools/public-consultations-art704/2020/guidelines-12020-processing-personal-data-context_en (28.02.2022), paras. 59-63.

¹⁶³ *Ibid.*, pp. 359-360.

¹⁶⁴ Gov.uk, *Code of Practice: automated vehicle trialling*, *op. cit.*, Data recording section.

¹⁶⁵ *Ibid.*

¹⁶⁶ Law Commission of England and Wales and the Scottish Law Commission, *Automated vehicles: joint report*, *op. cit.*, para. 13.52.

stored, accessed and protected, and that the **regulator should only authorise a system as self-driving if these systems comply with data protection law.**¹⁶⁷

7. Storage and access to the data

As referred to above, there are presently **no domestic regulations specifically aimed at the collection and use of data in AVs**; general principles and provisions of the UK-GDPR must nevertheless be complied with.

It may be noted, however, that the **UNECE Automated Lane Keeping System (“ALKS”) Regulation** was approved in the UK in June 2020, starting the process to allow vehicles fitted with this technology to come to market. Part of the ALKS Regulation is that it requires that each vehicle fitted with ALKS also have a **“Data Storage System for Automated Driving” (“DSSAD”)**.¹⁶⁸ The DSSAD records each time the ALKS is activated or deactivated, as well as when the vehicle is “involved in a detected collision”.¹⁶⁹ The question of how long data is stored for is, however, left to national law. Following the conclusion of the public consultation on the rules on safe use of AVs on roads, the **UK is still yet to legislate in this area.**

As to data sharing, the **Joint Law Commission Report proposes that a duty should be placed on those controlling AV data** to disclose data to insurers where the data is necessary to decide claims fairly and accurately.¹⁷⁰ At the same time, the Report recognises that legislation will not resolve all the issues about precisely what data should be shared and in what time frame, and it is **hoped that insurers and manufacturers will be able to come to an agreement** to resolve this, by possibly requiring data to be uploaded to a neutral server and shared according to a protocol.¹⁷¹ Failing agreement, the Report recommends that the relevant **regulator should issue a code of practice on AV data**, to which all those disclosing data must have regard.

8. Deletion of the data

There are currently **no regulations specific to the deletion of data** collected and processed by AVs. Principles and provisions of the UK-GDPR with regard to the deletion of such data must nevertheless be respected.

It is noted in the Joint Law Commission Report that the guidelines to the ALKS regulation on the DSSAD¹⁷² provide for capacity to store data for around six months, after which time the data will be overwritten. However, recognising that the standard limitation period under English law for bringing legal claims is three years, the **Joint Law Commission Report proposes that data be stored for 39 months from the date it is recorded.**¹⁷³ This is said to reflect the duration of the limitation period, plus

¹⁶⁷ Law Commission of England and Wales and Scottish Law Commission, *Automated Vehicles: Summary of joint report, op. cit.*, sections 3.17-3.18.

¹⁶⁸ UN Regulation 157 on uniform provisions concerning the approval of vehicles with regard to Automated Lane Keeping Systems E/ECE/TRANS/Rev.3/Add.156 (ALKS Regulation).

¹⁶⁹ Law Commission of England and Wales and the Scottish Law Commission, *Automated vehicles: joint report, op. cit.*, para. 2.102.

¹⁷⁰ *Ibid*, para. 13.58.

¹⁷¹ *Ibid*, para. 13.59.

¹⁷² See section 7. of this country report, above.

¹⁷³ Law Commission of England and Wales and the Scottish Law Commission, *Automated vehicles: joint report, op. cit.*, paras. 13.48 to 13.52.

(given that legal claims are often filed at the very end of that period) a further three months to allow insurers time to request the data. It also provides time for the Authorised Self-Driving Entity, namely, the manufacturer or developer that puts the vehicle forward for authorisation – to find and preserve the data before it is deleted.

9. Other key requirements or issues subject to regulation

In July 2018, the *Automated and Electric Vehicles Act 2018* (“AEV Act”)¹⁷⁴ came into force. This **requires the Secretary of State to prepare and maintain a list of AVs** designed or adapted to be capable of self-driving,¹⁷⁵ and, as mentioned above,¹⁷⁶ addresses two key areas relevant to AVs (only the first of which will be referred to below):

- Modernisation of **insurance rules** in relation to liability for accidents;¹⁷⁷ and
- Improvement of electric **charging infrastructure** in the UK.¹⁷⁸

Prior to the AEV Act, liability for accidents cause by AVs was unclear, because motor insurance in the UK is taken out in relation to the driver, not the vehicle. This left a gap with regard to the insurance position of AVs being operated in automated mode. The AEV Act aims to plug this gap by **extending the coverage of an owner’s compulsory motor vehicle insurance to accidents caused by AVs** when operating in automated mode on roads or other public places in Great Britain. It does this by ensuring that where a car which has caused an accident is driving automatically, the first instance liability for any resulting harm is on the insurer. This avoids the accident, in the absence of human fault, becoming the subject of a ‘consumer-manufacturer’ product liability action, which is inevitably longer and more costly.

In light of the particular characteristics of AVs, it is worth mentioning that the **Joint Law Commission Report recommends a number of other amendments to existing British laws, especially in the field of criminal law.**¹⁷⁹ The offence, for example, of tampering with a vehicle’s “brake or other part of its mechanism,” is said not to clearly define “mechanism”; the Report therefore recommends that the relevant provision of the *Road Traffic Act 1988*¹⁸⁰ be amended to apply to anything that is physically part of an AV, including sensors and any software installed within it. A similar amendment is required in relation to the offence of unauthorised vehicle-taking under the *Theft Act 1968*,¹⁸¹ which would arguably not apply to AVs, given its requirement for the taken vehicle to be controlled by someone carried in or on it.

¹⁷⁴ AEV Act 2018, available at <https://www.legislation.gov.uk/ukpga/2018/18/part/1/enacted> (01.03.2022).

¹⁷⁵ *Ibid*, section 1.

¹⁷⁶ See section 1. of this country report, above.

¹⁷⁷ *Ibid*, sections 2 to 8.

¹⁷⁸ *Ibid*, sections 9 to 19.

¹⁷⁹ Law Commission of England and Wales and Scottish Law Commission, *Automated Vehicles: Summary of joint report, op. cit.*, section 6.

¹⁸⁰ *Road Traffic Act 1988*, available at <https://www.legislation.gov.uk/ukpga/1988/52/contents> (01.03.2022), section 25.

¹⁸¹ *Theft Act 1968*, available at <https://www.legislation.gov.uk/ukpga/1968/60> (02.03.2022), section 12
Note that this Act is only in force in England and Wales.

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