Sohjoa Baltic

The Roadmap to Automated
Electric Shuttles in Public Transport

The Legal Framework

Credits

Publisher: IKEM – Institut für Klimaschutz, Energie und Mobilität e.V.
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All Volumes

The Legal Framework

What is the current legal status of automated driving in different European countries of the Baltic Sea Region? Sohjoa Baltic presents the relevant legal information for implementation and provides policy recommendations for the future.

Technology and Safety Requirements

What are the current relevant technological and safety challenges to be taken into consideration in the implementation of automated shuttle buses? Sohjoa Baltic provides information from Germany, Denmark, Poland, Finland, Sweden, Estonia, and Latvia.

Starting Your Own Pilot

How to deploy an automated vehicle pilot in a city? Sohjoa Baltic provides a practical toolkit with recommendations based on the practical experiences from automated shuttle bus pilots in Norway, Poland, Finland, Estonia, Latvia and Denmark.

Procurement Challenges

What are the barriers and enablers of autonomous vehicle procurement in public transportation? The experiences of Sohjoa Baltic's automated shuttle bus pilots in Estonia, Denmark, Finland, Latvia, Norway and Poland describe the complexity.

User Experience and Impact on Public Transport

How and why should cities prepare to implement autonomous public transport? What is the role of automated shuttle buses? Sohjoa Baltic provides views based on experiences from pilots in Norway, Poland, Finland and Estonia.

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Foreword

The upcoming years are crucial to the development of automated driving in Europe. The technology has great potential to serve the public interest by improving the environmental sustainability of traffic and making transit safer and more enjoyable for everyone. At the same time, there is a risk that everyone will use his or her own private automated car, increasing the number of motorised vehicles on the road. Automated vehicles as part of public transport is a goal worth aiming for. Therefore, the Sohjoa Baltic project researched, promoted, and piloted the use of driverless, electric minibuses in public transport to secure the benefits of automated driving for society as a whole.

However, at the beginning we must answer the central question whether this innovation can be implemented within the existing legal framework. If this is not the case, the legal obstacles must be identified.

The European Legal Implementation Roadmap outlines the current legal status of automated driving in different European countries of the Baltic Sea Region and provides policy recommendations to establish a sound legal basis for its implementation as part of the public transport system.

This volume is intended to provide relevant legal information for persons or organisations interested in integrating automated driving into the public road system. It identifies the main implementation bottlenecks and gives practical insight into the requirements that must be fulfilled before an automated vehicle can be operated on public roads. Examples from practice illustrate the explanations.

"What is the current legal situation for automated vehicles in Denmark, Sweden, Finland, Norway, Estonia, Latvia, Poland, and Germany?"

"What are the legal challenges when implementing automated buses as part of public transport?"

"What did we learn from the pilots?"

What policy recommendation can be given?

About Sohjoa Baltic

The Sohjoa Baltic project developed the knowledge and competences required to organise environ-mentally friendly and smart automated public transport by researching, promoting and piloting automated driverless electric minibuses as part of the public transport chain, especially for the first/last mile connectivity. It also provides guidelines on the legal and organisational frameworks needed to operate a service of this kind in an efficient way. The Sohjoa Baltic consortium has partners from Finland, Estonia, Sweden, Latvia, Germany, Poland, Norway and Denmark with expertise in transportation planning as well as legal expertise combined with a strong technical understanding.

Sohjoa Baltic brought autonomous small buses to drive demo routes in five Baltic Sea Region cities. The autonomous bus scans its surroundings and knows when to slow down or stop completely, if there are obstacles in the way. During the pilots there was always an operator on board.

With a run time from 10/2017 till 09/2020, the Sohjoa Baltic project was funded by the Interreg – Baltic Sea Region programme.

Executive summary

What is it about and who is it for?

This first volume of "Sohjoa Baltic - The Roadmap to Automated Electric Shuttles in Public Transport" named "The Legal Framework" outlines the current legal status of automated driving in Finland, Sweden, Norway, Denmark, Latvia, Estonia, Poland, and Germany. Targeted at persons or organisations interested in integrating automated driving into the public road system, this volume gives practical insight into the legal requirements that must be fulfilled before an automated vehicle can be operated on public roads.

What is the current legal situation for automated vehicles in public transport in Denmark, Sweden, Finland, Norway, Estonia, Latvia, Poland, and Germany and what policy recommendations can be given?

In the above mentioned countries, the automated vehicle must be registered, however, the legal frameworks differentiate between the type of roads where the vehicle would be used and Poland recently introduced a new form of **registration,** the professional vehicle registration that enables companies to carry out test drives of vehicles not previously registered in the territory of the Republic of Poland or abroad, without the need to register each of them with the office.

In all participating countries, the operation of automated driverless vehicles is contrary to European, international, and national law. Some, but not all, legal problems can be resolved by placing a vehicle operator inside the test vehicle. In some countries (e.g. Denmark, Finland, and Sweden) the vehicle operator can also be positioned outside the vehicle. An adequate **definition of the term driver** needs to be introduced and specify whether a driver is a natural person or not, respectively in or outside the vehicle. Furthermore, the modification of relevant regulations in the UNECE rules and the Vienna Convention on Road Traffic should be modified so that driverless vehicles are not prohibited under international law.

In all participating countries, it is possible by law to conduct test operations with automated vehicles. In most countries, such **tests require a special permit**. In Estonia and Finland, they require a test plate certificate. In all countries, these exemptions from otherwise conflicting norms can only be granted if the applicant takes sufficient compensatory measures, e.g. by complying with geographic limitations on the test route, providing a precise description of the planned operation, and securing adequate insurance coverage. Mutual recognition of national permits in different EU countries is advisable.

Commercial transportation of passengers requires a permit in every participating country. Many legal systems, e.g. in Finland and Estonia, distinguish between a general passenger transportation permit and a taxi permit. Exceptions that do not require a permit are the transport of employees by their employer (Denmark) or for purposes of tourism (Poland).

Basic requirements must be fulfilled to obtain the necessary **passenger transportation permit** in all participating countries. Among the most important requirements are the adequate competence of the provider in the field of passenger transport, as well as the financial and technical reliability of the service offered. In Germany, the approval regime is even stricter, with the issuing of permits generally limited to certain modes of transport such as line-based traffic. A simplification of the permit process is recommended and licensing requirements with the 'on-demand' (on-request) needs of transport service providers and recipients need to be balanced.

In all participating countries, drivers need a **driving licence**. The appropriate licence type is determined by the length and weight of the vehicle, as well as by the number of passengers. In most countries, the vehicle operator is considered to be the driver of the vehicle. In Swedish

and Finnish law, the term driver is not legally defined; the vehicle operator is a 'road user'. Nevertheless, this does not exempt them from the obligation to obtain the proper driving licence for operating the automated vehicle. In some countries (e.g. Germany, Denmark, and Sweden), the driver must obtain a licence for passenger transportation, as well as a driving licence. In other participating countries, namely Estonia and Finland, this is not a legal requirement.

In Germany, Denmark, Poland, and Latvia there are specific legal standards for the **behaviour of the 'driver'** (vehicle operator) of an automated vehicle. The vehicle operator must remain attentive while driving and be able to regain control over the vehicle at any time. In Finland, Estonia, and Sweden only the common due-diligence rules for drivers and road users apply to the vehicle operator of an automated vehicle. It is recommended to promote training standardisation for automated vehicle drivers and operators by providing requirements for training content.

The General Data Protection Regulation (GDPR) is the central EU regulation on **data protection**. It poses challenges for the implementation of automated driving as cameras are used for safe motion of the vehicle.

Liability is a widely discussed topic in the context of automated driving. The participating countries have not enacted any specific rules on automated vehicles. The liability relies on product liability law and road traffic law. Possible defendants are the vehicle operator, the owner, or the manufacturer. Legal frameworks should be changed so that liability for driverless vehicles is clearly regulated.

In all participating countries, the use of automated vehicles requires regular traffic liability **insurance**. The liability insurer has a direct claim against the manufacturer if the damage is based on the failure of the automated driving system. Policy recommendations include the promotion of a sufficient insurance particularly for driverless vehicles and the implementation of an additional compulsory insurance for the owner and the producer.

Most participating countries lack specific criminal legislation for automated driving. Only in Denmark does a special procedure apply. In most countries, **criminal liability** may be ascribed to the vehicle owner; the manufacturer and its employees; the provider of the necessary data infrastructure; officials at the competent authority for vehicle permits; or the vehicle operator. Estonia is the only country in which criminal liability can be ascribed only to the vehicle operator (i.e. vehicle safety driver). Legally, the subjects of criminal responsibility need to be clarified by separating the responsible persons for the technical maintenance of the vehicles from the responsible persons for the vehicle software.

What did we learn from the pilots and European best practices?

From **Kongsberg** pilot we learned that Norwegian legislation lacks a separate classification for self-driving minibuses and that a more inclusive classification system is needed to avoid false classification.

The pilot in **Helsinki** showed that it is key to start preparations early since the licensing process and the cooperation with various authorities can be time consuming. However, the centralised Finnish structure of the authorities and the overall licensing practice makes it easier to use pilot vehicles in public road transport and the benevolent and committed attitude of the authorities contributes to Finland's leading role in the testing of autonomous driving functions.

On 11 July 2019, the provisions of the amendment to the Act on Road Traffic Law came into force, introducing a new form of temporary vehicle registration in Poland: the professional vehicle registration. For that reason, the **Gdansk** pilot organized a presentation of the vehicle in the procedure of use of the road on an exclusive basis.

The pilot in **Zemgale** showed that innovation and technological solutions require a great deal of work from government bodies and the impression was that technologies are developing faster than public administrations can keep up with them in terms of legislation. For the realization of the pilot, it was essential to communicate with the Ministry of Transport and the Road Traffic Safety Directorate.

During the project, it became apparent that the application process for a pilot following the Danish legislation for testing autonomous vehicle in traffic is too long and labor intensive, especially for short pilots which are then financially unviable. Unfortunately, this led to the cancellation of the pilot activities in **Vejle** within Sohjoa Baltic.

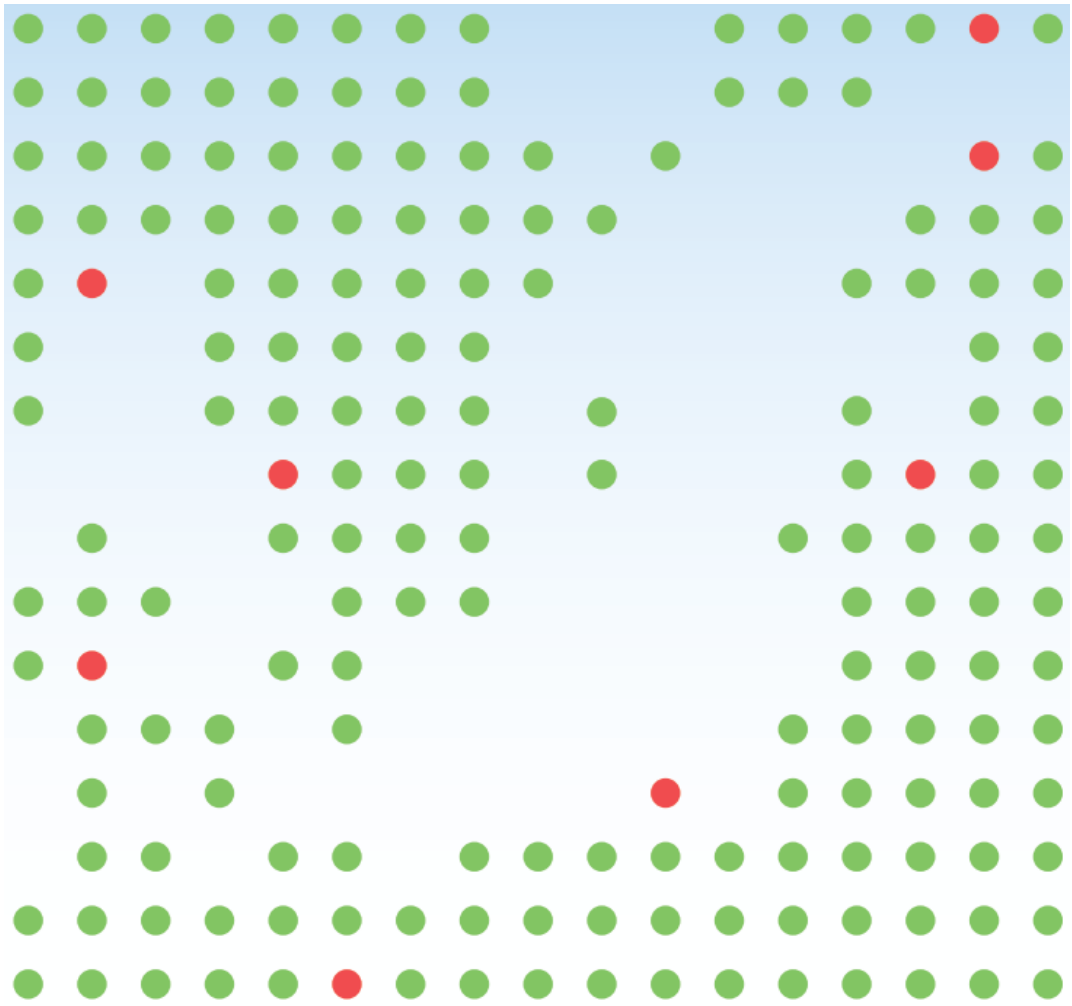
In 2018, **the Netherlands** was ranked first in the "Autonomous Vehicles Readiness Index" report and the country is still a European forerunner when it comes to autonomous driverless vehicles in public transport. The Dutch legislation has adopted the automation levels of SAE J3016 and applies a comprehensive and transparent approval process to the testing of self-driving vehicles on public roads.

In **Finland**, the centralised structure of the authorities and the overall technology-friendly licensing practice make it easier to use pilot vehicles in public road transport. The benevolent and committed attitude of the authorities contributes to Finland's leading role in the testing of autonomous driving functions.

In **Germany**, the HEAT project pursues a systematic approach with a view to the realisation of autonomous driving. Testing is carried out in three phases, the so-called integration stages, which are characterised by successive vehicle automation, increased route complexity and vehicle speed, among other things. HEAT enables innovative technologies to be tested under real conditions and provides important insights into whether and how the legal framework for autonomous driving functions needs to be further developed. In 2017, the German legislator had already implemented regulations for fully and highly automated driving functions, but the competent German Federal Ministry of Transport and Digital Infrastructure is currently working on a law, intending to allow autonomous driving on public roads. According to a draft law dated April 2020 the future law envisages the use of autonomous vehicles in designated zones and a new type of operating permit specifically for autonomous driving functions that will help simplify and standardize the approval process.

Greece is also undergoing a legislation update regarding automated vehicles, which hopefully will allow for the circulation of automated vehicles in mixed traffic, include provisions regarding the wireless exchange of critical safety and operational data between vehicles and road infrastructure as well as provisions regulating system cyber resilience.

I. European legal implementation roadmap



"What is the current legal situation for automated vehicles in Denmark, Sweden, Finland, Estonia, Latvia, Poland, and Germany?"

"What are the legal challenges when implementing automated buses as part of public transport?"

The **European Legal Implementation Roadmap** provides an overview of the legal challenges that arise when implementing automated buses as part of public transport. It was prepared with the input of project partners from the Vejle Municipality of Denmark, the City of Gdańsk (Poland), the Metropolitan Institute, Kancelaria Adwokacka adw. Lech Kaniszewski (Poland), the City of Tallinn (Estonia), Tallinn University of Technology (Estonia), Chalmers University of Technology (Sweden), Front Law Firm (Sweden), Traficom (Finland), and IKEM (Germany).

The roadmap summarises the current legal situation relevant to the implementation of automated buses in Germany, Denmark, Poland, Finland, Sweden, Estonia, and Latvia. If EU regulations apply to all countries, no individual analysis is carried out.

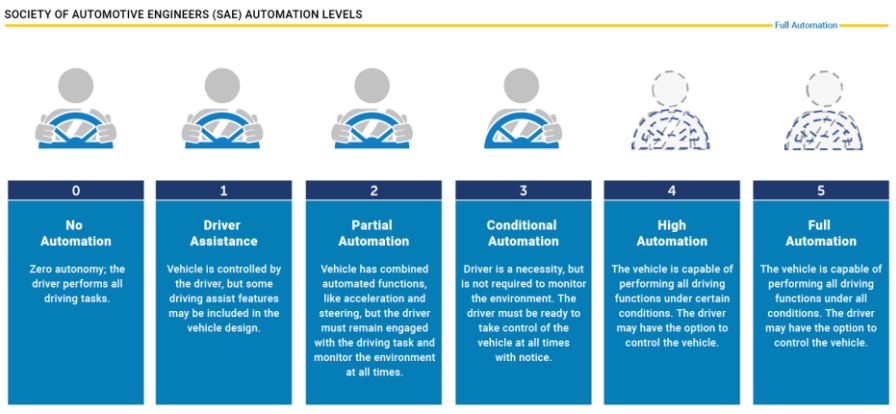
The areas of law examined in this roadmap are 1. vehicle registration law, 2. passenger transportation law, 3. personal legal requirements for the vehicle operator, 4. data protection law, 5. liability law, and 6. criminal law.

A general overview of the legal situation in the participating countries is given in the beginning of the Roadmap.

Info

What are automated vehicles?

Automated vehicles are vehicles that rely on an automated driving system rather than a manual system. This means that they can operate without human intervention (SAE level 3 and higher).



Source: www.enotrans.org

What is a vehicle operator?

In the context of this roadmap, the vehicle operator (also known as the 'steward' or 'safety driver') is a physical person who is present onboard the automated vehicle to guarantee safe operation, even in situations where the automated driving system fails to perform as intended. In such situations, the vehicle operator can override the automated driving functions and assume control of the vehicle.

