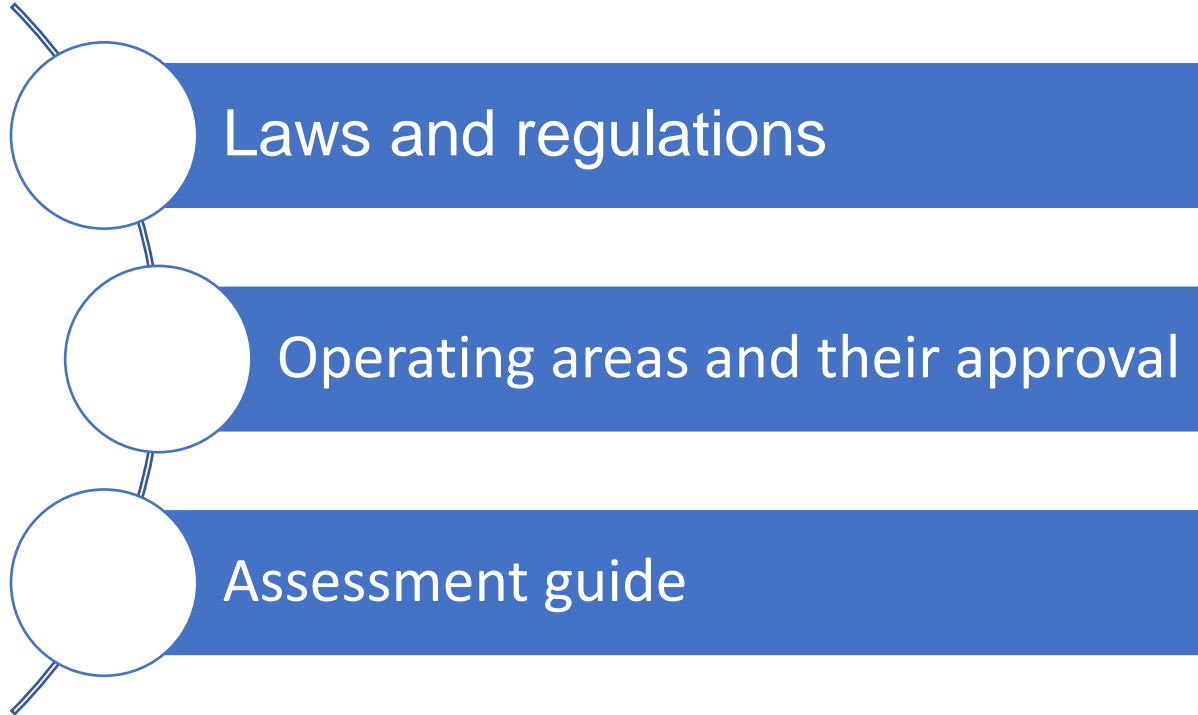




/ Assessment guide with requirements and assessment criteria for granting an approval of defined operating areas

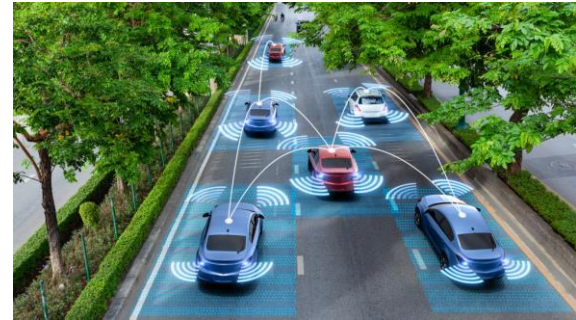
Content



Laws and regulations - overview

Laws and regulations that apply for the type approval authority in Germany in the context of autonomous driving:

- **National level:**
 - StVG → German Road Traffic Act
 - AFGBV → Regulation on the approval and operation of motor vehicles with autonomous driving functions in defined operating areas
- **EU level:**
 - Regulation (EU) 2018/858
 - Regulation (EU) 2022/1426



Laws and regulations – process level 4

Step 1

Vehicle approval (operating permit): The type approval authority issues an operating permit based on general requirements in the AFGBV or EU 2022/1426 and requirements specific to the vehicle's operating design domain.

Step 2

Approval of defined operating area: The operational area (limited to geographic area) is approved by a federal state authority.

Step 3

Issuing of vehicle registration: Based on both approvals (and a third party motor insurance cover in accordance with the German Compulsory Insurance Act) the level 4 vehicle registration is issued by a federal state authority.

Laws and regulations – process level 4

1.

Vehicle approval
(operating permit) by the
Federal Motor Transport
Authority (Kraftfahrt-
Bundesamt, KBA)

Requirements for approval Step 1:

- **Functional** e.g. for safe driving and emergency reactions
- **Technical** e.g. for communication with infrastructure needed for operation
- **Operational** e.g. for monitoring and owner/technical oversight (outside vehicle)
- **Inspection** e.g. for regular inspections

Fulfillment is verified based on a **multi pillar approach** (Audit and Assessment, Simulation, Real world test drive)

Laws and regulations – process level 4

2.

Operating areas and their approval

by the responsible federal state authority or the Autobahn GmbH

Requirements for approval **Step 2:**

- Verification that the vehicle on the defined operating area is able to adapt fully to L4 driving

3.

Common registration procedure (allocation of reg. number, handover of vehicle documents);
Step 1 and 2 approvals must be presented

Requirements for approval **Step 3:**

- Registration for level 4 vehicles in the same manner as normal vehicles – given requirements of step 1 and 2 are fulfilled; In this respect, the licensing authority only checks the completeness of the documents, no more substantive examination.

