

**VOLKSWAGEN**

AKTIENGESELLSCHAFT

A graphic for the Legal Department featuring a dark blue background with a light blue wavy pattern of lines. A large, stylized white paragraph symbol (§) is positioned on the right side. The text "Legal Department" is centered in a white serif font, with a thin white horizontal line underneath it.

Legal Department

## **Legal Framework for Automated Driving**

- A Comprehensive Approach for Legalizing Conditional Automation (Level 3) on German Roads -

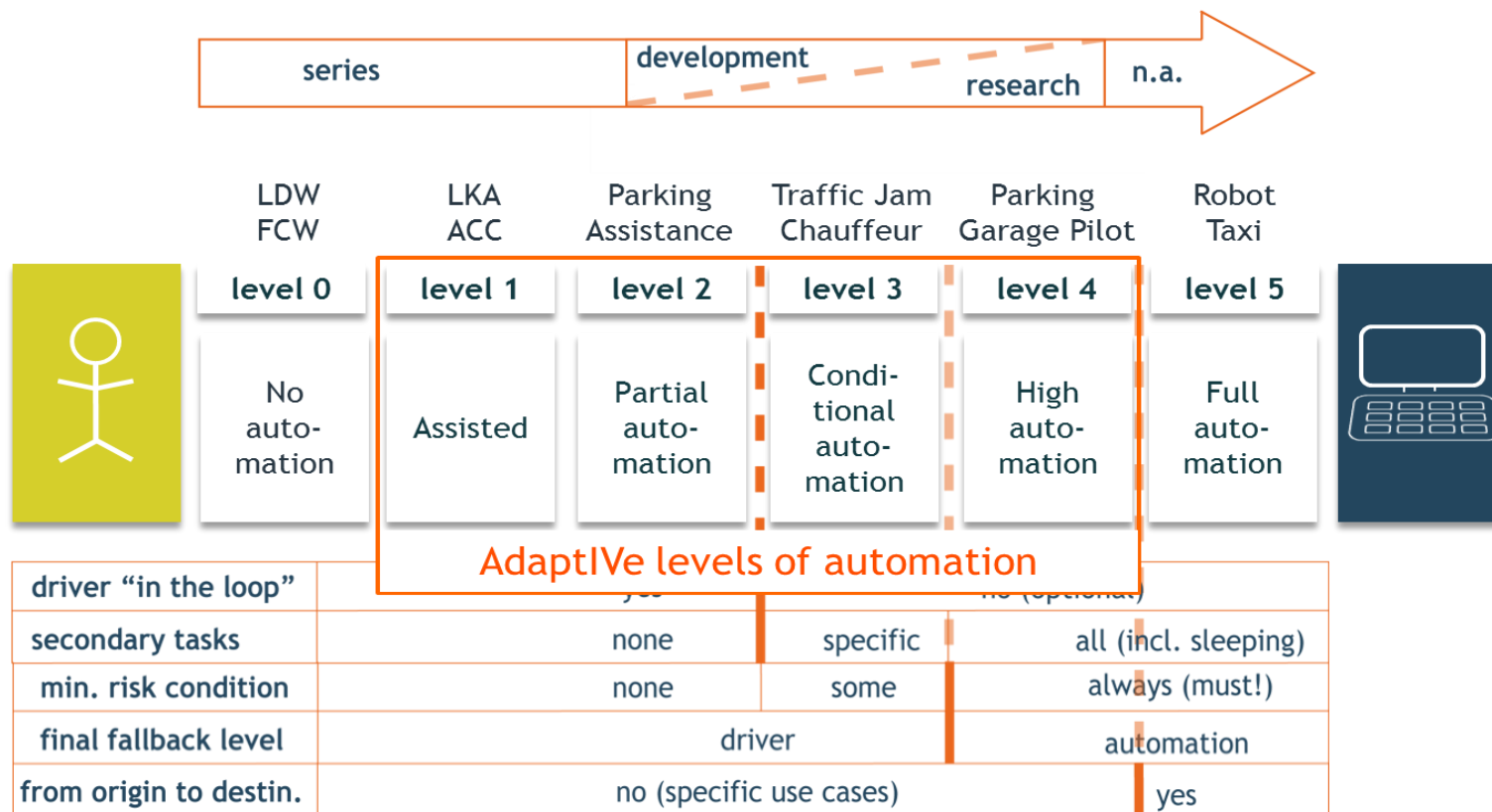
[*AdaptIVe* – Workshop on Legal Aspects of Automated Driving – September 17, 2015 (Paris)]