General overview of the legal situation in the participating countries

Vehicle Registration Law			Personal legal requirements for the vehicle operator			
Necessity and legal basis for the vehicle registration	**Non-compliance with the applicable regulations**	**Issuing a special permit**	**Driving Licence**	**Transport of passengers**	**Standards for the driving behavious of the vehicle operator**	**Special safety training**
Registration (if on public roads)	Operation of automated driverless vehicles is contrary to international European and national law	Testing of automated vehicles is possible with a special permit	The driver needs a driving licence. The licence type is determined by the length and weight of the vehicle and by the number of passengers	In addition to the driving licence the driver must obtain a licence for passenger transportation	Driver/vehicle operator must remain attentive and be able to regain control over the vehicle at any time	Not legally obliged
Registration (if mostly on public roads)	No driver explicitly stated but the driver must be a physical/natural person	Testing of automated vehicles in road traffic is possible with a test plate certificate incl. trial plan	The term "driver" is not specifically defined	No additional licence for pass-enger transport needed	No specific requirements for automated vehicles. The driver must adhere to traffic rules	Not legally obliged but advised
Registration (if on public roads and certain internal roads)	When testing: driver can can be in or outside the vehicle	No special authorisation needed for testing automated vehicles	The driver of a test vehicle must have at least five years of experience as a driver in the appropriate category	Professional qualification certificate/ driver qualification card needed		Not legally obliged but prone to special duties
Registration and inspection	When testing: onboard/ present vehicle operator					Training description necessary for test plate certificate/ permit application
Professional vehicle registration for new test vehicles						Guidelines set out a series of obligations regarding the competence of the test driver/operator

Passenger Transport Law

Need for passenger transportation permit

General passenger transport permit

Taxi transport permit

Special permit for transporting more than 9 persons incl. the driver

and excl. the driver

No permit needed for transporting employees

Requirements for obtaining the permit

Financial and technical reliability of the service offered

Proficiency and adequate competence of the provider in the field

Limited to certain modes of transport

Data protection law

Regulatory Framework

The General Data Protection Regulation (GDPR) is the central EU regulation on data protection

Test licence holder must ensure that the testing of a automated vehicle is in compliance with the GDPR

Special testing permit applicant must describe how testing will be in compliance with the GDPR

Personal data and lawfulness of processing

The General Data Protection Regulation (GDPR) is the central EU regulation on data protection

Cameras used for safe movement of automated vehicles may capture faces of individual persons. Such recordings should only store movement information that makes personal identification impossible.

Liability law

Liability

No specific regulations for driverless vehicles

Possible defendants:

Vehicle owner

Vehicle holder

Vehicle manufacturer

Insurance law

Automated vehicle testing requires normal mandatory traffic liability insurance

Automated vehicle testing requires obligatory civil liability insurance

The liability insurer has a direct claim against the manufacturer if the damage is based on a failure of the automated driving system

Criminal law

No specific criminal legislation for automated driving

Special procedure for automated driving

Criminal liability is ascribed to the:

Vehicle owner

Vehicle driver/operator

Vehicle manufacturer

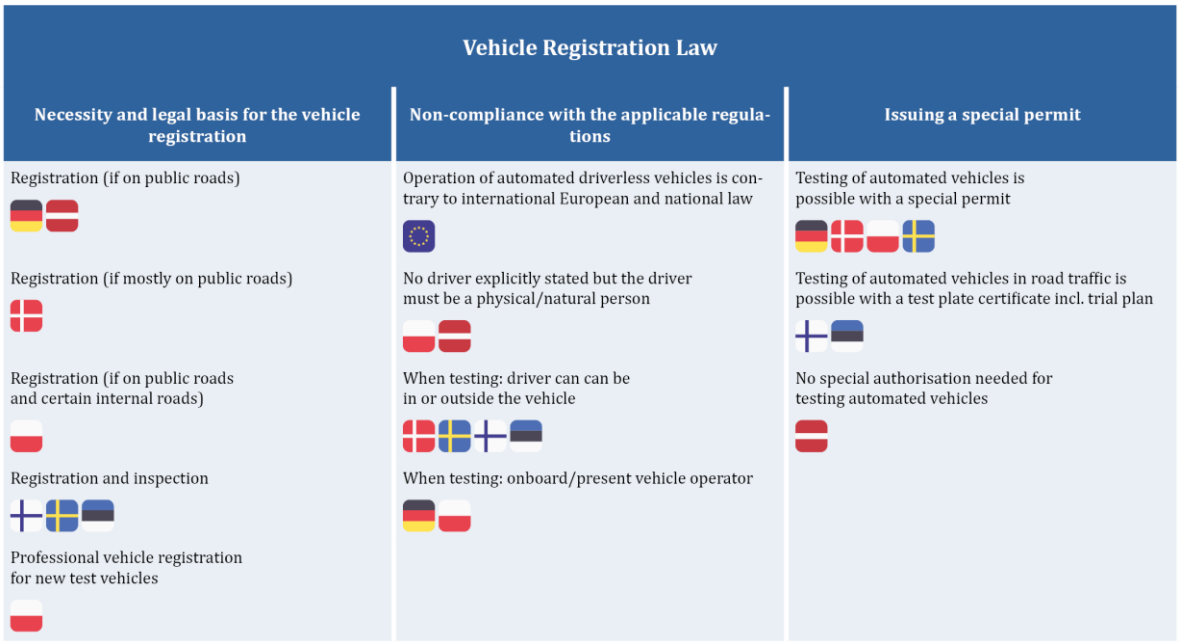
Holder of the test licence

Provider of the necessary data infrastructure

Entity servicing the vehicle

Vehicle technical support

Officials at the competent authority for vehicle permits



1. Vehicle registration law

a) Necessity and legal basis for the vehicle registration

In all participating countries, motorised vehicles must be registered before they can be used on public roads. The registration procedures differ slightly but are based on similar legal standards.

Germany

In Germany, vehicles must be registered only if they are tested on public roads. The vehicle registration requires:

- an official application from the vehicle keeper,
- motor vehicle liability insurance coverage, and
- an operating licence.

The legal basis for the vehicle registration is either **§ 21 StVZO** or **§ 13 EG-FGV.** The applicable procedure determines which government agency is **competent for issuing the operating licence**:

- § 13 EG-FGV is to be applied with priority.
- § 21 StVZO is applicable under the following exceptional circumstances:
- The maximum speed of the vehicle is 25 km/h or less.
- The vehicle is a prototype that was constructed especially for the test operation (§ 3 par. 2 no. 4 EG-FGV).

Denmark

In Denmark, vehicles – including buses – must be registered before they can be driven in areas under the Traffic Road Act (cf. KRL § 2).

The vehicle does not need to be registered if it is operated mostly outside public roads (cf. KRL § 3, sec. 4). Any exception to the registration requires a permit, which can be provided for a maximum period of six months. A permit requires an overview of the geographical area for the vehicle route.

The car registration requires:

- an official application by the vehicle owner (cf. RL § 39),
- motor vehicle liability insurance (cf. RL § 48), and
- payment of the registration charge (cf. RL § 49) (Operation, § 3 par. 2 no. 4 EG-FGV).

The applicable procedure determines which government agency is **competent for issuing the operating license.**

Finland

Vehicle Act 8 §

A motorised vehicle and its trailer must be registered and appropriately inspected. If these conditions are not met, neither the vehicle nor its trailer can be used in traffic ('prohibition of use').

Vehicle Act 66 §

The general requirements for first registration are as follows:

- The vehicle must have been approved in a registration inspection.
- The vehicle must fulfil the requirements that apply in Finland.
- The vehicle cannot be a certified scrap vehicle.
- Proof of payment of vehicle tax, ownership of vehicle, and mandatory traffic insurance must be presented.
- If the vehicle owner is not a natural person, a person responsible for the use of the vehicle must be identified.

Poland

Traffic approval under the u.p.r.d. generally refers to public roads, but also includes certain internal roads, e.g. residential and traffic zones (Article 1 section 1 item 1 and 2 of the u.p.r.d.). Cars, buses and other vehicles may be traffic-approved, if they have been registered or temporarily registered and conform to the technical conditions stipulated in Article 66 of the u.p.r.d. (Article 71 section 1 and 2 u.p.r.d.). Registration is not required for certain vehicles, including low-speed vehicle (i.e. vehicles whose structure limits their speed to 25 km/h).

The registration of a vehicle is handled by the head of a given district at the request of the vehicle owner. The request must be submitted with the following: a vehicle ownership confirmation or document entrusting the vehicle to a Polish entity by a foreign natural person or a legal person; a vehicle licence; and an EC conformity certificate/individual vehicle approval/decision on acknowledgement of the individual vehicle approval/EC individual vehicle approval if required (Article 72 section 1 of the u.p.r.d.). The registration authority also verifies that motor vehicle owners have entered civil liability insurance contracts.

On 11 July 2019, the provisions of the amendment to the Act on Road Traffic Law came into force, introducing a new form of temporary vehicle registration - professional vehicle registration. Professional registration is to enable companies to carry out test drives of vehicles not previously registered in the territory of the Republic of Poland or abroad, without the need to register each of them with the office. A professional registration card and professional plates are to be used by entrepreneurs with a registered office or a branch in Poland (in the case of an

entrepreneur with a registered office abroad), dealing with production, distribution or testing of vehicles, as well as authorized units (e.g. Motor Transport Institute) or research units of manufacturers.

The scope of requirements regarding certification or individual approval of a vehicle is established in the ordinances r.h.t.p.s. and r.d.j.p., which refer to, among others, Directive 2007/46/EC, Regulation (EC) No 661/2009, and particular UNECE rules. In the presence of innovative constructions or technologies (Article 70i u.p.r.d.), it is possible to obtain special consent from the European Commission to issue the EC type-approval certificate. Homologation or individual approval is provided by a national authority, i.e. the Head of Transport Technical Supervision Office.

Estonia

Traffic Act 76 § section 1:

A vehicle used in traffic must be registered within five working days after being put into use in Estonia. The vehicle is registered after the pre-registration technical compliance inspection (Road Administration) has been carried out and the vehicle meets the requirements. It is registered in the name of a natural person with Estonian citizenship, a natural person with a permit or right of residence in Estonia, or a legal person registered in the Estonian Business Register or in a branch of a foreign company.

General requirements for registration (based on traffic Act 76 § section 13 and 14 § and Minister of Economic Affairs and Communications Vehicle Registration Decree):

- documents proving legal acquisition of the vehicle,
- in the case of a new vehicle, a certificate of conformity (EC-Certificate of Conformity (CoC)) issued by the manufacturer, and
- other documents required in accordance with applicable legislation.

A state fee shall be paid for vehicle registration. The Road Administration has the right to verify the accuracy of submitted data before making the register entry, that includes the right to verify data regarding a registration certificate issued by a foreign institution.

Sweden

All vehicles, including buses, must be registered in the Swedish Road Traffic Registry (Sw. *Vägtrafikregistret*), governed by the Swedish Transport Agency (Sw. *Transportstyrelsen*) and used in accordance with LVTR § 12. The vehicle does not need a car registration under certain conditions, e.g. if it is used exclusively within a contained area (LVTR § 13 p.1).

For a vehicle to be registered, it must first be appropriately inspected and approved (FordL chap. 2 § 1). A vehicle can receive, for example, a type-approval in accordance with EU regulations, UN regulations (UNECE), or national law (FordL chap. 2 § 2). General requirements for registration include:

- An application must be submitted, usually by the vehicle owner (FVTR chap. 6 §§ 2–5).
- A road traffic registry fee must be paid (ORTrF chap. 2 §§ 5–6 and FVTR chap. 6 § 17).
- The vehicle must fulfil the requirements that are in force in Sweden (FordL chap. 2 §§ 1 and 6, FordF chap. 1 § 1 and chap. 2 § 1).
- Identity of the vehicle can be verified (FVTR chap. 6 §§ 5–7 b).

Additional requirements to use the vehicle include:

- traffic liability insurance (Sw. *trafikförsäkring*) (TSL § 2),
- payment of vehicle tax (VtrSL chap. 2 § 1), and

- vehicle registration as 'in use' (sw. ställa på).

Latvia

Vehicles involved in road traffic on public roads in the territory of Latvia must be registered and insured; fulfil all applicable technical and construction standards and regulations; and have permission to participate in road traffic. Registering a previously unregistered vehicle in Latvia requires the submission of a Certificate of Conformity or certificate issued in accordance with Cabinet of Ministers Regulation 1494; the vehicle manufacturer must also certify compliance with road traffic laws and regulations, including the 1958 UN/EEC Agreement, and the conditions for mutual recognition of conformity assessment certificates issued in accordance with these prescriptions. The Attestation of Conformity is not required if the vehicle has been subject to a conformity assessment in accordance with harmonised requirements of the EU or in certain other cases.

Vehicles registered abroad that are owned by a foreign entity and do not participate in Latvian road traffic for more than three months do not need to be registered in Latvia and can participate in road traffic with a valid licence issued by a foreign country. The use of a foreign-registered M1- or N1-grade vehicle in road traffic the vehicle operation tax law charges a fee for the period of use of the car.

b) Non-compliance with the applicable regulations

In all participating countries, the operation of automated driverless vehicles is contrary to European, international, and national law. As a result, car registration cannot be obtained. Some, but not all, legal problems can be resolved by placing a vehicle operator inside the test vehicle. In some countries (e.g. Denmark, Finland, and Sweden) the vehicle operator can also be positioned outside the vehicle.

All EU countries

An automated driverless vehicle cannot obtain car registration because it does not comply with European law (e.g. UNECE rules) and international law:

- At the international level, UNECE rules require automated vehicles to be designed such that the driver may, at any time and by deliberate action, override the automated driving function (UNECE Regulation No. 79, 5.1.6).
- The Vienna Convention on Road Traffic (Art. 8), which has been ratified by all participating countries, requires every moving vehicle to have a driver.

Germany

In addition to the international norms, other regulations may restrict the use of automated functions in vehicles:

- The automatic functions of the automated car must comply with regulations on the driver's behaviour.
- Technical regulations requiring cars to have seat belts, a steering wheel, mechanical breaks, and automobile mirrors may present additional hurdles.

The presence of an onboard 'vehicle operator' may resolve some legal problems. Even with a vehicle operator, however, UNECE Regulation No. 79 prohibits automated vehicles from exceeding a speed limit of 12 km/h.

Denmark

Under national law, every vehicle must have a responsible driver, but when testing automated vehicles, the driver can either be inside or outside the vehicle (cf. FL § 92g). In Denmark, a driverless vehicle is any vehicle that has been equipped with technology enabling it to operate autonomously.

Sweden

Even though automated driverless vehicles do not satisfy international regulations, the Swedish Transport Agency can issue a special permit and then register the vehicle. Registration is required for the vehicle to be used (LVTR § 12) but can include exemptions from the standard requirements (SjälvKörF § 1).

The term *driver* (Sw. *förare*) does not have a legal definition in Swedish law. It is presumed that every vehicle must have a responsible driver. Regulations on the testing of automated vehicles stipulate that a physical driver can be either in or outside the vehicle (SjälvKörF § 7). In Sweden, a driverless vehicle is a vehicle with a fully or partly automated driving system (SjälvKörF § 1).

Finland and Estonia

Under national law, every vehicle must have a responsible driver, but in tests of automated vehicles, the driver can be either inside or outside the vehicle (similar to the situation in Denmark and Sweden). The term *driver* does not have a legal definition in Finnish law.

Poland

Automated driverless vehicles are contrary to current Polish regulations as well as international norms. Although Polish law does not explicitly state that every vehicle must have a driver, it includes various provisions establishing obligations for the driver (who must be a physical person).

Apart from the legal impossibility of certifying and registering the vehicle, barriers to the use of automated vehicles can include regulations specifying the **obligations of the driver and technical standards for the vehicles**:

- In accordance with Polish regulations, a driver may not 'stop driving' and rely solely on the automated system. On the contrary, the driver must not take actions that could prevent them from personally driving the vehicle (and assuming control when necessary).
- Technical standards require vehicles to be equipped with a strong steering control system enabling the driver to quickly and unfailingly changing the direction in which the vehicle is moving. It must also be equipped with adjustable mirrors, seat belts (§ 11 section 1 of the r.w.t.p.), andbrakes enabling a driver to bring the vehicle to a stop (§ 14 section 1 of the r.w.t.p.).

It is necessary and, in the case of automated vehicle tests, explicitly required for a vehicle operator (steward) to be present and able to take control of the vehicle at any time or switch off the automated system. If one assumes that the operator is a driver and has all of the obligations of a driver, the operation of such a vehicle could be considered in alignment with Polish regulations. Nevertheless, a vehicle cannot be registered if it fails to satisfy the requirements of UNECE Regulation no. 79.

Latvia

Neither the Road Traffic Law nor the road traffic regulations issued based on international regulations explicitly states that the vehicle must have a driver, but such a conclusion can be made through systematic comparison of laws and regulations, including the concept of 'driver' (vehicle is driven by a natural person).

Policy Recommendations

Recommendations for national law

- ✓ Promote road traffic law changes to permit the public use of completely autonomous vehicles in public transport.
- ✓ Introduce an adequate definition of the term driver if the term is not yet legally defined (as is the case in Sweden). The definition should specify whether a driver is a natural person or not, respectively in or outside the vehicle.
- ✓ Encourage the adaption of technical regulations to the new circumstances of automated driving.

Recommendations for international law

- ✓ Encourage modification of relevant regulations in the UNECE rules and the Vienna Convention on Road Traffic so that driverless vehicles are not prohibited under international law.

c) Issuing a special permit

In all participating countries, it is possible by law to conduct test operations with automated vehicles. In most countries, such tests require a special permit. In Estonia and Finland, they require a test plate certificate. In all countries, these exemptions from otherwise conflicting norms can only be granted if the applicant takes sufficient compensatory measures, e.g. by complying with geographic limitations on the test route, providing a precise description of the planned operation (route, technical specifications of the vehicle, operating times), and securing adequate insurance coverage. The measures must guarantee traffic safety and avoid causing other major inconveniences in the area surrounding the test operation.

