

# Development Concept Form

## 1. Introduction

- Objective and purpose / motivation of the testing applied for

## 2. Description of the automated / fully automated driving function

- Complete description of the planned functional scope of the driving function at the beginning and end of the testing applied for
- Description of the functionality of the automated / fully automated driving function incl. graphical illustration of the functional and software architecture
- Description of the ODD (Operational Design Domain) of the automated / fully automated driving function incl. description of deviations of the ODD at the beginning and end of the testing applied for
  - Description of the supported road types
  - Description of the supported driving manoeuvres
  - Description of the supported speed ranges
  - Description of the supported external conditions
- Description of the testing area applied for
- Description of compliance with the state of the art based on the requirements set out in § 1a StVG (automated driving function) or § 1e StVG (fully automated driving function)
  - *Note 1: Not all requirements from § 1a StVG or § 1e StVG have to be fulfilled within the scope of the testing. If one or more requirements are not initially or completely fulfilled during the testing, the corresponding fallback concept (e.g. safety driver) must be described.*
  - *Note 2: To avoid duplication within the development concept, corresponding chapters / sections in the development concept can be referenced in this chapter.*

## 3. Modifications to the vehicle

- Description and - if possible - photos of the modifications to the vehicle compared to the time of individual or type approval that were carried out to equip the vehicle with an automated / fully automated driving function, such as:
  - ECU, sensors, actuators, data storage devices
  - Displays, actuating devices, holding devices
  - Modifications to accelerator and brake pedals as well as steering and switching devices
  - Bus systems
  - Software versions
- List of installed sensors including information about type of sensor, manufacturer, designation, location and alignment.
- *Note: A report from an expert or technical service on the conformity of the physical modifications compared to the individual or type approval must be submitted with the development concept. The assessment should generally follow the procedure in accordance with § 21 StVZO and certify the conformity of the vehicle in accordance with § 19 (1) StVZO. An examination of the automated driving function and the software modifications to the vehicle do not have to be part of the assessment.*

#### 4. Development process

- Duration of the testing applied for
- Description of individual test phases incl. definition of milestones
- Specification of planned / possible modifications to software, sensors, actuators, etc. and allocation to the individual test phases
- Specification of the automation level at the beginning and end of the testing and, if applicable, the time of transition
- Description of a process, ensuring that the described modifications achieve at least the same level of safety as the initial vehicle approved for testing
- Information on the chronological documentation of the modifications to the vehicle during testing, including the software status
- Description of the process for monitoring the development and measures in the event of deviations from the previously defined milestones

#### 5. Persons / roles involved in the development

- Description of the roles involved in the development including job specification and necessary qualifications. This should include at least the following roles:
  - Overall responsible for the testing applied for
  - Person responsible for safety and IT security
  - Person responsible for the persons assigned as safety driver / locally present technical supervisors
  - Safety driver / locally present technical supervisor
- *Note: Existing training documentation for the safety drivers / locally present technical supervisors may be submitted as an attachment to the development concept.*

#### 6. Safety Concept

- Description of the tasks and duties of the safety driver / locally present technical supervisor
- Description of the possibilities for overriding and deactivating the automated / fully automated driving function
- Description of the system behaviour in the event of override / deactivation
- Description of the information provided by the HMI (Human Machine Interface)

#### 7. IT Security

- Description of the communication interfaces in / on the vehicle
- Description of the protection against unauthorized access to the communication interfaces in / on the vehicle
- Description of the measures for the protection against possible attacks

**8. Data collection and management of the non-personal data and events according to § 16 (3) No. 4d) AFGBV**

- Declaration that the data required according to § 16 (3) No. 4d) AFGBV will be supplied at any time in form of reports upon request by the KBA
- Description of data protection and data security measures, in particular in the form of a
  - Description of the storage location including information on data security in the event of an accident
  - Description of the data back-up concept
  - Description of the protection of the data against unauthorized access by third parties
  - Declaration that the storage capacity is sufficient to store the required data over the complete testing period applied for
- Description of the format of the reports to be provided to the KBA
- Description of the verification concept for the data to be provided to the KBA