



Federal Ministry
for Digital
and Transport

German Framework for Autonomous Driving

18 June 2024

Agenda

- How we built the German framework
- How the European framework interacts with the German one
- How do ADS get on the road in Germany

How we built our framework

Amendments to the Road Traffic Act in 2017 and 2021

- | | |
|------|--|
| 2017 | Eighth Act amending the Road Traffic Act
"Act on Automated Driving (Level 3)" |
| 2021 | Act amending the Road Traffic Act and the Compulsory Insurance Act
"Act on Autonomous Driving (Level 4)" |
| 2022 | Ordinance regulating the operation of motor vehicles with automated and autonomous driving functions and amending road traffic legislation |

How we built our framework

2021 Amendment: Initial Approach



- Build on use cases and scenarios
- Focus on ≈SAE level 4 vehicles, but include dual-mode vehicles

- No driver
- No remote driving
- Technical supervision in line with Vienna Convention on Road Traffic (1968)



- Centralized approval system, not based on different exceptions by the federal states
- Federal states/municipalities involved regarding the approval of a vehicles operational area

How we built our framework

2021 Amendment: Act on Autonomous Driving

Act on autonomous driving (Section 1d – 11 Road Traffic Act, StVG)



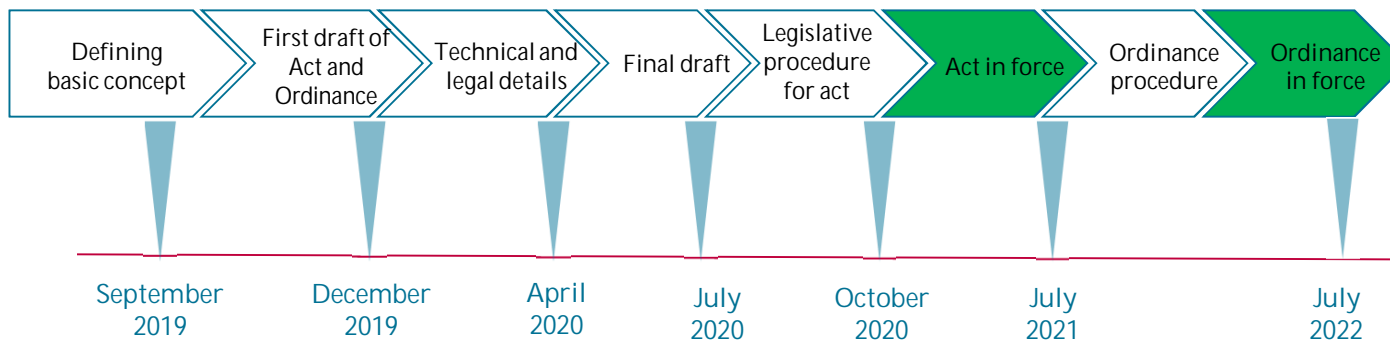
Ordinance on approval and operation of autonomous vehicles (AFGBV)



How we built our framework

2021 Amendment: Act on Autonomous Driving

Development Timeline



How we built our framework

2021 Amendment: Act on Autonomous Driving

Main contents of the act

- In particular §§ 1d - 1l Road Traffic Act, § 1 Compulsory Insurance Act
- Legal framework to allow driverless motor vehicles to be driven in regular operation in defined operating areas in public road traffic
- The focus is on application-related flexibility: the operation of driverless motor vehicles is made possible for a maximum number of application scenarios.
- Testing is simplified and subsequently activatable automated and autonomous driving functions are regulated
- Locally limited to a defined area of operation, the various use cases are not conclusively regulated. Individual approvals, exceptions and conditions are no longer necessary

How we built our framework

Technical supervision

Obligations for the owner/keeper of the vehicle are defined in § 1f StVG and (inter alia) in §§ 12-14 AFGBV (Ordinance) for the technical supervision and the manufacturer.