Germany

In special situations, a special permit can be granted to exempt the automated vehicle from existing regulations. Vehicles are eligible for such permits only if technical and organisational measures are adequate to guarantee the 'safe and smooth flow of traffic'.

The issuing agency can add obligations or other stipulations to the permit to ensure that such measures are in place, such as with regard to the following:

- geographical limitations
- time limits
- provisions under which the licence can be invalidated
- the onboard vehicle operator
- safety training for the vehicle operator
- operational safety
- consequences of an accident
- transport of persons
- logbook or other types of documentation
- a passenger safety briefing.

Denmark

Testing of automated vehicles (SAE levels 0–5) is possible with a special permit under FL § 92h. The Minister of Transport, Building and Housing issues a special permit after a hearing with the police and road authorities.

Applications for special permits must fulfil specific criteria in addition to the original registration requirements. For example, technical specifications of the test vehicles must be specified, and a general description of the test plan must be provided with information on:

- the test's SAE levels,
- a specific map of the route along which the tests will be conducted,
- traffic conditions,
- weather conditions,
- test organisation, and
- a plan for processing data collected through the test.

An accepted assessment concerning road safety consequences from an approved safety advisor.

Finland

In Finland, testing of automated vehicles (SAE levels 0–5) is possible in road traffic using a test plate certificate.

Vehicle Act 66 f §

An enterprise, agency, or other organisation engaged in automated vehicle research and development may apply to Traficom for a test plate certificate. The certificate entitles the bearer to drive test vehicles, to a limited extent and on a temporary basis, both in road traffic and off-road. For testing in road traffic, Traficom will issue test plates.

A Trade Register extract from the company's country of incorporation not more than three months old must be appended to the application.

The applicant must also enclose a trial plan that includes:

- a general description of the trials,
- technical specifications of the test vehicles,
- information on the road area where the trials are to be conducted,
- proof of insurance cover for third-party liability, and
- a description of measures to ensure road safety.

Poland

Automated vehicle tests in traffic on public roads are permitted, provided that safety requirements are met, and a special permit has been granted. The permit does not imply consent to permanently register such a vehicle; it is simply an agreement to conduct tests on a special basis. The following requirements apply (Article 65k–65n u.p.r.d.):

- An authority managing traffic on a road issues the permit at the written request of the test organiser.
- The test organiser's civil liability document, along with proof of insurance payment, must be attached to the permit application. The insurance is of a conditional nature, as it depends upon receipt of the permit.
- A decision on the permit can be obtained only by certain entities (especially entrepreneurs dealing with tests of new vehicles and R&D units of manufacturers), and test drives can take place, provided that they only concern vehicles not registered previously in Poland or abroad.
- The permit is granted only with the consent of a road manager (managing entity/authority) and only if no objections are raised by the owners of real estate located along a planned test route. Compliance with additional statutory requirements is compulsory for the permit.

Estonia

In Estonia, automated vehicles (SAE levels 0–3) can be tested in road traffic using a test plate certificate.

- These vehicles must have a driver, either within the vehicle or acting remotely, who is responsible for the vehicle and takes control of it if necessary.
- Testing can take place on public roads or off-road.
- The Road Administration can issue a testing permit for six months with the possibility of an extension.
- The Road Administration requires manufacturers to follow the EU Directive 2007/46 at least in its most important parts, e.g. with regard to seat installation, safety windows, break acceleration, door closing-force, emergency lights, reflectors, light installation and use in car traffic, and bus 'kill switches'.

The applicant must also enclose a trial plan similar to the one required in Finland.

The automated vehicles expert group is continuing to discuss responsibilities, insurance, privacy, ethics, and other related topics in order to reach solutions enabling the on-street operation of high-autonomy vehicles (i.e. levels 4 and 5 of the SAE International Standard J3016).

Sweden

Trials of automated vehicles (SAE levels 0–5) are possible with a special permit for vehicles that are not approved in any other way for driving on the road (FordF chap. 8 § 18 and SjälvKörF § 1). The Swedish Transport Agency may issue a special permit, on a temporary basis, if the applicant shows that traffic safety can be ensured and that the test does not pose a major inconvenience to the surroundings (SjälvKörF § 4). One or more natural persons must be responsible for ensuring that the test is conducted in accordance with the permit (SjälvKörF § 6).

When the vehicle is driving, a vehicle operator (natural person) must be present in or outside the vehicle and other requirements may apply (SjälvKörF § 7 and § 11). Additional requirements (besides the registration requirements) may include:

- information on the technical specifications of the test vehicles and the automated functions to be tested
- information on the geographical area in which the tests are to be conducted
- an accepted assessment concerning road safety and an assurance that the test does not pose a major inconvenience to the surroundings
- a general description of the test plan and organisation (including aim and scope) and how the trials will be assessed
- a description of the distribution of responsibility for the test, i.e. the parties bearing liability
- an obligation to report accidents and incidents
- a plan for processing data collected through the test
- an assessment of the effects of weather conditions, light conditions, road conditions, etc.

Latvia

Testing of automotive vehicle technology does not require special authorisation if vehicle control can be assumed at any time by a trained and licensed test driver or driver and operator. In accordance with the Guidelines for Test Vehicles, vehicles must be:

- suitable for participation in traffic, compliant with all vehicle requirements, and used in traffic in a manner that does not violate the requirements of regulatory enactments governing traffic;
- equipped with a manual control mode;
- shown to have successfully performed testing on closed test routes or in test areas.

The legal entity responsible for automated vehicle testing must have adequate insurance coverage.

Policy Recommendations

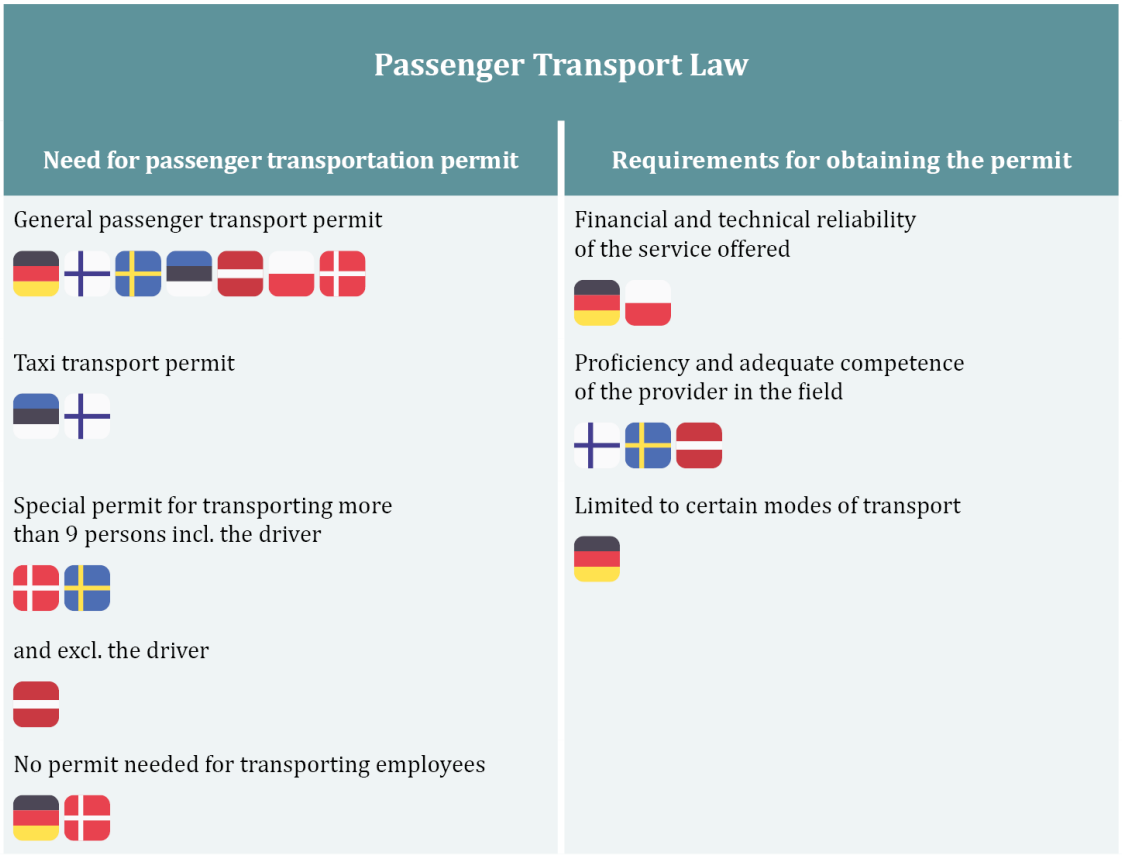
Recommendations for national law

✓ Promote the establishment of a checklist that illustrates all possible legal problems related to the approval of an automated vehicle and adequate suggestions (guidelines) to overcome these problems with additional stipulations for a special permit or test plate certificate.

Recommendations for European law

✓ Harmonise these checklists in a second step.

✓ Promote mutual recognition of national permits in different EU countries.



2. Passenger transport law

a) Need for passenger transportation permit

Commercial transportation of passengers requires a permit in every participating country. Many legal systems, e.g. in Finland and Estonia, distinguish between a general passenger transportation permit and a taxi permit. Exceptions that do not require a permit are the transport of employees by their employer (Denmark) or for purposes of tourism (Poland).

Germany

Passenger transportation is regulated under the Passenger Transportation Act (PbefG). Automated buses require a passenger transport permit if:

- persons are being transported and
- a fee is charged, or
- any other financial compensation is provided, or
- transport takes place on a regular basis.

There are exceptions for passenger transport on private roads and work-related transport of employees on the premises of their employer.

Denmark

In Denmark, passenger transportation is regulated under the RK and BKL. Normal or special route services require a permit, which is granted following an application process (cf. RK § 1). 'Normal route service' applies to every passenger. 'Special route service' applies only to certain categories of passengers (e.g. educators, employees, or senior citizens).

The application must contain a description of the route, a timetable, and information about fares and the route service (cf. RK § 3). There are exemptions for passenger transport permissions if the route service only transports employees (employee labor) or educators to a school.

A commercial passenger conveyance permit is also required if the bus is used to transport more than nine persons, including the driver (cf. RK § 4 and BKL § 1).

Finland

A permit is required for professional taxi transport or passenger or goods transport.

Poland

In Poland, passenger transport at the communal level is governed by several legal acts, including the k.c. (Articles 776–778 concerning regulations on passenger transport), u.p.p., u.t.d., u.p.t.z., and several others.

To transport passengers in Poland, one must first obtain a permit for hauliers (Article 5 section 1 of the u.t.d.) or a transport licence for a car or taxi (Article 5b section 1 of the u.t.d). In addition to this professional permit, a contract with the organiser or a permit for regular carriage (see below) is required to operate a bus carrying passengers in the public transport system.

Public transport services in accordance with the u.p.t.z. are categorised as:

- public utility transportation (generally organised by public authorities; organisers conclude contracts with the operators for particular routes);
- commercial transportation (performed by private entities with a special permit and under notification (since 2019)).

'Regular special carriage' (e.g. transport of students to schools/universities) is also a distinct category and requires the same permit. Transit that does not qualify as 'regular special carriage' (e.g. a shuttle travelling back and forth and occasional transit) requires a special permit only if the route goes outside the European Economic Area. Exemptions:

- non-profit road passenger transport
- carriage organised by persons who not acting commercially
- carriage for medical rescue and sanitary transport services
- purposes of tourism (the u.p.t.z. does not apply).

Estonia

Professional passenger transport requires a permit under the following categories:

- Taxi transport permit
- Passenger transport permit
- Drivers service permit.

Sweden

In general, passenger transportation is regulated under YTL, YTF, TTL, KolltrL and (EC) No 1071/2009.

Commercial traffic requires the permission of the Swedish Transport Agency, which is granted through a commercial traffic permit (Sw. *yrkestrafiktillstånd*) (YTL chap. 1 § 1–2 and 2 § 1, and YTF chap. 1 § 4).

Automated buses require a passenger transport permit if:

- the motor vehicle is constructed to carry more than nine persons, including the driver, and
- intended for passenger transport services for the public or for specific categories of users in return for payment by the person transported or by the transport organiser ((EC) No 1071/2009 Art 2 and YTL chap. 2 § 1).

YTL and YTF apply to:

- **Line-based traffic** (Sw*. linjetrafik*): commercial traffic for passenger transport which is bound to a timetable and for which remuneration is set for every passenger separately. The transportation cannot only be part of an event whose main purpose is not the the transport itself. If line-based traffic is performed with a car, a taxi traffic permit (Sw*. taxitrafiktillstånd*) is required (TTL chap. 1 § 3 and 2 § 1).
- **Ordered traffic** (Sw*. beställningstrafik*): commercial traffic for passenger bus transport that is not line-based traffic (YTL chap. 1 § 5 and 2 § 1).

Latvia

Passenger carriage by bus (i.e. a vehicle intended for the transport of nine or more persons, not including a driver) may be carried out if the road transport manager has a certificate of professional competence in the relevant transport area and the carrier has received a special permit for carriage (international, national) or the republican city council issues a special permit for transportation within the city limits.

Passenger transportation is divided into the following categories:

- commercial transport (i.e. carriage of passengers for a fee as a professional activity), which requires a special permit (licence) and licence card issued by the competent authority, the Road Transport Directorate.
- self-transportation (i.e. transport performed free of charge with vehicles owned or leased by a merchant, state or local government institution, association, or foundation, with a self-employed person as the driver, to carry persons for their own purposes; self-transportation is an ancillary activity of the carrier). For self-transport, the self-employed person must obtain a vehicle-specific self-transportation certificate or valid licence card or copy of the European Community authorisation for carriage of the relevant type.

Other classifications include:

- regular (i.e. according to travel schedules on a regular basis on a specified route for a predetermined fare, as well as when passengers are admitted or discharged in line construction); also regulated by the law on public transport services.
- special regular (certain category).
- irregular (inappropriate definition of regular services, groups of passengers established on the initiative of the customer or carrier).

b) Requirements for obtaining a permit

In all participating countries, basic requirements must be fulfilled to obtain the necessary passenger transportation permit. Among the most important requirements are the adequate competence of the provider in the field of passenger transport, as well as the financial and technical reliability of the service offered. In Germany, the approval regime is even stricter, with the issuing of permits generally limited to certain modes of transport such as line-based traffic.

Germany

For a vehicle to obtain a permit, it must satisfy the criteria for one of the following categories:

- *Line-based traffic* is transport that connects a pre-determined starting and end point on a regular basis and allows passengers to board and disembark at certain stops. It does not require a timetable with specific departure and arrival times or intermediate stops.
- *Occasional traffic* is transport by taxi, rental car, or rental bus. 'Taxi transport' refers to the transportation of passengers to places of their own choosing in cars that are kept ready for service at officially designated spots. 'Transport by rental car or bus' refers to transportation in vehicles rented by passengers for this purpose. The route and destination are determined entirely by the passengers, and the rental service responds to transit requests at the corporate office or the owner's residence. The vehicle rental must include the services of a driver; taxis and rental cars cannot be driven by the passengers themselves.

If a mode of transit does not meet the criteria for one of the categories above, it may be eligible for another type of special permit:

- If a mode of transport does not fulfil all requirements for line-based or occasional traffic, authorisation can be granted under the terms of the permit for the mode of transport to which it is most similar.
- For tests of new modes of transport, a special permit can be issued for a maximum period of four years.
- Both types of special permits are granted only if operation of the authorised vehicle is not contrary to the public interest.

Additionally, the safety of the service must be ensured, and the provider must prove his or her financial and technical reliability.

Finland

To obtain any transport permit (i.e. for taxi, passenger, or goods transport), a natural or legal person must:

- be of legal age, be competent, and have a decent reputation
- be proficient in the field
- have no record of bankruptcy
- have no outstanding tax debt or other payment errors
- be allowed to do business
- have duly taken care of all employee payments
- not be found to be untrustworthy.

Poland

The contract for provision of services within the public transport sets out obligations, including the requirements for means of transport, and demands the use of modern technical solutions.

However, provisions of the u.t.d. stipulate that regular carriage within domestic public transport can be carried out only by bus. Specific technical requirements apply for each transport type. Some such requirements are set out in the r.w.t.p.; others include: making a time schedule publicly available at stops and stations on the way, letting passengers in and out only at the stops set out in a time schedule, and making terms and conditions of carriage and a price list available on the bus. Furthermore, for the permit/notice of approval for commercial transportation, regulations require carriers to provide the transport organiser with information on the means of transport to be used for carriage (e.g. automated buses). It is also necessary to establish stops or stations along a suggested route.

For commercial transport services and in the framework of public utility transport services, an entrepreneur rendering passenger transport services must first obtain authorisation to carry out the business activity in this field (Article 4, section 1, item 8 and 11 u.t.d.). This means that the entrepreneur must receive a permit to work in the road transport profession, in accordance with Article 5 u.t.d. General requirements for permit acquisition are defined in Regulation (EC) No. 1071/2009.

Sweden

To receive a commercial traffic permit (for taxi, passenger, or goods transport), a natural or legal person in Sweden must (YTF chap. 2 § 1):

- be deemed fit and proper (YTL chap. 2 §§ 2–5), with a clean criminal record, no outstanding tax debt or other payment errors, and no record of bankruptcy.
- have proficiency and adequate competence in the field (YTL chap. 2 § 6).
- have sufficient funds (i.e. be in good financial standing) (YTF chap. 2 § 1).
- be permanently established in a Member State (YTF chap. 2 § 1).
- act in accordance with traffic regulations (YTL chap. 3 § 6).