Step 2 - Operating areas and their approval

- A operating area defined for a motor vehicle with autonomous driving function has to be approved by the responsible federal state authority / Autobahn GmbH in accordance with § 9 AFGBV.
 - 16 federal state authorities are responsible for granting operating areas approvals
 - Autobahn GmbH is responsible for highway operating areas approvals
- Conclusion: Harmonized process is necessary to establish standards, processes and forms
- Also applies to vehicles with a type approval in accordance with Regulation (EU) 2018/858 in conjunction with VO(EU) 2022/1426

Assessment guide with requirements and assessment criteria for granting an approval of defined operating areas

- Released by the Federal Ministry for digital and transport in Germany on behalf of the federal states
- Describing the procedure how to approve the applied operating area by a federal state authority with support of a technical service
- Compare the defined operating area with the ODD of the vehicle equipped with an ADS
- In case of deviations between the ODD and the operation area the operation area will be restricted or the driving function has to be extended
- Driving tests can be requested by the federal state authority to verify a neuralgic point
- A driving catalog is annexed

Assessment guide with requirements and assessment criteria for granting an approval of defined operating areas pursuant to Sections 7 et seq. of the „Verordnung zur Genehmigung und zum Betrieb von Kraftfahrzeugen mit autonomer Fahrfunktion in festgelegten Betriebsbereichen“ (Autonomous Vehicle Approval and Operation Regulation – AFGÖV)

In agreement with the responsible supreme federal state traffic authorities, the following guidance document „Assessment guide with requirements and assessment criteria for granting an approval of defined operating areas according to AFGÖV“ with annex is published. This document is an initial version, which is constantly adapted to the status of the legislation.

Assessment guide with requirements and assessment criteria for granting an approval of defined operating areas pursuant to Sections 7 et seq. of the „Verordnung zur Genehmigung und zum Betrieb von Kraftfahrzeugen mit autonomer Fahrfunktion in festgelegten Betriebsbereichen“ (Autonomous Vehicle Approval and Operation Regulation – AFGÖV)

Part 1 – General

1. Scope of the Assessment Guide

In sense of a recommendation, this assessment guide describes the requirements and criteria for the application of Sections 7 to 9 of the AFGÖV by the responsible authority pursuant to Section 1a (1)(2) of the Road Traffic Act (StVG) in order to enable a uniform approval of the defined operating area for motor vehicles with an autonomous driving function.

This assessment guide also specifies the test criteria for determining the suitability of the operating area.

The responsible federal state authorities and on federal trunk roads, as far as the Federal Government is responsible for the administration, the company under their jurisdiction in terms of the „Straßenverkehrsüberwachungs- und -sicherungsstellen“ (hereinafter referred to as the approval authority) pursuant to Section 11 no. 2 StVG may define requirements which differ from the assessment guide, depending on local circumstances.

The purpose of this assessment guide is to help the responsible approval authority to decide whether the required approval for the defined operating area pursuant to Section 9 (1) no. 2 of the AFGÖV, can be granted if necessary with additional conditions.

This assessment guide is intended to be used by the assessors who may have been appointed for the assessment of the defined operating area.

The assessment guide uses definitions from Commission Implementing Regulation (EU) 2021/401 of 4 August 2021 laying down rules for the application of Regulation (EU) 2019/714 of the European Parliament and of the Council as regards uniform procedures and technical specifications for the type-approval of the automated driving system (ADS) of fully autonomous vehicles to facilitate its implementation and application in cases of type-approved motor vehicles.

2. Definitions¹

2.1 Automated Driving System (ADS)

‘Automated Driving System’ (ADS) means the hardware and software that are collectively capable of performing the entire Dynamic Driving Task (DDT) on a sustained basis in a specific operational design domain (ODD).

2.2 ADS feature

‘ADS feature’ means an application of ADS hardware and software designed to perform a specific portion of the DDT.

2.3 ADS function

‘ADS function’ means an application of ADS hardware and software designed to perform a specific portion of the DDT.

2.4 DDT (Dynamic Driving Task)

‘Dynamic Driving Task’ (DDT) means all real time operational functions and tactical functions required to operate the vehicle, including strategic functions such as trip scheduling and selection of destinations and waypoints and including without limitation the following tasks:

- a) Lateral vehicle motion control via steering (operational);
- b) Longitudinal vehicle motion control via acceleration and deceleration (operational);
- c) Monitoring the driving environment via object and event detection, recognition, classification, and response preparation (operational and tactical);
- d) Object and event response execution (operational and tactical);
- e) Maneuver planning (tactical);
- f) Emergency conspicuity via lighting, sounding the horn, signaling, gesturing, etc. (tactical)

2.5 Operational functions of the DDT

‘Operational functions’ of the DDT functions delivered over a time constant of milliseconds and which include tasks such as lane changes, lane acceptance and overtaking, or braking to avoid an emerging hazard.

2.6 Tactical functions of the DDT

‘Tactical functions’ of the DDT means functions delivered over a time constant of seconds and including tasks such as lane changes, lane acceptance and overtaking.

2.7 Operational design domain (ODD)

‘Operational design domain’ (ODD) within the meaning of the assessment of the Straßenverkehrsregeln (StVG) and the Pflichtversicherungsgesetz – Act on Autonomous Driving (StVG) (1) no. 3 (1)(b) means the scope of application, intended by the manufacturer of a motor vehicle with autonomous driving function, for the use of

¹Source for article 2.1 to 2.7: Extracts from Article 2 Definition of Commission Implementing Regulation (EU) 2021/401 of 4 August 2021 laying down rules for the application of Regulation (EU) 2019/714 of the European Parliament and of the Council as regards uniform procedures and technical specifications for the type-approval of the Automated Driving System (ADS) of fully autonomous vehicles.

/ Legal notice

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