- To fulfil the requirements of the Vienna Convention (1968) and the 2018 Global Forum for Road Traffic Safety (WP.1) resolution on the deployment of highly and fully automated vehicles in road traffic (ECE/TRANS/WP.1/165), esp. regarding the deactivation of the vehicle, the *technical supervision* (natural person) was newly introduced
- In principle, the tasks of the technical supervision are to be fulfilled by the owner of the vehicle. However, the owner may entrust other persons with these tasks
- The technical supervision is not a substitute for the driver, and it is not obliged to constantly monitor the vehicle in autonomous operation. But the technical supervision must be able to detect by means of suitable devices and to be alerted by the system if it has to release a driving manoeuvre or deactivate the autonomous driving function

How we built our framework

Three Stage Approval Procedure

Special national 3-stage approval procedure *for motor vehicles with autonomous driving function:*

- 1 | Vehicle approval (operating permit) by the Federal Motor Transport Authority (KBA), based on general requirements in the AFGBV and requirements specific to the vehicle's envisioned operating domain.
- 2 | Determination and approval of the operating area (limited to geographic area, e.g. "A to B") by the competent federal state ("Land") authority under its respective law or, if responsible, the Autobahn GmbH
- 3 | Common registration procedure (allocation of registration number, handover of vehicle documents); stage 1 and 2 approvals and a third party motor insurance cover must be presented.

How the European framework interacts with the German one

European Type Approval Framework

Current system

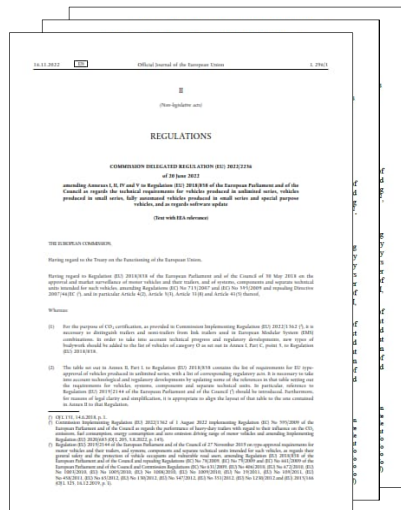
- EU-wide type approval system based on mutual recognition
- Detailed technical requirements for a wide range of vehicle types
- Until 2022 no requirements for autonomous vehicles
- National approval for unregulated and new technologies

In 2021 the EU started to develop requirements for the *approval of autonomous vehicles* within the existing EU type approval framework.

How the European framework interacts with the German one

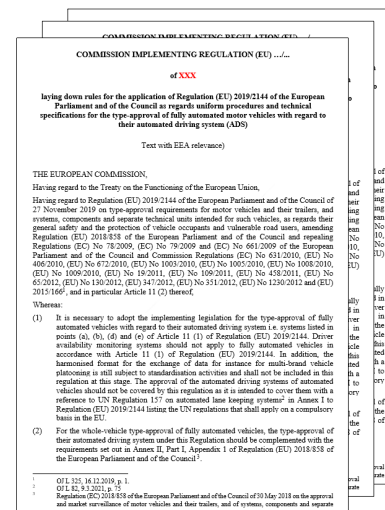
European Framework for Autonomous Vehicles

Delegated Regulation on Small Series Regulation (EU) 2022/2236



- Changes to the type approval framework to allow for the approval of Automated Driving Systems
- Integration of the technical and functional requirements into the framework

Implementing Regulation on ADS Regulation (EU) 2022/1426



- Technical and functional requirements for Automated Driving Systems
- Tests and validation procedures

How do ADS get on the road in Germany

Four possible paths to approval

1. National operating approval according to § 1e of the road traffic code and § 4 of the ordinance AFGBV
2. EU small series type approval according to Regulation (EU) 2018/858 and Regulation (EU) 2022/1426
3. National trial approval according to § 1i of the road traffic code and § 16 of the ordinance AFGBV
4. Approval of subsequent activation of automated and autonomous driving functions according to § 1h of the road traffic code and § 4 of the ordinance AFGBV

How do ADS get on the road in Germany

Current status of approvals

3. National trial approval according to § 1i of the road traffic code and § 16 of the ordinance AFGBV

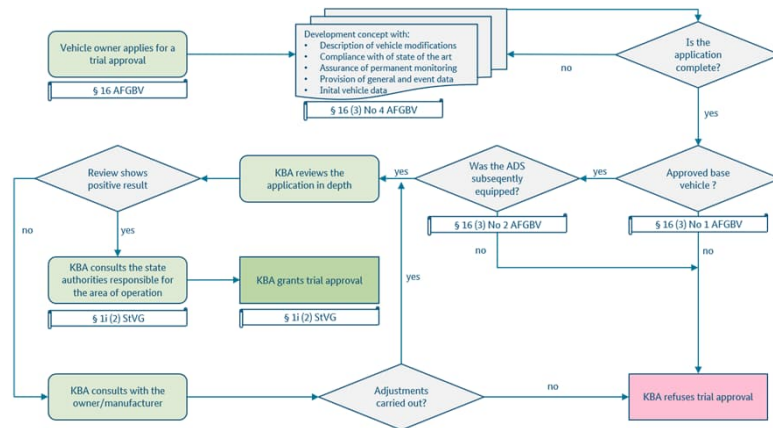
➤ 91 systems approved
of those: 10 ≈ SAE L4, and 31 applications in process