The following conditions also apply:

- A permit may require additional requirements (YTL chap. 2 § 7 and 3 § 7).
- A permit is issued for an indefinite period of time, but its validity can be restricted to a fixed term in certain cases (YTL chap 2 § 8).
- For permits issued to a legal person, a natural person with a genuine link to the legal person (e.g. an employee, director, owner, shareholder, or administrator) must be designated as Transport Manager to ensure the fulfilment of the same requirements ((EC) No 1071/2009 Art 4).

After receiving a permit for commercial traffic, the permit holder must notify the Swedish Transport Agency about the vehicle in writing before they can start using the vehicle (YTF chap. 4 §§ 2–3). The Swedish Transport Agency monitors vehicle compliance with all requirements and ensures that the vehicle is properly registered in the Swedish Road Traffic Registry (YTF chap. 4 § 4 and FVTR chap. 2 § 3 p. 3). The Agency also verifies that the vehicle is owned or properly leased by the permit holder.

Latvia

In Latvia, a passenger transport licence must be obtained before services are provided. Exemptions:

- A special permit is not required for passenger self-transportation by light vehicle.
- The requirements set out in Cabinet of Ministers Regulation 364 do not apply to tourist transport services if the tour services are provided within the same administrative territory through a pre-designed and self-governing route and offer information on tourist attractions.

The preconditions for a passenger transportation licence are as follows:

To receive a self-transportation certificate for the carriage of passengers by bus, the self-employed person submits an application and, if applicable, a copy of the lease agreement. Before a certificate for self-transportation vehicle can be obtained, the vehicle must be registered in the state register of vehicles and their drivers; in addition, the technical condition of the vehicle must be rated '0' or '1', based on the results of the state technical inspection.

To receive a licence for commercial bus transportation, the carrier must submit an application to the Road Transport Directorate, or EU or EEC countries for a recognised professional competence certificate, a certificate of compliance with Regulation No. Article 6 (good repute requirements), Article 4 (requirements for transport managers), Article 7 (requirements for financial position), and Article 5 (conditions of place of business) of Regulation 1071/2009.

In order to receive a licence for commercial transportation with light vehicle, the carrier must submit an application to the Road Transport Directorate. The carrier must be registered in the Register of Enterprises with an active economic activity, may not be in insolvency or liquidation proceedings or owe taxes, duties, or other statutory debts. Neither the carrier nor the carrier's legal representatives can have unpaid administrative penalties listed in the penal register for road traffic or road transport violations. Additional registration is required for the driver.

Policy Recommendations

Recommendations for national law

- ✓ Promote a more flexible legal framework, for example to allow for the establishment of on-demand services with automated vehicles without the need for special permits (Germany).
- ✓ Simplify the permit process and balance licensing requirements with the 'on-demand' (on-request) needs of transport service providers and recipients.

Personal legal requirements for the vehicle operator

Driving Licence

The driver needs a driving licence. The licence type is determined by the length and weight of the vehicle and by the number of passengers

The term "driver" is not specifically defined

The driver of a test vehicle must have at least five years of experience as a driver in the appropriate category

Transport of passengers

In addition to the driving licence the driver must obtain a licence for passenger transportation

No additional licence for passenger transport needed

Professional qualification certificate/ driver qualification card needed

Standards for the driving behavious of the vehicle operator

Driver/vehicle operator must remain attentive and be able to regain control over the vehicle at any time

No specific requirements for automated vehicles. The driver must adhere to traffic rules

Special safety training

Not legally obliged

Not legally obliged but advised

Not legally obliged but prone to special duties

Training description necessary for test plate certificate/ permit application

Guidelines set out a series of obligations regarding the competence of the test driver/operator

3. Personal legal requirements for the vehicle operator

a) Driving license

In all participating countries, drivers need a driving licence. The appropriate licence type is determined by the length and weight of the vehicle, as well as by the number of passengers. In most countries, the vehicle operator is considered to be the driver of the vehicle. In Swedish and Finnish law, the term driver is not legally defined; the vehicle operator is a 'road user'. Nevertheless, this does not exempt them from the obligation to obtain the proper driving licence for operating the automated vehicle.

Germany

The vehicle operator is, by law, the driver of the vehicle. They must be in possession of a driving licence. The type of driving licence required depends on the vehicle weight and length and the number of passengers. For example, a vehicle operator must be in possession of a Category D1 driving licence when operating a vehicle that is 5 metres long, weighs 3.5 tonnes, and designed to transport 10 passengers, excluding the driver.

Denmark

The driver of the vehicle must have a driving licence. The type of driving licence required is determined by the weight of the vehicle as well as by the number of passengers.

For a vehicle that is eight metres long and constructed to transport 16 passengers (excluding the driver), a 'small bus' driving licence is required (cf. KL § 15). To obtain a 'small bus' driving licence, the driver must have a standard car driving licence and be at least 21 years old (cf. KL § 26).

Finland

Finnish law does not specifically define the term *driver*: instead, it refers to the *road user*. A road user is a person who is on the road, in a vehicle on the road, or in a tram. Therefore, a person who is driving and/or operating a vehicle can be considered a road user.

A person driving a vehicle must have a valid driving licence. The licence type must correspond to the type of vehicle that the person is operating/driving.

Poland

A driver can be a person who holds a relevant document confirming his or her right to drive a vehicle – in most cases, the driving licence that corresponds to the relevant category. A D1 driving licence is required in order to drive a bus designed to transport up to 17 persons (including the driver) if the bus length does not exceed 8 metres (irrespective of weight).

Estonia

As in Germany, the driver of a vehicle must have a driving licence. The type of driving licence is determined according to the vehicle weight and length, as well as by the number of passengers (there are no special requirements for automated vehicles).

Sweden

Swedish law does not define the word *driver* (Sw. *förare*); as in Finnish law, the term *road user* (Sw. *trafikant*) is used. A road user is someone who travels or otherwise stay on a road or in a vehicle on road or in terrain (area that is not defined as road) and someone who is travelling in terrain (VägDefF § 2).

As in Finland, a person who drives and/or operates a vehicle qualifies as a road user. A bus may be driven only by someone with a valid driving licence for that type of vehicle (KörkL chap. 2 § 1). The type of driving licence required depends on the vehicle weight and length and the number of passengers (KörkL chap. 2 § 5).

- When driving a vehicle at length eight metres long and constructed for the transport of 16 passengers (excluding the driver), a driving licence (type D1) is required.
- For a D1 licence to be issued, the applicant must qualify for a driving licence and be at least 21 years old (KörkL chap. 3 § 1 e). (In certain cases, exceptions can be made (KörkL chap. 3 § 1 a)).

A vehicle owner is liable for ensuring that the vehicle is not used in violation of TF. When another party uses the vehicle, the owner's responsibility is reduced (TF chap. 1 § 5). Under Swedish law, the 'driver' or 'road user' is generally the responsible party when the vehicle is used.

Latvia

The driver must be in possession of a valid driving licence for the relevant category, corresponding to the vehicle type.

According to the Guidelines, the test driver and test vehicle operator must have at least five years of experience as a driver in the appropriate category. The driver and operator of the test vehicle must also submit information to the legal entity organising the test, and their driving history must indicate that they do not pose a particular risk to other road users.

b) Transport of passengers

In some countries (e.g. Germany, Denmark, and Sweden), the driver must obtain a licence for passenger transportation, as well as a driving licence. In other participating countries, namely Estonia and Finland, this is not a legal requirement.

Germany

In addition to the driving licence, German law demands an additional licence for passenger transport under certain conditions. The additional licence is needed if the mode of transport also requires a passenger transportation permit.

The German Driving Licence Regulations (FeV) specify the exceptions to this rule (e.g. cases in which the driver has a Category D1 driving licence).

Denmark

Apart from the driving licence, the Danish legal system demands an additional driving licence for passenger transport. The additional licence requires the driver to be at least 21 years old and to have passed a driving test for commercial conveyance of passengers (cf. KL § 28).

Finland and Estonia

A driver does not need an additional licence: a combination of an appropriate driving licence and transport permit is sufficient.

Sweden

In addition to a driving licence, the driver of a vehicle registered and used for commercial traffic generally must have a *commercial traffic driver qualification certificate* (Sw. *yrkeskompetensbevis)* (LYK chap. 3 §§ 1 and 5–7 and FYK chap. 2 § 1, 4 §§ 1–2 and chap. 6).

The commercial traffic driver qualification certificate can be issued to a person who has passed the qualifying test and is at least 18–23 years old, depending on the type of driving license as well as, for example, whether there are passengers on board or, in line-based traffic, provided that the distance does not exceed 50 kilometres (LYK chap. 3 § 1).

There are exceptions to the certificate requirements, e.g. for non-commercial passenger transport or for vehicles that use technical means to restrict the vehicle's maximum speed limit to 45 km/h (LYK chap. 2 § 4).

Poland

For road transport – and passenger transport – by an entrepreneur or any other entity, a driver may be hired, provided that they meet the minimum age requirement (to drive a bus, 21 or 23 years old, depending on the company), holds proper authorisation to drive a vehicle (a relevant category of driving licence), demonstrates the proper level of physical and mental health to occupy the driver position, has the appropriate qualifications (verified by a professional qualification certificate), and has completed a periodic training (every 5 years, beginning from the date on which the qualification was acquired) (Article 39a section 1 u.t.d).

Requirements for age, qualification, and periodic training do not apply under certain circumstances, e.g. if a driver's vehicle is structurally limited to a speed of 45 km/h or if a vehicle subject to road tests for technical development needs to be conducted by manufacturers, R&D units, or institutions of higher education (Article 39a section 3 u.t.d).

Latvia

Passenger transport by bus may be carried out by drivers who have the appropriate professional knowledge, as evidenced by an entry on a driving licence or driver qualification card. This requirement does not apply to drivers whose vehicle reaches a maximum speed of only 45 km/h or is used for the non-commercial carriage of passengers.

c) Standards for the driving behavior of the vehicle operator

In some countries (e.g. Germany, Denmark, Poland, and Latvia), there are specific legal standards for the behaviour of the 'driver' (vehicle operator) of an automated vehicle. The vehicle operator must remain attentive while driving and be able to regain control over the vehicle at any time. In Finland, Estonia, and Sweden only the common due-diligence rules for drivers and road users apply to the vehicle operator of an automated vehicle.

Germany

The vehicle operator must remain attentive while driving and regain control of the vehicle immediately if 1) the vehicle instructs them to do so or 2) they recognises or would have to recognise, based on obvious circumstances, that the automatic driving functions no longer operate as intended.

Denmark

Testing a driverless vehicle involves the attendance of a physical person who can regain control of the vehicle if the vehicle instructs him to do so or if he recognises it as necessary (cf. FL § 92g).

The physical person must also observe national laws on drunk driving and driving under the influence of psychoactive substances. The physical person can participate as either the driver or the vehicle operator of the automated vehicle.

Finland

Road Act 3 §

A road user must adhere to traffic rules and act with care and caution, taking into account prevailing conditions, to avoid danger and damage.

A road user must not obstruct or disturb traffic without reason.

Poland

An automated vehicle operator (steward) must be present in the vehicle in a designated driver's position. They must be able to gain control of the vehicle at any time, particularly in response to hazards that threaten traffic safety (Article 65n, section 1, item 2 of the u.p.r.d).

The automated vehicle operator (steward) is obligated to follow all regulations referring to the driver's obligations (e.g. those related to 'staying alert' to road situations and remaining careful).

Sweden

A road user must adhere to traffic rules. To avoid traffic accidents, they must act with the care and caution necessary under the prevailing conditions (TF chap. 2 § 1). A road user must not obstruct or disturb traffic without reason (TF chap. 2 § 1).

The vehicle may not be operated by someone who is unable to operate the vehicle in a safe manner due to sickness, fatigue, or the influence of alcohol or other substances (TF chap. 3 § 1).

Estonia

There are no specific requirements for automated vehicles. A driver is legally responsible for following traffic rules and for ensuring that the vehicle's technical functions are maintained.

Latvia

Standards for the vehicle operator and vehicle driving: During the testing of automated vehicles on public roads, the vehicle must be monitored at all times by an appropriately trained and licensed test driver or test vehicle driver and test vehicle operator who can assume control of the vehicle as necessary.

d) Special safety training

Germany

The vehicle operator is advised, though not legally obligated, to complete a special safety training.

Finland

When applying for a test plate certificate, the organisation operating automated vehicles must describe how it has trained or will train its safety operators.

Denmark

The driver/vehicle operator is not obliged to complete a special safety training. However, the Minister of Transport, Building and Housing can determine special duties for the person when taking control over the vehicle.

Poland

Polish law does not prescribe any training for automated vehicle operators other than that required for casual drivers.

Sweden

There is no provision in SjälvKörF requiring the vehicle operator to complete a special safety training. However, when applying for a test permit, the applicant must describe how to ensure that people participating in the testing operations are competent to perform the task assigned to them.

Estonia

When applying for a test plate certificate, the organisation operating automated vehicles must describe how it has trained or will train its stewards/safety drivers.

Latvia

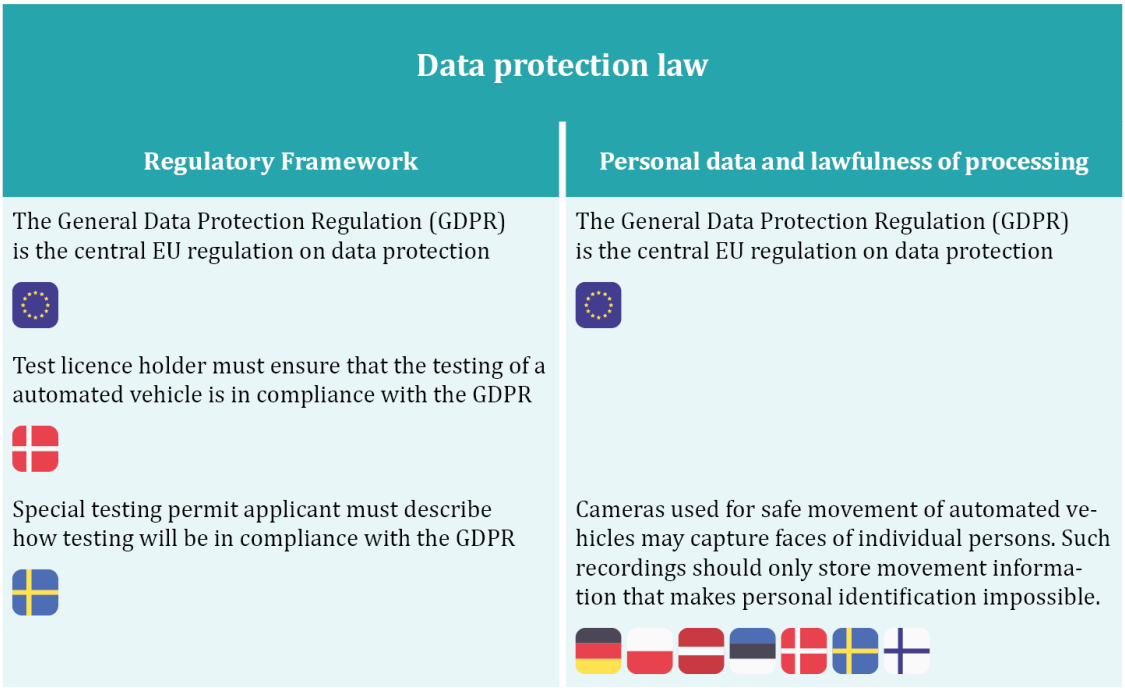
The guidelines set out a series of obligations regarding the competence of the test driver and test operator, including comprehensive knowledge of the technologies used in testing, as well as the capabilities and limitations of these technologies; knowledge of the test vehicle; and recognition of the situations in which it may be necessary to interfere in vehicle operation.

Under the guidelines, the legal entity organising the test must establish rules for the test driver and the behaviour of the operator of test vehicle and ensure that they are known by and understandable to test vehicle drivers and to the test vehicle operators; it must also ensure that the test driver and test vehicle operator are competent and have received proper training. The training of the test driver and the test vehicle operator should include practice in analysing potentially hazardous traffic situations and taking appropriate action to assume control of the vehicle. In the training process, particular attention should be paid to the transition from traditional manual to automatic control.

Policy Recommendations

Recommendations for national law

- ✓ Promote training standardisation for automated vehicle drivers and operators by providing requirements for training content.



4. Data protection law

a) Regulatory framework

The General Data Protection Regulation (GDPR) is the central EU regulation on data protection. It poses challenges for the implementation of automated driving.

Denmark

The GDPR makes it difficult to process personal data in a test for driverless vehicles.

The Danish Traffic Road Act refers only to the collection and processing of personal data, but does not address the rules of the GDPR. It is therefore the responsibility of the test licence holder to ensure that the rules of the GDPR are observed.

Sweden

The processing of personal data in driverless vehicle tests may be a challenge due to the GDPR. For example, the LVTR (i.e. § 2) mentions only the collection and processing of personal data in accordance with the PUL, but not the rules in the GDPR. However, when the GDPR entered into force, it replaced the PUL, which was repealed (with some specific exceptions). According to Article 94 GDPR, references made to the repealed Directive are to be construed as references to the GDPR.

In Sweden, the LK-GDPR supplements the GDPR on a general level. In the application for a special testing permit for automated vehicles, the applicant must describe how the test operation will be conducted in compliance with the GDPR.

b) Personal data and lawfulness of processing

The GDPR requires valid legal grounds for any processing of personal data. Such grounds can include the consent of the data subject or the necessity of processing for reasons of public interest. In the context of automated driving, the use of cameras for safe motion of the vehicle may pose major challenges for test operations.

All EU countries

In legal contexts, personal data refers to information relating to an identified or identifiable natural person. The processing of personal data is lawful if, for example, the data subject has consented to the processing, or if processing is necessary for a task to be carried out in the public interest.