## Agenda

1. Basic Principles
2. Changes in the Legal Framework required for Legalizing Conditional Automation (Level 3) in Germany
3. Future Outlook: Legal Complications of Automated Driving relying on Car-to-X Connectivity
4. Appeal for Collective European Legal Actions

# 1. Basic Principles

## Levels of driving automation acc. to SAE and VDA



Source: SAE document J3016, "Taxonomy and Definitions for Terms Related to On-Road Automated Motor Vehicles", issued 2014-01-16, see also [http://standards.sae.org/j3016\\_201401/](http://standards.sae.org/j3016_201401/)

# 1. Basic Principles

## Introduction scenario

5	Full automation					Robot Taxi
4	High automation				Parking garage Pilot	
3	Conditional automation			Traf. J. Cha. City Chauff.	Highway Chauffeur	
2	Partial automation		Parking ass. Traff. jam a.			
1	Assisted	ACC LKA	City Cruise Constr. ass.			
0	No automation	LDW FCW				
		<i>ADAS today</i>	<i>ADAS tomorrow</i>	<i>Automation Gen. 1</i>	<i>Automation Gen. 2</i>	<i>n.a.</i>

# 1. Basic Principles

## Characteristic of Conditional Automation (Level 3)

[Scope: Analysis of Level 3 Systems, which do **not** include Car-to-X Connectivity features]

- Example of Level 3 System: Traffic Jam Pilot
- Benefits of Level 3 Systems
  - a) Increase of safety by avoidance of driving errors
  - b) Increase of comfort for driver by release from manual driving task and possibility of exercise of specific side tasks



# 1. Basic Principles

- Characteristic of Level 3 System
  - a) Driver must consciously activate Level 3 System, but does not have to permanently monitor roadway or Automated Driving System (ADS)
  - b) Driver can override or deactivate Level 3 System at any time
  - c) If Level 3 System reaches operational domain limit or a detected failure occurs, ADS provides a takeover alert with time for orderly transition by the driver
  - d) Driver must maintain a basic attentiveness („Grundaufmerksamkeit“) throughout the activation of Level 3 System

## 2. Legal Adaptations for Legalizing Conditional Automation (Level 3) in Germany

### Reasoning for the Necessity of a German „Step-by-Step“ Approach

- Motivation for exclusively focusing on legalizing Conditional Automation (Level 3)
  - a) Challenge of receiving political and societal backup for new technology („Round Table for Automated Driving“)
  - b) Restricted scope allows development of precise legislative wording
  - c) High Automation (Level 4) most likely not compatible with Vienna Convention of 1968

## 2. Legal Adaptations for Legalizing Conditional Automation (Level 3) in Germany

### Reasoning for the Necessity of a German „Step-by-Step“ Approach

- Overriding justification for regulatory action in German law
  - a) Guarantee of correctness and safety of German road traffic (Governmental duty to safeguard its citizen)
  - b) Securing of legal victim protection in case of incident with Automated Driving System

Only meeting these two overriding requirements, the industry can expect the German lawmaker to permit Conditional Automation (Level 3).

Consumer (and industry) have a high interest in legal certainty, a customer using a Level 3 System should in general not be held liable (traffic violations, civil liability, criminal liability).



## 2. Legal Adaptations for Legalizing Conditional Automation (Level 3) in Germany

### International Regulatory Framework

- Rules of Approval – ECE-Rules
  - a) Status Quo: No specific rule for Automated Driving in existence
    - ECE-Rule 79 – Steering equipment
    - (e. g.: „The driver must be able at any time to override the function [para. 5.1.6] and remain in primary control at all times [para. 2.3.4.]“)
  - b) De Lege Ferenda: Amendment of ECE-Rule 79 in respect to Automated Driving