4. Approval of subsequent activation of automated and autonomous driving functions according to § 1h of the road traffic code and § 4 of the ordinance AFGBV

➤ 1 system approved, 1 system expansion approved

How do ADS get on the road in Germany

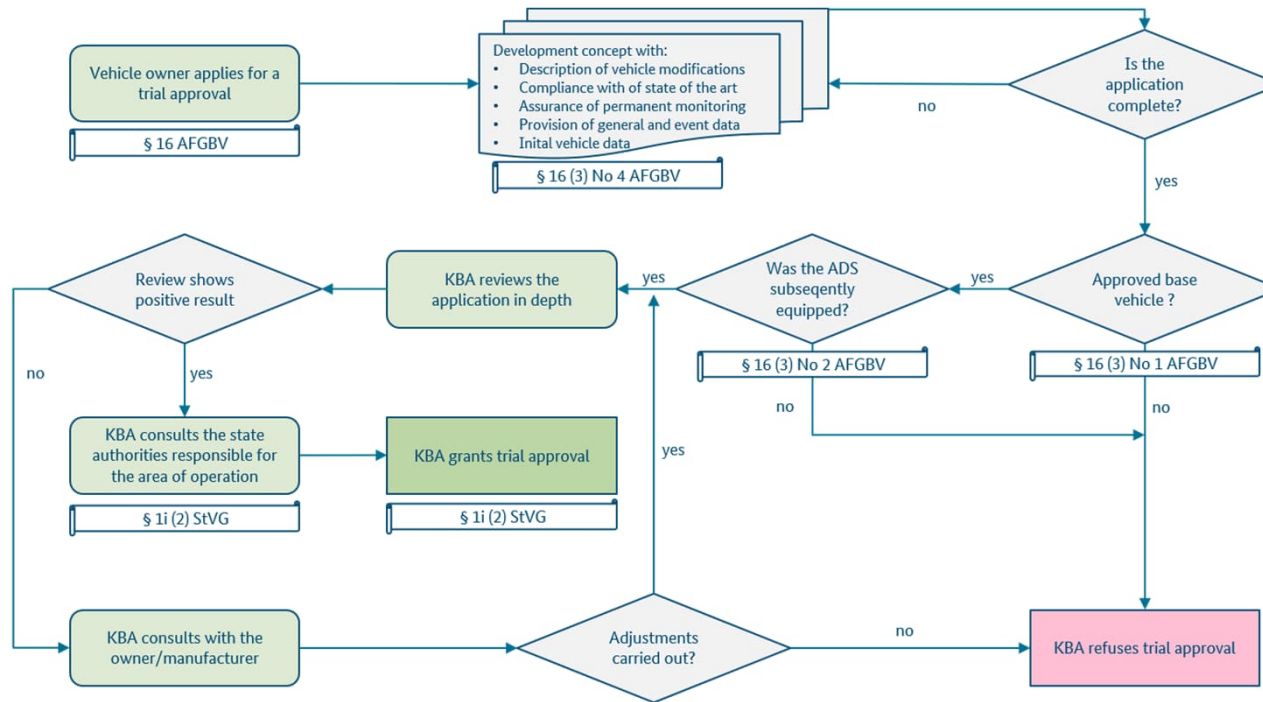
Process for national trial approval



- Application by the vehicle owner and submission of document package (application, information document, development concept, annexes)
- Review of the document package by the KBA
- Consultation of KBA with local authorities for operating area
- Approval by the KBA

How do ADS get on the road in Germany

Process for national trial approval



Thank you for your attention.

Contact details

Federal Ministry for Digital and Transport
StV 22
Robert-Schuman-Platz 1
53175 Bonn

Contact

ref-stv22@bmdv.bund.de

www.bmdv.bund.de