Cameras used to facilitate the safe movement of the automated vehicle may capture faces of individual persons, either in or outside the vehicle. Such recordings should only store movement information that makes personal identification impossible.

If software applications are used, as in the booking system, passengers must consent to the processing of any personal data.

Sweden

Camera surveillance regulation in Sweden has been a major challenge for test operations of automated driving because a permit has generally been a prerequisite. On 1 August 2018, a new Camera Surveillance Act (KamBL) entered into force. The most significant new provisions include:

- Fewer operators are covered by the permit requirement.
- Privacy will be protected by the GDPR, since someone performing camera surveillance must fulfil the GDPR requirements when performing surveillance (KamBL §§ 1–2 and 6).

A permit is required for camera surveillance conducted in publicly accessible places by government agencies and certain other operators that perform public-interest activities, e.g. public transport (KamBL § 7), that may affect automated-vehicle test operations.

Permit requirements include (KamBL §§ 8 and 11):

an assessment of whether the interest of such surveillance overrides the interest of a natural person not to be surveilled. This condition may be evaluated based on whether such surveillance would (KamBL § 8):

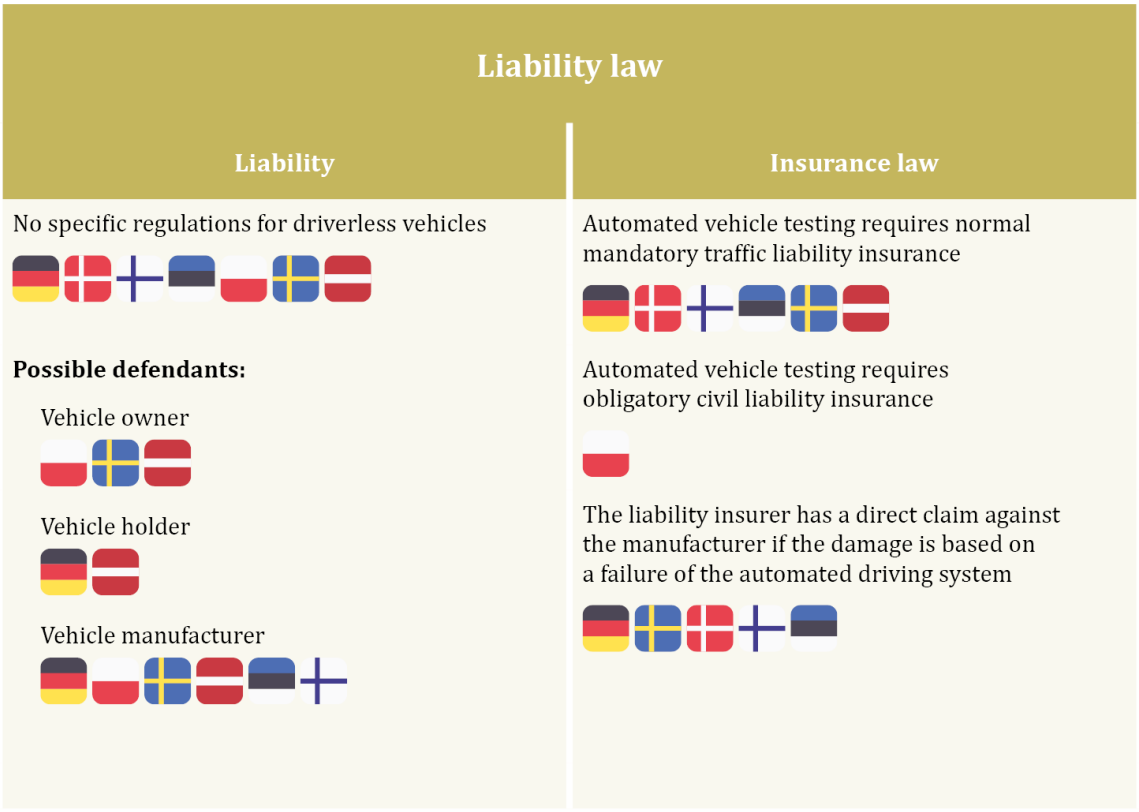
- prevent or discover accidents or reduce the impact of accidents that do occur or
- accommodate a similar purpose.
- an assessment of the risk of unlawful processing of data.
- an assessment of the need for surveillance.

Notice that camera surveillance is being conducted must be provided (KamBL § 15).

The Swedish Data Protection Authority is the agency that supervises compliance with both the GDPR and KamBL. Cameras used to facilitate the safe movement of an automated vehicle may capture faces of individual persons, either in or outside the vehicle. Such recordings should only store movement information that makes personal identification impossible.

Inference. The introduction of automated vehicle technologies may involve the processing of personal data. In accordance with the requirements of Article 35 of the General Data Protection Regulation, an assessment prior to implementation may be required to evaluate the impact of such processing on data protection.

Proposal. The interested parties will develop a code of conduct in accordance with the requirements of Article 40 of the General Data Protection Regulation.



5. Liability law

a) Liability

Liability is a widely discussed topic in the context of automated driving. The participating countries have not enacted any specific rules on automated vehicles. The liability relies on product liability law and road traffic law. Possible defendants are the vehicle operator, the owner, or the manufacturer.

Germany

There are no specific regulations for driverless vehicles. The use of automated vehicles has no negative effect on the legal liability protection of the injured party. The injured party has different options for claiming damages:

- § 7 StVG, defendant: vehicle holder
- Product liability law, defendant: manufacturer

Liability under § 18 StVG is only possible if the vehicle has an operator. For vehicles without an operator, liability shifts to the producer.

Denmark

Directive 85/374 EEC on product liability was implemented in Denmark in PAL. Liability for damage caused by a driverless vehicle falls to the holder of the test licence.

In contrast to the common liability rules in the Danish Road Traffic Act, the owner or user cannot be responsible for damage if these persons are different from the holder of the test licence.

There are national regulations assigning liability without fault to the holder of the test licence.

Finland and Estonia

Directive 85/374/EEC on product liability has been implemented in Finland and Estonia in national law and is the legal basis for claims regarding damages caused by automated vehicles.

Poland

In Poland, there are currently no detailed regulations on damage caused by an automated driverless vehicle. The injured party can refer only to the general provisions of the Polish Civil Code, i.e. claim liability based on the general provisions of the Civil Code, not only against a vehicle owner, but also against the vehicle manufacturer.

Poland has implemented the provisions of the Directive 85/374/EEC on the approximation of regulatory, executive, and administrative provisions of Member States regarding liability for defective products.

Sweden

Directive 85/374 EEG on product liability has been implemented in Sweden in PAL. As in Germany, the use of automated vehicles likely has no negative effect on the legal liability protection of the injured party. The injured party has different options for claiming damages:

- TSL § 2, defendant:
  - owner of the vehicle
- PAL § 6-8, defendant:
  - manufacturer
  - importer (under certain circumstances)
  - marketeer
  - provider

Thus far, there has been no specific regulation in Sweden regulating liability for damages caused by an automated vehicle. Under Swedish law, 'liability without fault' does not apply to the owner.

Latvia

There is no specific regulation for compensation for damage caused by automotive vehicles. In the event of damage caused by automated vehicles, the injured party may seek compensation from:

- the actual possessor of the increased source of danger (owner, keeper, user). The legal entity is directly liable for damage caused by the source of the high risk of its possession, i.e. a car operated by its employee or authorised person (this does not exclude the right to claim damages from the employee or authorised person on a recourse basis).
- the owner of the vehicle.
- in the case of the vehicle holder, if the damage has been caused by a violation of road traffic law or other road safety regulations, the vehicle has been transferred to the holder, and the holder and owner have not agreed on other procedure for loss compensation.

- the manufacturer of an automotive vehicle if damage to the life, health, or personal property of a person causes a shortage of goods.

Policy Recommendations

Recommendations for national law

✓ Promote a change to road traffic law so that liability for driverless vehicles is clearly regulated; it is advisable to clarify the division of responsibility and the regulation of producer liability in the Civil Law and the Road Traffic Law.

Recommendations for international law

✓ Promote international rules on liability; the rules on product liability are a good practice example.

b) Insurance law

In all participating countries, the use of automated vehicles requires regular traffic liability insurance. The liability insurer has a direct claim against the manufacturer if the damage is based on the failure of the automated driving system.

Germany

The use of automated vehicles within public road traffic raises no special insurance requirements. The holder of a vehicle which is used on public roads is required to have liability insurance.

The liability insurer has a direct claim against the manufacturer if the damage is based on a failure of the automated driving system.

Denmark, Estonia and Finland

Danish, Finnish, and Estonian automated vehicle testing requires the normal mandatory traffic liability insurance. The liability insurer can make a direct claim against the manufacturer for the damage if it is based on a failure of the automated driving system or the vehicle.

Poland

Poland has regulations requiring civil liability insurance for every motor vehicle on the road. The vehicle owner driving on public roads must have his or her own civil liability insurance.

Poland does not have any specific regulations on permitting automated vehicles to participate in traffic, covering an obligatory insurance within this field. However, Poland has implemented an obligation to apply for adequate insurance for research on automated cars. The obligatory civil liability insurance applies to automated testing of the vehicle.

Sweden

The insurer of the traffic liability insurance can make a claim against the vehicle manufacturer if the damage is also covered by PAL, i.e. if the damage is based on a failure of the automated driving system or the vehicle (TSL § 20).

In Sweden, it is mandatory for the vehicle owner to have traffic liability insurance for the vehicle if it is registered and used in traffic (TSL § 2). The traffic liability insurance covers damage to a third party or third-party property. If the owner does not insure the vehicle, a penalty will be imposed on them, increasing daily per uninsured day.

Latvia

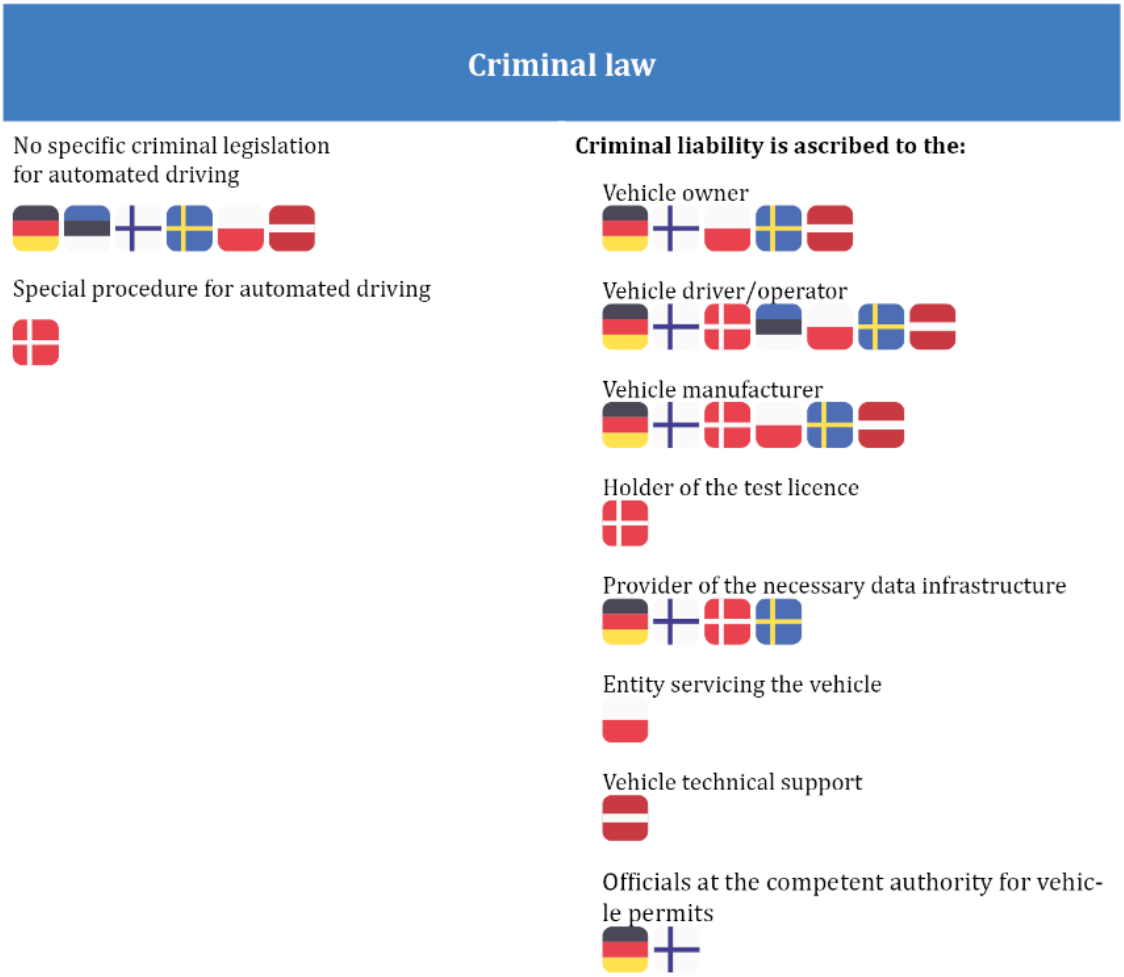
Specific rules for the testing or operation of automated vehicles are not included in the Law on Compulsory Third-party Liability Insurance or the Road Traffic Law. The current Law on Compulsory Third-party Liability Insurance does not provide for compensation for damage caused by a vehicle without a driver. Compulsory motor vehicle third-party liability insurance applies to automated vehicle testing on public roads. According to article 17 of the Law on Compulsory Third-party Liability Insurance, the insurer may not refuse to enter into a compulsory motor vehicle third-party liability insurance contract. For a vehicle registered in a country that is not a member of the European Economic Area, a border insurance contract must be entered into on site.

The guidelines stipulate that any legal entity that tests automated vehicles or their technology on public roads must have adequate insurance coverage but does not define 'adequate insurance'.

Policy Recommendations

Recommendations for national law

- ✓ Promote a sufficient insurance particularly for driverless vehicles.
- ✓ Implementation of an additional compulsory insurance for the owner and the producer.



6. Criminal law

Most participating countries lack specific criminal legislation for automated driving. Only in Denmark does a special procedure apply. In most countries, criminal liability may be ascribed to the vehicle owner; the manufacturer and its employees; the provider of the necessary data infrastructure; officials at the competent authority for vehicle permits; or the vehicle operator. Estonia is the only country in which criminal liability can be ascribed only to the vehicle operator (i.e. vehicle safety driver).

Germany and Finland

Criminal liability in case of accidents may be ascribed to the:

- vehicle owner.
- manufacturer and its employees.
- provider of the necessary data infrastructure.
- officials at the competent authority for vehicle permits.
- vehicle operator (if a third party outside the vehicle is harmed).

Claims are most likely to allege negligent behaviour (e.g. negligent homicide, negligent physical injury) rather than intentional conduct. Most allegations are linked to:

- deficiencies in the vehicle's technology (soft- or hardware).
- insufficient maintenance.
- insufficient safety briefing of the vehicle operator.

Denmark

In the event that a driver or the driverless vehicle causes damage during a test, the Minister of Transport, Building and Housing can decide who will be held criminally liable for violating the Traffic Road Act.

Criminal liability in case of accidents for driverless vehicles may be ascribed to the:

- vehicle operator.
- manufacturer and its employees.
- provider of the necessary data infrastructure.
- driver.
- holder of the test licence.

With the minister's authorisation, the vehicle operator (i.e. the physical person in the driverless vehicle) or the holder of the test licence can be charged for acts or omissions that are normally not punishable under the national Traffic Road Act.

Under certain circumstances, the holder of the test licence can also be criminally liable without fault. Intent and negligence are prerequisites for criminal liability.

Poland

In accordance with the Polish Criminal Code (**k.k.**), the potential addressee of criminal responsibility in case of a non-automated vehicle accident can be:

- the vehicle manufacturer.
- the entity servicing the vehicle (repairing the vehicle).
- the vehicle owner.
- the vehicle driver.

Relevant accusations are based largely on negligence, not on purposeful action.

The Polish criminal system lacks specialised regulations in the field of criminal responsibility for an accident brought about by an automated vehicle. Under criminal provisions on causing hazard to road traffic, causing an immediate danger in road traffic, and the dispatcher liability for allowing an unfit vehicle to drive, we can identify only a potential range of people responsible.

Estonia

Criminal liability in Estonia applies only to the driver (KarS § 422, KarS § 423; KarS § 424), not to the manufacturer or any legal entity.

Sweden

In the event of accidents involving a driverless vehicle, criminal liability may be ascribed to the:

- vehicle operator/driver.

- the manufacturer (provided that the automated driving system is an integrated part of the vehicle).
- the provider of the necessary data infrastructure.
- the vehicle owner.
- Intent and negligence are prerequisites for criminal liability.

In Sweden, there is thus far no specific legislation regulating criminal liability for tests with automated driving. However, the Swedish government has recently appointed a committee to investigate and submit a constitutional proposal with the aim of creating a better legal framework for the introduction of automated driving of vehicles on public roads (Statens Offentliga Utredningar 2018:16, Vägen till självförande fordon - introduktion). The committee has also considered the specific situation regarding criminal liability for automated driving. The committee's proposals have been submitted to other relevant authorities and organisations for comment. Committee proposals have already received some criticism.

Latvia

There are possible offences in road traffic. Chapter XXI of the criminal law of Latvia includes criminal offences in road traffic, traffic offences, infrastructure, violations of traffic regulations, etc. Criminal liability for a criminal offence in road traffic may be ascribed to:

- the vehicle driver.
- the vehicle owner.
- the vehicle manufacturer.
- vehicle technical support.

Under the current regulatory framework, SAE 3 has a criminal liability automation levels in vehicles caused by road traffic accidents, if is happening the Article 260 of the criminal law then implemented, is a driver.

Policy Recommendations

Recommendations for national law

✓ Clarify the subjects of criminal responsibility by separating the responsible persons for the technical maintenance of the vehicles from the responsible persons for the vehicle software.