## 2. Legal Adaptations for Legalizing Conditional Automation (Level 3) in Germany

### International Regulatory Framework

- Rules of the Road – Vienna Convention of 1968
  - a) Basic Rule: Contracting parties must ensure that national rules of the road are in conformity with provisions in Chapter II of the Vienna Convention
  - b) Status Quo: Automated Driving not compatible with Vienna Convention
    - Automated system must always be oversteerable and driver must always be ready to oversteer (continuous monitoring/refraining from other activity than driving)
  - c) De Lege Ferenda: Amendment of Vienna Convention in respect to Automated Driving
    - WP.1 has adopted amendment in 3.2014
    - If amendment is accepted and ECE-Rules allow Automated Driving System, driver may perform side tasks according to Vienna Convention (Conception of German OEMs and German representatives in WP.1 – Strong support from Sweden and Belgium)

## 2. Legal Adaptations for Legalizing Conditional Automation (Level 3) in Germany

### A Comprehensive Approach for Changes in German Law

- Overview of selected legal aspects requiring regulatory adaptations
  - a) Road Transport Law** (Straßenverkehrsgesetz – StVG)
    - General permission for Conditional Automation (Level 3) and definition of its characteristics
    - Increase of maximum amount for liability of vehicle owner (§ 12 StVG)
  - b) Road Traffic Regulation** (Straßenverkehrsordnung – StVO)
    - Definition of behavioral duties of the driver during Conditional Automation (Level 3) (e. g.: Conditions for activation / Basic attentiveness („Grundaufmerksamkeit“) required of driver / Transition in orderly time after takeover alert / Transition in case of own actual perception of oversteering necessity)

## 2. Legal Adaptations for Legalizing Conditional Automation (Level 3) in Germany

### A Comprehensive Approach for Changes in German Law

- Overview of selected legal aspects requiring regulatory adaptations

#### c) Road Traffic Licensing Regulation (Straßenverkehrszulassungsordnung – StVZO)

- Regulatory mandatory obligation for installation of performance extended EDR for data collection and data storage

(Purpose: Guarantee of correctness and safety of German road traffic – Was offense caused by driver or Level 3 System? / Securing fulfillment of product monitoring obligation of OEMs)

(e. g.: Recording of activity of Automated Driving Mode (on/off) / Conservation of specified evidence in case of defined events)

## 2. Legal Adaptations for Legalizing Conditional Automation (Level 3) in Germany

### A Comprehensive Approach for Changes in German Law

- Overview of selected legal aspects requiring **no** regulatory adaptations
  - a) **Criminal Code** (Strafgesetzbuch – StGB)
    - Driver is not responsible for offenses of a properly used Level 3 System
    - Official administrative reporting channel enables OEMs to perform their product monitoring obligation: Possibility of conditions for legally obligated recall
  - b) **Product Liability Law** (Produkthaftungsrecht – ProdHG)
    - Liability of OEMs in case of product defect of Level 3 System
  - c) **Product Safety Law** (Produktsicherheitsgesetz – ProdSG)
    - Legal obligation for OEMs to conduct a recall in case of safety relevant defects

### 3. Future Outlook: Legal Complications of Automated Driving relying on Car-to-X Connectivity

- **Scenario:** Car-to-Car and Car-to-Infrastructure Communication  
(Transfer of signals via own distribution and reception of signals / Performance of specific driving maneuvers based on external information)
  - a) Legal challenges in respect to liability implications
    - Criminal liability: Driver is not responsible for offense / Problem of assignment of criminal responsibility in case of existing corporate criminal law
    - Civil liability: Difficulty of assignment of civil liability  
(Who is legally responsible for the incident?)
  - b) Legal solution for legitimate assignment of civil liability urgently required

## 4. Appeal for Collective European Legal Actions

- Collective European support for progressive amendment of ECE-Rule 79 in respect to Automated Driving
- Collective European support for amendment of Vienna Convention in respect to Automated Driving
- Encouragement of national initiatives in European Member States in respect to Rules of the Roads and national Behavioral Law in general
- Consideration of a similar national „Step-by-Step“ Approach with focus on the legalization of Level 3 Systems on a strong regulatory basis for maximum political and societal backup for the new technology
- Development of a legal solution for the critical topic of civil liability in respect to Automated Driving relying on Car-to-X Connectivity

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**Thank you for your attention.**