II. Special regulations for testing automated vehicles based on the example of Norway

In this chapter, the test of selfdriving vehicles Act and the regulation for test of selfdriving vehicles from Norway is described as an example showing how a possible specific regulation for testing automated vehicles can be designed. All testing of self-driving vehicles in Norway is governed by this law and regulation.

As Norway is one of the largest markets for electric vehicles, the Norwegian government passed a law to permit testing of self-driving vehicles on Norwegian roads.

This part of the document presents:

- Lov om utprøving av selvkjørende kjøretøy, LOV-2017-12-15-112, Act on the testing of self-driving vehicles
- Forskrift om utprøving av selvkjørende motorvogn, FOR-2017-12-19-2240, Regulation for test of self-driving vehicles

These laws were implemented on 01.01.2018. All testing of self-driving vehicles in Norway is governed by this law and regulation.

1. Lov om utprøving av selvkjørende kjøretøy

This Act came into force on 1 January 2018.

§ 1–§ 19 in this section an extract from the Act on the testing of self-driving vehicles.

a) Introductory provisions

§ 1 Purpose

The purpose of the Act is to facilitate the testing of self-driving vehicles within the frameworks that specifically protect traffic safety and privacy. The testing will be performed gradually, in accordance with the maturity of the technology, and with the aim of identifying the implications of self-driving vehicles for traffic safety, efficiency in traffic development, mobility, and the environment.

§ 2 Scope

The Act applies to the testing of self-driving vehicles without a responsible driver and self-driving vehicles with a responsible driver that are not in a traditional driver's seat.

A 'self-driving vehicle' is a vehicle equipped with a technical system that automatically controls the vehicle and the driving. Self-driving vehicles include vehicles in which a driver can hand over the driving to the technical system that automatically drives the vehicle and vehicles which are designed to operate without a driver.

§ 2 The regulations include testing of self-propelled motor vehicles either on- or off-road.

b) Testing of self-driving vehicles

§ 4. Permit

A natural or legal person may, upon application, be granted permission to test self-driving vehicles. Such permission shall apply for a limited period of time with the possibility of extension.

Permission is dependent on acceptance of the vehicle, the functionality of the vehicle, the risk analysis of the pilot project, and the skills and certification of the responsible operator.

§ 4 If the conditions for the test are changed, the NPRA shall be informed.

§ 5. Terms

Permission to test self-driving vehicles is granted under specific conditions. In certain situations, permit conditions may change, or new conditions may be established after the permit has been granted.

§ 5 Requirements for application

The application must contain information about:

a	*Name of applicant and name of person designated as responsible for safety*
b	*Purpose of the test*
c	*The vehicles to be included in the test*
d	*Name of operators where applicable, § 11*
e	*Automation system to be used*
f	*Plan for testing*
g	*Time period for the test*
h	*Any need for separate traffic regulations*
i	*Where testing should take place, including specific roads or areas to be used*
j	*Description of the need for exemptions from the current provisions of the Road Traffic Act [1] and the Professional Transport Act [4] with regulations*

k	*Insurance during the trial which ensures at least the injured party as well as general liability insurance under the Motor Liability Act [10], and*
l	*Documentation that requirements § 7 – § 11 are met.*

§ 6 Requirements for motor vehicles that are included in the test

- *Motor vehicles to be included in the test shall, unless exemptions have been agreed, comply with the requirements of the car regulations [6], the vehicle regulations [7], the motorcycle regulations, [8] or the tractor regulations [9], etc.*
- *The Road Directorate may specify additional technical requirements in the interest of the safety and environmental concerns.*

§ 7 Requirements for vehicle registration

- *Vehicles included in the test must be registered in accordance with the Road Traffic Act [1] with regulations.*
- *The Road Administration may waive the registration requirement in certain situations. The vehicles must nevertheless be insured or covered by self-insurance.*
- *The Road Administration may set as a condition for the test that vehicle must be identified with a separate designation indicating that the vehicle has self-driving properties.*

§ 8 Requirements for the automated system

Documentation shall be provided for the following conditions regarding the automatic system used during the test:

a	*Functional description*
b	*System description*
c	*Technology description*
d	*Maturity of technology*
e	*A statement on the measures implemented to ensure privacy and security*
f	*account of the risk of the automation functions, cf. letter a, as well as information security and consequences for privacy (PIA), and*
g	*An explanation of the system's electromagnetic compatibility (EMC).*

§ 9 Requirements for road or test area

- *Road testing open to normal traffic can only be done on the road that is suitable for testing the actual self-driving vehicles.*

- *The applicant shall document that the engine's technical systems can handle the available infrastructure, including road design, road equipment, signage, markings, signals, and any level crossings.*
- *Vehicle testing with heavy vehicles shall take place within the permitted weights and dimensions of the vehicle type for the relevant road section. Testing of several heavy vehicles coupled ('platooning') on stretches with bridges can only happen where it is considered that the bridges can withstand the load.*
- *Notice of any testing on roads open to normal traffic must be provided to the police at the relevant operating centres in advance, unless otherwise stated in the permit.*
- *When testing in a closed area, the applicant is responsible for: finding a suitable area that is closed to other traffic; documenting that the test is to be conducted in a safe manner; and ensuring that unauthorised persons have no access.*

§ 10 Requirements for the statement of risk

- *The applicant shall state in the application the risks associated with the test. The report must cover all material aspects of the test. Measures to reduce or eliminate risks must be described in the statement.*
- *When tested on roads open to normal traffic, conditions other the normal situation shall be assessed for both the area and the surrounding area. This may include roadworks, weather, detours, accidents, and other conditions.*
- *The NPRA may require that the statement be reviewed by an independent third party.*

§ 6 Responsibility for the test

The application and the licence shall designate person who will be responsible for conducting the tests in accordance with the applicable regulations and under the stipulated conditions. The designated person shall also ensure that safety measures are in place when the test of self-driving vehicles is conducted without a responsible driver.

§ 11 Requirements for operators

- *The application shall, indicate an operator who will monitor the driving of the selfdriving vehicle and describe the role of the operator, including the relationship with the responsible driver, ref [2] § 17 and the person designated as responsible for safety, see section 5a . The operator can sit in the normal driver's seat, in another place in the vehicle or stay outside the vehicle.*
- *The applicant shall document that the named operators to participate in the test have a valid driving licence for the relevant motor vehicle category, have undergone sufficient training and have the necessary knowledge of how the automatic system works.*
- *Applicants shall ensure that operators provide adequate training and information about their role and responsibility during the trial. This is especially true for a driver's trial with a traditional driver's seat where the technical system will carry the motor vehicle during parts of the driving.*

§ 7 Responsibility for the test

A permit may be revoked or suspended temporarily if the conditions for the permit are no longer met. The same applies in the event of a violation of the terms of the permit and in the event of a violation of provisions given in or pursuant to this Act [1]. In special cases, the revocation may be given immediate effect.

c) Dissemination of information

§ 8 Confirmation and disclosure of information

If, during the trial, situations arise which give reason to believe that there may be police investigations or insurance claims due to the driving, information stored during the test may not be deleted before the situation has been clarified.

The person who has obtained the licence is obliged, upon request, to provide the company that insured the self-driving vehicles access to stored information required for an insurance case that arises from driving during testing. The person who has received the permission is also obliged, upon request, to grant the police and prosecution the authority to access stored information necessary for any investigation initiated in connection with driving during testing.

The person who has been granted the licence shall provide the information free of charge.

§ 9 Reporting

The person who has been granted the licence shall submit a report with a statement on the test to the authority that granted the permit.

In the event of an accident or traffic hazard, the person who has received the permit shall promptly investigate the accident or incident and report to the authority that granted the permit.

§ 12 Reporting

- *After the test is completed, the person who has been granted the permit shall prepare a final report setting out the implementation and results in relation to the purpose, framework, and terms of the permit. The report must be submitted to the NPRA not later than six months after the completion of the test unless otherwise stated in the permit. At the same time, a publishable version of the report must be submitted.*
- *The Road Administration may require the submission of a continuous log describing the progress of the testing, upgrades or changes to technology, administrative changes, the purpose of the testing, etc. This includes documenting and describing unforeseen events arising in connection with the trial. The person who has been granted the permit must present this log at the request of the NPRA.*

d) Processing of personal data in connection with the testing of self-driving vehicles

§ 10 Confidentiality

Anyone who, when testing self-driving vehicles, is given access to information about someone's personal circumstances, is obliged to prevent others from gaining access to or knowledge of this information, unless otherwise provided by law or regulations pursuant to law [5].

§ 11 Right to process personal information

The person who has been granted permission may process personal data when necessary for security reasons or for research and development purposes with the aim of identifying the

effects of self-driving vehicles on road safety, efficient traffic flow, mobility, and the environment.

§ 12 Retrieval of personal data

Required personal data from areas outside the vehicle, and in vehicles where the public has access, can be obtained and stored without the consent of those whose information is reflected in the material, provided that this material is deleted or anonymised within seven days, unless otherwise provided by law or regulations pursuant to law.

Audio recording is not allowed during the test unless it is necessary for that purpose and written permission has been obtained in advance from anyone who can be heard on the audio recording.

In vehicles where the public has no access, personal information may be obtained if is necessary for that purpose, provided that the person or persons in the vehicle have provided written permission in writing.

§ 13 Duty of notification

Notification of the collection and storage of information that may contain personal information must be provided through clear signage or in any other appropriate manner. Information must also be provided on the party that is collecting the information.

§ 14 Processing of personal data

Personal data obtained during the testing of self-driving vehicles may only be used for research and development related to the testing of self-driving vehicles.

Such data may only be disclosed in connection with the carrying out of supervision or research and development related to the testing of self-driving vehicles, or where the obligation to such extradition is provided for by law or regulations pursuant to law.

The data shall be deleted when they are no longer necessary for the purpose of processing the information.

2. Supervision

§ 15 Supervision

The supervisory authority shall verify that testing is carried out in accordance with applicable regulations and the permit.

The supervisory authority may order measures, including corrections, that are necessary to ensure that the testing is carried out in accordance with applicable regulations and the permit.

§ 16 Execution of supervision

The person who has received the permit for testing must give the supervisory authority access to areas, premises, and vehicles associated with the test. The person must also provide access to information necessary to carry out the audit, including personal information obtained during testing.

§ 13 Supervision authority

- *NPRA supervises the test.*
- *Completed supervision must be documented in an inspection report.*

3. Other requirements

§ 17 Responsible driver

Person who is in a traditional driver's seat is considered the vehicle's responsible driver unless an exception is made in the permit. A person who is not in a traditional driver's seat shall be considered a responsible driver if it follows from the permit.

If a person affects driving when the vehicle is self-driving, the person will be considered the responsible driver.

§ 18 Punishment

If self-driving vehicles that fall within the scope of this Act are tested without permission, the punishment shall be the same as that imposed under § 31 of the Road Traffic Act.

Anyone who intentionally or negligently violates terms or rules given in or pursuant to this Act shall be fined or imprisoned for up to one year unless the act is affected by a stricter sentence.

§ 19 Regulatory authority

The Ministry may issue regulations that specify further provisions on the testing of self-driving vehicles, including:

a) permission for testing, including who may grant such permission,

b) conditions for testing,

c) temporary suspension and revocation of a permit,

d) requirements for the person responsible for the trial;

e) processing of personal data,

f) supervision, including the supervisory authority, and

g) fees for processing an application for permission and supervision.

The ministry may furthermore provide regulations on the application of the Act to Svalbard, including setting special rules for local conditions

4. Applications

In the period 2017–2018, many transport operators sought to start testing self-driving vehicles.

NPRA received a number of applications and at the time accepted 4 numbers of applications for a test of small shuttlebuses as a part of public transport system. The applications are valid for a test period of 1 year, but all of the projects are applying for an additional test period.

During the process NPRA developed an application form that reflects the regulations stated in the Test of selfdriving vehicles Regulation.

Some special limitations were imposed on the operators (based the vehicle manufacturers risk assessment for the specific test site/road):

- The vehicle can drive at a maximum speed of 12 km/h.
- There can be no more than 6 passengers, including the operator.
- An operator/driver must be on board with a driving licence of class minimum class D1
- The operator can assume control of the vehicle at all times.
- The vehicle will ask the operator to take control if any problems arise.

III. Experiences from the Sohjoa Baltic pilots and European best practices

1. Experiences from the pilots

a) Large-scale pilots

Norway: Kongsberg

Since Norwegian legislation lacks a separate classification for self-driving minibuses, the vehicle tested in Kongsberg was registered with M2 classification. A more inclusive classification system is needed to avoid false classification.

Finland: Helsinki

During the pilot it became apparent that starting preparations early is key since cooperation with various stakeholders such as local authorities, municipalities, and planners can be time consuming. Since foreign companies and organisations additionally need to have a Finnish Business ID in order to receive a testing permit, the application for that should be early in advance. Moreover, the licensing/exemption process may take a while depending on the testing organisation's level of preparedness. Another time-consuming factor is that road infrastructure modifications, like stop signs, stop areas, speed limit changes, require co-operation with city and transport planners. Also, procurement and requirement specification details may be time intensive and due to the limited number of suitable vehicles delivery times can be long. It needs to be considered, that the companies are rather small, and their production capability is limited. Furthermore, the operator staff needs special training.

Autonomous vehicles as part of public transport is still in a very early stage and therefore the total market size of autonomous public transport is still small. It is advisable to draw attention to the pilot by marking the bus line on the streets, have road paintings and signs etc. not only for safety reasons but for marketing benefits as well. It is advantage to secure the commitment from the local authority and localize the autonomous bus according to the city's/authority's/operator's brand.

b) Small-scale pilots

Poland: Gdansk

On 11 July 2019, the provisions of the amendment to the Act on Road Traffic Law came into force, introducing a new form of temporary vehicle registration: professional vehicle registration. Professional vehicle registration is to enable companies to carry out test drives of vehicles not previously registered in the territory of the Republic of Poland or abroad, without the need to register each of them with the office.

A professional registration card and professional plates are to be used by entrepreneurs with a registered office or a branch in Poland (in the case of an entrepreneur with a registered office abroad), dealing with production, distribution or testing of vehicles, as well as authorised units (e.g. Motor Transport Institute) or research units of manufacturers.

Magdalena Szymańska
Senior Specialist
Department of Municipal Economy · Municipal Office in Gdańsk

The introduction of professional vehicle registration was one of the reasons why we decided to not test the autonomous vehicle on the basis of this regulation, but to organize a presentation of the vehicle in the procedure of use of the road on an exclusive basis. This was an alternative solution suggested by our legal advisors and preferred by the roads managing authority, that is Gdansk Road's and Greenery.

Latvia: Zemgale

Since it does not comply with European law, e.g. UNECE rules, automated driverless vehicles cannot obtain car registration in Latvia. Moreover, automated vehicles may only be driven or tested if vehicle control can be assumed at any time by a trained and licensed test driver or driver and operator. Hence, during the pilot demonstration in Zemgale a trained person is onboard the autonomous bus. Latvia, as an EU member state, must follow this regulation, but legislative initiatives have been developed and submitted at national level, namely the Ministry of Transport.

In terms of innovations, cooperation with the ministry responsible in the respective field is very important. To realise the pilot demonstration in Zemgale, it was essential to communicate with the Ministry of Transport and the Road Traffic Safety Directorate.

It should be noted that innovation and technological solutions also require a great deal of work from government bodies - our current impression is that technologies are developing faster than public administrations are able to keep up with them in terms of legislation.

Raitis Madžulis
Project Manager
Zemgale Planning Region

Denmark: Vejle

During the project, it became apparent that the application process for a pilot following the Danish legislation for testing autonomous vehicle in traffic is too labor intensive, especially for short pilots which are then financially unviable. Unfortunately, this led to the cancellation of the pilot activities in Vejle within Sohjoa Baltic. Other Danish mobility experts share this assessment of the process:

Christian Bering Pedersen
Director, Technology, Data & Operations
Holo

We would like the process of obtaining a permit to operate an autonomous vehicle on a public road in Denmark to be much shorter and more flexible in the future. As we have now completed the first and second approvals in one of our projects, we expect it to be easier moving forward. All the different stakeholders needed to learn their new roles - and now that they know, we hope to move quicker in future iterations.

2. European best practices

a) The Netherlands

Since automated vehicles will be an important part of our future mobility, their testing and implementation should be encouraged by national government and local public transport authorities. This means that procedures should be designed to encourage innovation. Clear and as short as possible procedures can help, whereby road safety is of course always a precondition. Innovation budget can accelerate testing and final implementation.

Marcel Unterberg
Policy Advisor (Smart) Mobility
City of Helmond

After the Netherland's Council of Ministers first approved autonomous vehicle road testing in 2015, and updating the bill in 2018 to allow testing without an onboard driver, the Netherlands was ranked first in the "Autonomous Vehicles Readiness Index" report in the same year. As the leader in the autonomous vehicle industry it is not only investigating the use of automated vehicles in public transport but also logistics and freight services. The explanatory memorandum to the Decree on Exemption of Exceptional Transport specifically mentions that the automation levels of SAE J3016 have been adopted.

The law governing the experimental use of self-driving vehicles "Experimenteerwet zelfrijdende auto" removes legal impediments and enables manufacturers and other companies to apply for a permit to conduct tests with automated vehicles on public roads, with a human ready to take command via remote control. The National Road Traffic Agency RDW is the competent authority that grants a discretionary exemption for the testing of driverless vehicles on public roads. Companies can apply for an exemption after which the application goes through an approval process with the Agency, including the following steps:

Step 1: The National Road Traffic Agency checks if the applicant is in possession of insurance, amongst other obligations and thoroughly analyses the functional description, test plan, and risk analysis, as submitted by the applicant. The applicant must also provide an electromagnetic compatibility statement.

Step 2: If the requirements in step 1 are fulfilled, the vehicle will be tested in a private testing facility, including a stress test both on a technical and functional level.

Step 3: If these tests are passed, the RDW can grant an exemption for testing on public roads. However, the local road authority where the testing is to take place, must be consulted. Consultation with local authorities extends beyond regulations on parking and traffic and local

police authorities having jurisdiction of the test road area should be informed and consulted with.

The inspection and conditions required for exemptions depend on the type of functionality that is being tested. Therefore, the National Road Traffic Agency grants exemption on a case-by-case basis, guaranteeing sufficient safety. Elements for consideration can include e.g. location, road type, time of day, weather conditions, trained drivers, interaction with other road users, and additional insurance requirements. However, there are no specific requirements for vehicles to be equipped with specific hardware or software.

b) Finland

The reason for Finland's pioneering role in the field of autonomous driving is not so much the Finnish road traffic law, as it is also influenced by the Vienna Convention on Road Traffic and therefore requires the presence of a responsible driver. There is also a lack of a specific set of requirements. Rather, the centralised Finnish structure of the authorities and the overall licensing practice makes it easier to use pilot vehicles in public road transport. Finally, the benevolent and committed attitude of the authorities contributes to Finland's leading role in the testing of autonomous driving functions.

Sophie Werdin
Research Associate
IKEM

Finland's technology-friendly licensing practice allows autonomous vehicles to be tested on public roads provided that a permit has been issued by the Finnish Transport and Communications Agency Traficom. In the past, such permits have been issued in many cases and have enabled the testing of autonomous pilot vehicles on public roads.

The application process for a test plate certificate can be described in five steps:

Step 1: Prepare your testing plan with a focus on safety and risk assessment. Non-Finnish-based organisations must apply for a Business ID in advance.

Step 2: Contact Traficom with a first draft plan via e-mail.

Step 3: Refine the testing plan based on the feedback and questions from Traficom. Re-submit the testing plan. Repeat as many times as necessary.

Step 4: When you get approval of the final test plan from Traficom, submit the online application.

Step 5: Wait for acceptance and mailing of the test plates by regular mail. The average processing time is 2-5 days.

Automated vehicles that cannot be registered in normal fashion can be used in traffic in Finland using a test plate certificate and associated test plates.

Non-Finnish-based organisations, however, need to apply for a Business ID with the Trade Register to obtain a Finnish traffic insurance for third party liability in time.

Eetu Pilli-Sihvola

Chief Adviser
Traficom

c) Germany: HEAT project

In the HEAT project, driverless, electric minibuses are to be tested in public road traffic in Hamburg's HafenCity at speeds of up to 50 km/h, networked with a road infrastructure installed for this purpose and with the integration of a control center. The aim is to investigate whether autonomously driving minibuses can be a useful addition to public transport, what functional requirements must be placed on the vehicle, the integrated roadside infrastructure and networking, and to what extent the approval of such a vehicle is compatible with the applicable legal framework. In this context, it is also examined whether and to what extent an opening or adaptation of the law is necessary.

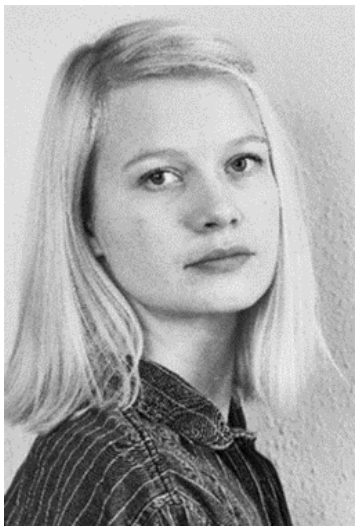
The project pursues a systematic approach with a view to the realisation of autonomous driving. To achieve this goal, specific technical components (including radar, lidar sensors and camera technology) are being installed and networked on the vehicle and track side. In addition, monitoring is carried out by the control centre. The overall system consists of the components autonomous vehicle, roadside infrastructure, control centre and HD card. Each subsystem contains different SW modules.

Testing is carried out in three phases, the so-called integration stages, which are characterised by successive vehicle automation and increased route complexity and vehicle speed, among other things. In the first two phases, the presence of a vehicle attendant is planned, who, in the second phase, is the contact person for passengers and, in both the first and second phases, intervenes if necessary. In the last phase, autonomous shuttle operation without attendant and with passengers is planned. HEAT will be used to demonstrate the technical performance of the vehicles used and their control and communication systems, including a decentralised infrastructure, a control centre and a digital map.

In this way, important information is gained in legal terms about the steps required to obtain all the permits and other prerequisites for the implementation of such a project. Potential

obstacles in the implementation of the project are identified and possible solutions are illustrated. Based on these findings, comparable real-life laboratories can be realised safely and quickly.

In addition, it is shown which innovation law adjustments are required to pave the way for technical development and at the same time ensure the necessary level of safety.



Mathilde Krampitz
Research Associate
IKEM

HEAT enables innovative technologies to be tested under real conditions and provides important insights into whether and how the legal framework for autonomous driving functions needs to be further developed.

HEAT makes it possible to investigate the opportunities and risks of autonomous driving and the corresponding regulatory responses.
The current legislative efforts are welcome and trendsetting, but unfortunately do not include infrastructural requirements.

From a legal point of view, the HEAT pilot project has so far been based on the existing possibility of exceptionally obtaining road traffic approval without the test vehicle meeting all the technical requirements normally necessary for that purpose. § Section 70 (1) StVZO allows the authorities to grant exceptions to the regulations of the StVZO in specific cases. The decision is at the discretion of the authorities and is based on a weighing up of the public interest in the regulation to be dispensed with (usually those of safety and unimpeded flow of traffic) against the private interest of the applicant in exemption from the regulation.

The interest of the applicant prevails if the purpose of the regulation is otherwise safeguarded, e.g. if another component takes over the function of the missing component and/or another comprehensive safety concept exists.

- Routing without scenarios that vehicle in AD function cannot cope with
- Select operating times so that the vehicle can safely drive in AD function

Up to now, HEAT has always considered how the purposes of the approval regulations, which cannot be met by the shuttle, can be ensured in some other way. In doing so, very close and transparent cooperation with the authorities is being relied upon in order to sensitize them to the issue and to eliminate concerns etc. at an early stage.

The special permits provide for a local scope of application of the permit and are subject to numerous conditions according to § 71 StVZO.

No assistance for approval authorities

However, there is still a lack of support for the authorities (in the form of directives, circulars, decrees) on how to exercise the due discretion granted. Due to the novelty of the issues involved, the individual registration authorities do not have the expertise, time or professional competence to fully examine individual applications concerning pilot projects of automated vehicle functions. This reluctance to assume responsibility is understandable in view of the range of novel legal issues and complex technical functions, as well as the risk potential of an approval for road traffic operation. For this reason, approval procedures have so far been rather timid and slow and vary from region to region, especially with regard to the associated obligations/requirements according to § 71 StVZO.

No testing without safety drivers as human fallback level

An exception cannot be granted to the legal principle that all vehicles should be controlled by a responsible driver, because there is no legal basis for the administration to do so (legal reservation). The administration may only grant exceptions to regulations which it has itself created on the basis of an authorisation from the legislator. As long as the legislator does not itself formally regulate the permissibility of autonomous driving functions in the essential fundamentals and delegates the concretisation of the registration regulations and the granting of exceptions to the administration and the latter does not act accordingly in a legislative capacity within the framework of the statutory instrument, the authority has no such powers to act.

All pilot projects underway in Germany on the subject of autonomous driving can therefore only be assigned to automation level 2, irrespective of the functions installed, in line with the current legal framework. Due to corresponding requirements, there is a constant demand that a vehicle attendant must be continuously ready to perceive and intervene, so that fully automatic or even autonomous vehicle operation without a driver as the responsible level of recidivism practically does not take place, despite the existing technical possibilities.

There is no regulation whatsoever for testing fully automated and autonomous driving functions without a safety driver, so that in this context an experimental clause (in the StVG) must be created by formal law in order to achieve the project goal (2021 at 50 km/h without a safety driver). Therefore, the HEAT project also endeavours to make those responsible at federal and state level aware of the need for regulation. In this context, IKEM is working on a position paper in which it will comprehensively assess the necessary need for change.

Upcoming Amendment to the law

In 2017, the German legislator had already implemented regulations for fully and highly automated driving functions.

Currently, the competent German Federal Ministry of Transport and Digital Infrastructure ("BMVI") is working on a law, intending to allow autonomous driving on public roads. According to a draft law dated April 2020 the future law envisages the use of autonomous vehicles in designated zones.

The core of the draft is the regulation of a new type of operating permit specifically for autonomous driving functions. Instead of the previous practice of obtaining approval for a vehicle with autonomous driving functions by means of an individual operating permit on the basis of singular exemption certificates, a central, national approval will be created by the German Federal Motor Transport Authority (KBA) in order to simplify and standardize the

approval process. The operating permit is geographically limited to those areas in the public road space which have been approved as operating areas by the competent state authorities.

Due to the fact that the vehicle takes over the entire driving task within the defined operating area, the driver is no longer the responsible fallback level. The manufacturer, the vehicle owner and the newly introduced operator ("Betriebsführer") remain as addressees of the law.

The operator ensures compatibility with international law. In individual cases, he is responsible for deactivating or enabling driving manoeuvres from outside, but he does not have to continuously monitor the driving task for this purpose. Deactivation only covers enabling the risk-minimum state and switching off of the autonomous driving function. Further possibilities to override the autonomous driving function are deliberately not provided, as opposed to tele-operated vehicle operation.

Unfortunately, the draft in question focuses on vehicle-related conditions and does not refer to infrastructural requirements.

d) Greece: FABULOS project

Overall, there is a need for an update of the current legislative context towards the state of the art. The necessary legal changes include e.g. provisions regarding the wireless exchange of critical safety and operational data between vehicles and road infrastructure as well as provisions regulating system cyber resilience.

Dimitrios Kyritsis

Vice Mayor of Planning and E-Government
Municipality of Lamia

Currently, SAE levels are not explicitly recognized in Greek legislation. However, automated vehicles are allowed to circulate in dedicated bus lanes but not in mixed traffic without an on-board driver. Still, remote operation via a suitable control center is mandatory.

The biggest legal challenges when testing autonomous vehicles in traffic include the requirement for a dedicated traffic lane and a maximum speed of 25 km/h. Also, each remote operator oversees the monitoring just one vehicle. Furthermore, obstacle overpassing, and dynamic route changes are not possible. The wireless exchange of critical safety and operational data between vehicles and road infrastructure it nor regulated, as Greek legislation lacks V2I provisions. In addition to that, Greece does not apply system cyber resilience provisions.

Currently, the Greek government is undergoing a legislation update regarding automated vehicles, which hopefully will frame the circulation of automated vehicles in mixed traffic in a more organized way.

Regarding the full authorization landscape, autonomous vehicles in Greece are governed by the Greek Government Gazette, Common Ministry Decision 50308/7695 of 13/8/2015, entitled "Terms and Conditions for Circulating a Bus without a Driver", which:

- Provides definitions,
- Describes route specifications,
- Documents traffic rules,
- Describes explicit traffic control room and remote operator specifications,
- Provides technical specifications for vehicle registration, and
- Provides terms and conditions for vehicle operation.

IV. Policy recommendations

1. International Level

- ✓ Encourage modification of relevant regulations in the UNECE rules and the Vienna Convention on Road Traffic so that driverless vehicles are not prohibited under international law.
- ✓ Promote international rules on liability; the rules on product liability are a good practice example.

2. European Level

- ✓ Establish a harmonized checklist that illustrates all possible legal problems related to the approval of an automated vehicle and adequate suggestions (guidelines) to overcome these problems with additional stipulations for a special permit or test plate certificate.
- ✓ Promote mutual recognition of national permits in different EU countries.

3. National Level

- ✓ Promote road traffic law changes to permit the public use of completely autonomous vehicles in public transport.
- ✓ Introduce an adequate definition of the term *driver* if the term is not yet legally defined. The definition should specify whether a driver is a natural person or not, respectively in or outside the vehicle.
- ✓ Encourage the adaption of technical regulations to the new circumstances of automated driving.
- ✓ Promote the establishment of a checklist that illustrates all possible legal problems related to the approval of an automated vehicle and adequate suggestions (guidelines) to overcome these problems with additional stipulations for a special permit or test plate certificate.
- ✓ Promote a more flexible legal framework, for example to allow for the establishment of on-demand services with automated vehicles without the need for special permits.
- ✓ Simplify the permit process and balance licensing requirements with the 'on-demand' (on-request) needs of transport service providers and recipients.
- ✓ Promote training standardisation for automated vehicle drivers and operators by providing requirements for training content.
- ✓ Promote a change to road traffic law so that liability for driverless vehicles is clearly regulated; it is advisable to clarify the division of responsibility and the regulation of producer liability in the Civil Law and the Road Traffic Law.
- ✓ Promote a sufficient insurance particularly for driverless vehicles.
- ✓ Implement an additional compulsory insurance for the owner and the producer.

- ✓ Clarify the subjects of criminal responsibility by separating the responsible persons for the technical maintenance of the vehicles from the responsible persons for the vehicle software.

Christian Bering Pedersen
Director, Technology, Data & Operations
Holo

What should change in near or further future to make it easier for businesses to operate?

In Denmark we primarily interact with a 3rd party traffic safety assessor to get the approvals done. This is an extra complicating step compared to other countries, including the other Scandinavian countries where we operate. If the law was changed for us to primarily have our interaction and approvals directly with the authorities that would make it easier for us to launch new projects.
Should the structure be kept in place, the authorities should consider creating clearer guidelines for the application evaluation.

V. Annex - Legal inventory

The annex provides a legal inventory of all relevant regulations in the Baltic Sea Region countries. The legal inventory includes the acronyms and abbreviations of laws and regulations used in the European Legal Implementation Roadmap.

1. Relevant regulations in Germany

Title (English)	Title (German)	Abbreviation
Civil Code	Bürgerliches Gesetzbuch	BGB
Federal Data Protection Act	Bundesdatenschutzgesetz	BDSG
DIRECTIVE 2007/46/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles	-	Directive 2007/46/EC
Regulation on the EC approval of motor vehicles and their trailers, as well as systems, components and separate technical units for such vehicles	Verordnung über die EG-Genehmigung für Kraftfahrzeuge und ihre Anhänger sowie für Systeme, Bauteile und selbstständige technische Einheiten für diese Fahrzeuge (EG-Fahrzeuggenehmigungsverordnung)	EG-FGV
Driving Licence Regulations	Verordnung über die Zulassung von Personen zum Straßenverkehr (Fahrerlaubnis-Verordnung)	FeV
Ordinance on the exemption of specific forms of transport from the norms of the Passenger Transportation Act	Verordnung über die Befreiung bestimmter Beförderungsfälle von den Vorschriften des Personenbeförderungsgesetzes	FrStllgV
Vehicle Admission Ordinance	Verordnung über die Zulassung von Fahrzeugen zum Straßenverkehr	FZV

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 (EU General Data Protection Regulation)	Datenschutz-Grundverordnung	GDPR
Basic Law for the Federal Republic of Germany (German constitution)	Grundgesetz	GG
Passenger Transportation Act	Personenbeförderungsgesetz	PBefG
Compulsory Insurance Law	Pflichtversicherungsgesetz	PflVG
Product Liability Act	Produkthaftungsgesetz	ProdHaftG
Criminal Code	Strafgesetzbuch	StGB
Road Traffic Act	Straßenverkehrsgesetz	StVG
Road Traffic Regulations	Straßenverkehrsordnung	StVO
Road Traffic Licensing Regulation	Straßenverkehrs-Zulassungs-Ordnung	StVZO
Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions (1958 Agreement)	-	UN(ECE) Regulations
Vienna Convention on Road Traffic	Wiener Übereinkommen über den Straßenverkehr	-
Insurance Contract Act	Versicherungsvertragsgesetz	VVG

2. Relevant regulations in Denmark

Title (English)	Title (Danish)	Abbreviation
Law no. 38 of 05.01.2017 on Road Traffic Act	Lovbekendtgørelse nr. 38 af 05.01.2017, Færdselsloven	FL
Executive order no. 477 of 02.05.2017 on Route Services	Bekendtgørelse nr. 477 af 02.05.2017 om rutekørsel	RK
Executive order no. 1498 of 13.12.2017 on Car Registration	Bekendtgørelse nr. 1498 af 13.12.2017 om registrering af køretøjer	RL
Law no. 261 of 20.03.2017 on Product Liability	Lovbekendtgørelse nr. 261 af 20.03.2017 om produktansvar	PAL
Law no. 1050 of 12.11.2012 on Bus Driving	Lovbekendtgørelse nr. 1050 af 12.11.2012 om buskørsel	BL
Law no. 720 of 30.05.2017 on Car Registration	Lovbekendtgørelse nr. 720 af 30.05.2017 om registrering af køretøjer	KRL
Executive no. 1372 of 26.11.2015 on Bus Driving	Bekendtgørelse nr. 1372 af 26.11.2015 om buskørsel	BKB
Executive order no. 815 of 21.06.2017 on Driving Licences	Bekendtgørelse nr. 815 af 21.06.2017 om kørekort	KL
Law no. 266 of 21.03.2014 on Tort and Liability	Lovbekendtgørelse nr. 266 21.03.2014 om erstatningsansvar	EAL
Law no. 977 of 09.08.2017 on Criminal Code	Lovbekendtgørelse nr. 977 af 09.08.2017, Straffeloven	SL

3. Relevant regulations in Finland

Title (English)	Title (Finnish)	Abbreviation
Civil Code	Suomessa siviilioikeudella tarkoitetaan yksityisoikeutta joka jaetaan yleiseen ja erityiseen yksityisoikeuteen. Yleinen yksityisoikeus jakaantuu henkilö-, varallisuus-, perhe- ja jäämistöoikeuteen	
Federal Data Protection Act	Tietosuojalaki (uusi; täydentää tietosuoja-asetusta)	HE 9/2018

DIRECTIVE 2007/46/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles	Euroopan parlamentin ja neuvoston direktiivi 2007/46/EY, annettu 5 päivänä syyskuuta 2007, puitteiden luomisesta moottoriajoneuvojen ja niiden perävaunujen sekä tällaisiin ajoneuvoihin tarkoitettujen järjestelmien, osien ja erillisten teknisten yksiköiden hyväksymiselle (Puitedirektiivi)	Directive 2007/46/EC
Regulation on the EC approval of motor vehicles and their trailers, as well as systems, components and separate technical units for such vehicles.	Asetus ajoneuvojen hyväksynnästä	2002/1244
Driving Licence Act	Ajokorttilaki	2011/386
Vehicle Admission Ordinance	Valtioneuvoston asetus ajoneuvojen rekisteröinnistä	2007/893
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	EUROOPAN PARLAMENTIN JA NEUVOSTON ASETUS (EU) 2016/679, annettu 27 päivänä huhtikuuta 2016, luonnollisten henkilöiden suojelusta henkilötietojen käsittelyssä sekä näiden tietojen vapaasta liikkuvuudesta ja direktiivin 95/46/EY kumoamisesta (yleinen tietosuoja-asetus)	GDPR
Finnish Constitution	Perustuslaki	1999/731
Passenger Transport Act	Laki liikenteen palveluista	2017/320
Insurance Law	Liikennevakuutuslaki	2016/460
Product Liability Law	Tuotevastuulaki	1990/694
Criminal Code	Rikoslaki	1889/39
Road Traffic Act	Tieliikennelaki	1981/267
Vehicles Act	Ajoneuvolaki	2002/1090
Road Traffic Registration Regulation	Asetus ajoneuvojen rekisteröinnistä	2007/893

Decree on the Use of Vehicles on the Road	Asetus ajoneuvojen käytöstä tiellä	1992/1257
Car Tax Act	Autoverolaki	1994/1482
Vehicle Tax Act	Ajoneuvoverolaki	2003/1481
UNECE - UN Vehicle Regulations - 1958 Agreement	-	UNECE rules
Vienna Convention on Road Traffic	-	-
Insurance Contract Act	-	-

4. Relevant regulations in Poland

Title (English)	Title (Polish)	Abbreviation
Regulation of the Minister of Infrastructure of 12 March 2019 on professional vehicle registration, markings and fees related to professional vehicle registration	Rozporządzenie Ministra Infrastruktury z dnia 12 marca 2019 r. w sprawie profesjonalnej rejestracji pojazdów, stosowanych oznaczeń oraz opłat związanych z profesjonalną rejestracją pojazdów	-
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	Dyrektywa Rady 85/374/EWG z dnia 25 lipca 1985 r. w sprawie zbliżenia przepisów ustawowych, wykonawczych i administracyjnych państw członkowskich dotyczących odpowiedzialności za produkty wadliwe	Directive 85/374/EEC
Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles	Dyrektywa 2007/46/WE Parlamentu Europejskiego i Rady z dnia 5 września 2007 r. ustanawiająca ramy dla homologacji pojazdów silnikowych i ich przyczep oraz układów, części i oddzielnych zespołów technicznych przeznaczonych do tych pojazdów	Directive 2007/46/EC
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	Rozporządzenie Parlamentu Europejskiego i Rady (UE) 2016/679 z dnia 27 kwietnia 2016 r. w sprawie ochrony osób fizycznych w związku z przetwarzaniem danych osobowych i w sprawie swobodnego przepływu takich	GDPR

95/46/EC (General Data Protection Regulation)	danych oraz uchylenia dyrektywy 95/46/WE (ogólne rozporządzenie o ochronie danych)	
Act of 23rd April 1964 - Civil Code	Ustawa z dnia 23 kwietnia 1964 r. - Kodeks cywilny	k.c.
Act of 6th June 1997 - Criminal Code	Ustawa z dnia 6 czerwca 1997 r. - Kodeks karny	k.k.
Ordinance of the Minister of Transport, Construction and Maritime Economy of 26th March 2013 on individual vehicle admission	Rozporządzenie Ministra Transportu, Budownictwa i Gospodarki Morskiej z dnia 26 marca 2013 r. w sprawie dopuszczenia jednostkowego pojazdu	r.d.j.p.
Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road and repealing Council Regulations (EEC) Nos 1191/69 and 1107/70	Rozporządzenie (WE) nr 1370/2007 Parlamentu Europejskiego i Rady z dnia 23 października 2007 r. dotyczące usług publicznych w zakresie kolejowego i drogowego transportu pasażerskiego oraz uchylające rozporządzenia Rady (EWG) nr 1191/69 i (EWG) nr 1107/70	Regulation (EC) No 1370/2007
Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor	Rozporządzenie Parlamentu Europejskiego i Rady (WE) nr 661/2009 z dnia 13 lipca 2009 r. w sprawie wymagań technicznych w zakresie homologacji typu pojazdów silnikowych dotyczących ich bezpieczeństwa ogólnego, ich przyczep oraz przeznaczonych dla nich układów, części i oddzielnych zespołów technicznych	Regulation (EC) No 661/2009
Regulation (EC) No 1071/2009 of the European Parliament and of the Council of 21 October 2009 establishing common rules concerning the requirements to be complied with to pursue the occupation of road transport operator and repealing Council Directive 96/26/EC	Rozporządzenie Parlamentu Europejskiego i Rady (WE) nr 1071/2009 z dnia 21 października 2009 r. ustanawiające wspólne zasady dotyczące warunków wykonywania zawodu przewoźnika drogowego i uchylające dyrektywę Rady 96/26/WE	Regulation (EC) No 1071/2009
Ordinance of the Minister of Transport, Construction and Maritime Economy of 25th March 2013 on type approval of motor vehicles, trailers and its equipment items or elements	Rozporządzenie Ministra Transportu, Budownictwa i Gospodarki Morskiej z dnia 25 marca 2013 r. w sprawie homologacji typu pojazdów samochodowych i przyczep oraz ich przedmiotów wyposażenia lub części	r.h.t.p.s.

Ordinance of the Minister of Infrastructure of 31st December 2002 on technical conditions of vehicles and range of its essential equipment	Rozporządzenie Ministra Infrastruktury z dnia 31 grudnia 2002 r.w sprawie warunków technicznych pojazdów oraz zakresu ich niezbędnego wyposażenia	r.w.t.p.
Act of 5th January 2011 on vehicles' drivers	Ustawa z dnia 5 stycznia 2011 r. o kierujących pojazdami	u.k.p.
Regulations of UNECE - attachments to Agreement concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted under these United Nations Regulations, done at Geneva on 20th March 1958	Regulaminy EKG ONZ stanowiące załączniki do Porozumienia dotyczącego przyjęcia jednolitych wymagań technicznych dla pojazdów kołowych, wyposażenia i części, które mogą być stosowane w tych pojazdach, oraz wzajemnego uznawania homologacji udzielonych na podstawie tych wymagań, sporządzonego w Genewie dnia 20 marca 1958 r.	UNECE rules
Act of 20th June 1997 - Road Traffic Law	Ustawa z dnia 20 czerwca 1997 r. - Prawo o ruchu drogowym	u.p.r.d.
Act of 15th November 1984 - Transport Law	Ustawa z dnia 15 listopada 1984 r. - Prawo przewozowe	u.p.p.
Act of 16th December 2010 on public transport	Ustawa z dnia 16 grudnia 2010 r. o publicznym transporcie zbiorowym	u.p.t.z.
Act of 6th September 2001 on road transport	Ustawa z dnia 6 września 2001 r. o transporcie drogowym	u.t.d.
Act of 22nd May 2003 on compulsory insurances, the Insurance Guarantee Fund and the Polish Motor Insurers' Bureau	Ustawa z dnia 22 maja 2003 r. o ubezpieczeniach obowiązkowych, Ubezpieczeniowym Funduszu Gwarancyjnym i Polskim Biurze Ubezpieczycieli Komunikacyjnych	u.u.o.
Convention on Road Traffic done at Vienna on 8th November 1968	Konwencja o ruchu drogowym, sporządzona w Wiedniu 8 listopada 1968 r.	-

5. Relevant regulations in Sweden

Title (English)	Title (Swedish)	Abbreviation
Instrument of Government (Swedish constitution)	Regeringsformen	RF
Personal Data Act (implemented directive 95/46/EG)	Personuppgiftslag 1998:204	PUL

	(genomfört direktiv 95/46/EG)	
DIRECTIVE 2007/46/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles	-	Directive 2007/46/EC
Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor	-	(EC) No 661/2009
The Road Traffic Ordinance	Trafikförordning (1998:1276)	TF
Vehicle Act	Fordonslag (2002:574)	FordL
Vehicle Ordinance	Fordonsförordning (2009:211)	FordF
Ordinance on Autonomous Vehicle Trials	Förordning (2017:309) om försöksverksamhet med självkörande fordon	SjälvKörF
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 (General Data Protection Regulation)	Dataskyddsförordningen	GDPR VägDefF
Act with Supplementing Provisions to GDPR*	Lag (2018:218) med kompletterande bestämmelser till EU: s dataskyddsförordning	LK-GDPR
Product Liability Act	Produktansvarslag (1992:18)	PAL

Product Safety Act	Produktsäkerhetslag (2004:451)	PSL
Penal Code	Brottsbalk (1962:700)	BrB
Road Traffic Offences Act	Trafikbrottslagen (1951:649)	TBL
Road Traffic Register Act	Lag (2001:558) om vägtrafikregister	LVTR
Road Traffic Register Ordinance	Förordning (2001:650) om vägtrafikregister	FVTR
Motor Traffic Damage Act (1975:1410)	Trafikskadelag (1975:1410)	TSL
UNECE - UN Vehicle Regulations - 1958 Agreement	-	UNECE rules
Vienna Convention on Road traffic	-	-
Insurance Contracts Act	Försäkringsavtalslag (2005:104)	FörsAvtL
Driving License Act	Körkortslagen (1998:488)	KörkL
Driving License Ordinance	Körkortsförordning (1998:980)	KörkF
Act on Road Traffic Definitions	Lag (2001:559) om vägtrafikdefinitioner	VägDefL
Regulation on Road Traffic Definitions	Förordningen (2001:651) om vägtrafikdefinitioner	VägDefF
Road Signs Ordinance	Vägmärkesförordning (2007:90)	VägMärkF
Roads Act	Väglag (1971:948)	VL
European Parliament and Council Directive 2006/126/EC of 20 December 2006, the Third Directive on Driving Licenses	-	Directive 2006/126/EC
Camera Surveillance Act	Kamerabevakningslag (2018:1200)	KamBL

Ordinance on electronic announcement of certain road traffic regulations	Förordning (2007:231) om elektroniskt kungörande av vissa trafikföreskrifter	EKTF
Work Environment Act	Arbetsmiljölagen (1977:1160)	AML
Tort Liability Act	Skadeståndslagen (1972:207)	SkL
Road Traffic Tax Act	Vägtrafikskattelag (2006:227)	VtrSL
Ordinance on fees in the road traffic area	Förordning (2001:652) om avgifter inom vägtrafikområdet	ORTrF
Regulation (EC) No 1071/2009 of the European Parliament and of the Council of 21 October 2009 establishing common rules concerning the conditions to be complied with to pursue the occupation of road transport operator and repealing Council Directive 96/26/EC		(EC) No 1071/2009
Commercial Transport Act	Yrkestrafiklag (2012:210)	YTL
Commercial Transport Ordinance	Yrkestrafikförordning (2012:237)	YTF
Taxi Traffic Act*	Taxitrafiklag (2012:211)	TTL
Qualifications of Professional Drivers Act	Lag (2007:1157) om yrkesförarkompetens	LYK
Qualifications of Professional Drivers Ordinance	Förordning (2007:1470) om yrkesförarkompetens	FYK
Public Transportation Act	Lag (2010:1065) om kollektivtrafik	KolltrL
Act with special rules concerning street cleaning and signage	Lag (1998:814) med särskilda bestämmelser om gaturenhållning och skyltning	-
Planning and Building Act	Plan- och bygglag (2010:900) (2010:900)	PBL
Act on authorisation to announce provisions on road traffic, transport and communications*	Lag (1975:88) med bemyndigande att meddela föreskrifter om trafik, transporter och kommunikationer	-

* Unofficial translation by the authors.

6. Relevant regulations in Estonia

Title (English)	Title (Estonian)	Abbreviation
Traffic Act § 76 Car Registration	Liiklusseadus § 76 Mootorsõiduki ja selle haagise registreerimine	Traffic Act
Minister or Economic Affairs and Communitations Vechile Registration decree	Mootorsõiduki ja selle haagise registreerimise tingimused ja kord	Decree
Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles	**Euroopa Parlamendi ja nõukogu direktiiv 2007/46/EÜ, 5. september 2007, millega kehtestatakse raamistik mootorsõidukite ja nende haagiste ning selliste sõidukite jaoks mõeldud süsteemide, osade ja eraldi seadmestike kinnituse kohta (raamdirektiiv) (EMPs kohaldatav tekst)**	EU Directive 2007/46
Society of Automotive Engineers (SAE) International Standard J3016	SAE automatiseerituse tasemed	SAE
Corrigendum to 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) (*OJ* L 119, 4.5.2016)	**Euroopa Parlamendi ja nõukogu 27. aprilli 2016. aasta määruse (EL) 2016/679 (füüsiliste isikute kaitse kohta isikuandmete töötlemisel ja selliste andmete vaba liikumise ning direktiivi 95/46/EÜ kehtetuks tunnistamise kohta (isikuandmete kaitse üldmäärus)) parandus (*ELT* L 119, 4.5.2016)**	GDPR
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	Nõukogu direktiiv, 25. juuli 1985, liikmesriikide tootevastutust käsitlevate õigus- ja haldusnormide ühtlustamise kohta (85/374/EMÜ)	Directive 85/374/EEC
Penal Act § 422. Violation of traffic requirements or vehicle operating rules by driver (1) Violation of traffic requirements or vehicle operating rules by a driver of a motor vehicle, aircraft, water craft, tram or rail vehicle and thereby causing major damage to the health of a person or the death of a person through negligence	Karistusseadustik § 422. Sõidukijuhi poolt liiklusnõuete ja sõiduki käitusnõuete rikkumine (1) Mootor-, õhu- või veesõiduki või trammi või raudteeveeremi juhi poolt liiklus- või käitusnõuete rikkumise eest, kui sellega on ettevaatamatusest tekitatud inimesele raske tervisekahjustus või põhjustatud inimese surm, – karistatakse	KarS § 422

is punishable by up to five years' imprisonment. (2) The same act, if it causes the death of two or more people, is punishable by three to twelve years' imprisonment.	kuni viieaastase vangistusega. (2) Sama teo eest, kui sellega on põhjustatud kahe või enama inimese surm, – karistatakse kolme- kuni kaheteistaastase vangistusega.	
Penal Act § 423. Violation of traffic requirements or vehicle operating rules by driver through negligence (1) Violation of traffic requirements or vehicle operating rules by a driver of a motor vehicle, aircraft, watercraft, tram or rail vehicle and thereby causing major damage to the health of a person or the death of a person through negligence is punishable by a pecuniary punishment or up to three years' imprisonment. (2) The same act, if it causes the death of two or more people, is punishable by one to five years' imprisonment.	Karistusseadustik § 423. Sõidukijuhi poolt liiklusnõuete ja sõiduki käitusnõuete rikkumine ettevaatamatusest (1) Mootor-, õhu- või veesõiduki või trammi või raudteeveeremi juhi poolt liiklus- või käitusnõuete rikkumise eest ettevaatamatusest, kui sellega on tekitatud inimesele raske tervisekahjustus või põhjustatud inimese surm, – karistatakse rahalise karistuse või kuni kolmeaastase vangistusega. (2) Sama teo eest, kui sellega on põhjustatud kahe või enama inimese surm, – karistatakse ühe- kuni viieaastase vangistusega.	KarS § 423
Penal Act § 424. Systematic driving of vehicle by person without right to drive Driving of power-driven vehicles, off-road vehicles or trams by persons without the right to drive power-driven vehicles or trams of the corresponding category, if committed systematically, is punishable by a pecuniary punishment or up to one year of imprisonment.	Karistusseadustik § 424. Mootorsõiduki, maastikusõiduki ja trammi juhtimine joobeseisundis Mootorsõiduki, maastikusõiduki või trammi juhtimise eest joobeseisundis – karistatakse rahalise karistuse või kuni kolmeaastase vangistusega.	KarS § 424
Taxi transport permit	Taksoveoluba	Taxi licence
Passenger transport permit	Sõitjateveo luba	Transport permit
Drivers service permit	Juhi teenindaja kaart	Service permit

7. Relevant regulations in Norway

Title (English)	Title (Norwegian)	Abbreviation
Traffic Road Act [1]	Lov om vegtrafikk	LOV-1965-06-18-4
Test of Self-driving Vehicles Act [2]	Lov om utprøving av selvkjørende kjøretøy	LOV-2017-12-15-112

Test of Self-driving Vehicles Regulation [3]	Forskrift om utprøving av selvkjørende motorvogn	FOR-2017-12-19-2240
Public Transport Act [4]	Lov om yrkestransport med motorvogn og fartøy	LOV-2002-06-21-45
Personal Data Act [5]	Personopplysningsloven	LOV-2018-06-15-38
Car regulation [6]	Bilforskrift	FOR-2012-07-05-817
Vehicle regulation [7]	Kjøretøyforskrift	FOR-1994-10-04-918
Motorcycle regulation [8]	Motorsykkelforskrift	FOR-2016-06-01-560
Tractor regulation [9]	Traktorforskrift	FOR-2016-06-01-561
Automobile Liability Act [10]	Bilansvarslov	LOV-1961-02-03