

BoR (17) 28

**VOLKSWAGEN**

AKTIENGESELLSCHAFT

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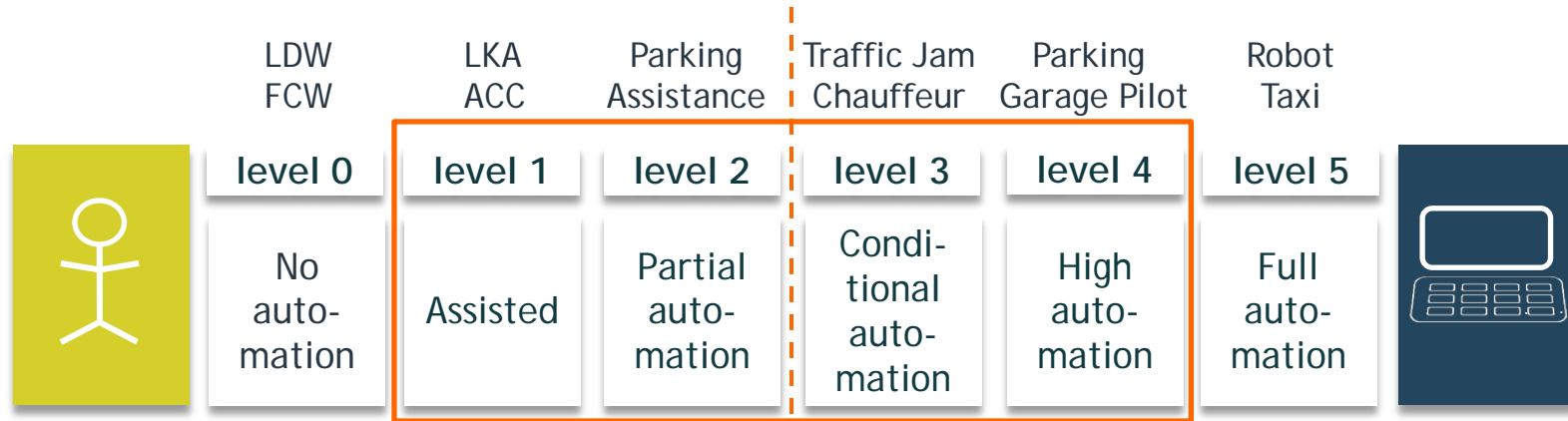
**Adapt*://*Ve**

*Automated Driving Applications and  
Technologies for Intelligent Vehicles*

*An Introduction to Automated Driving*



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



## Driver in the loop

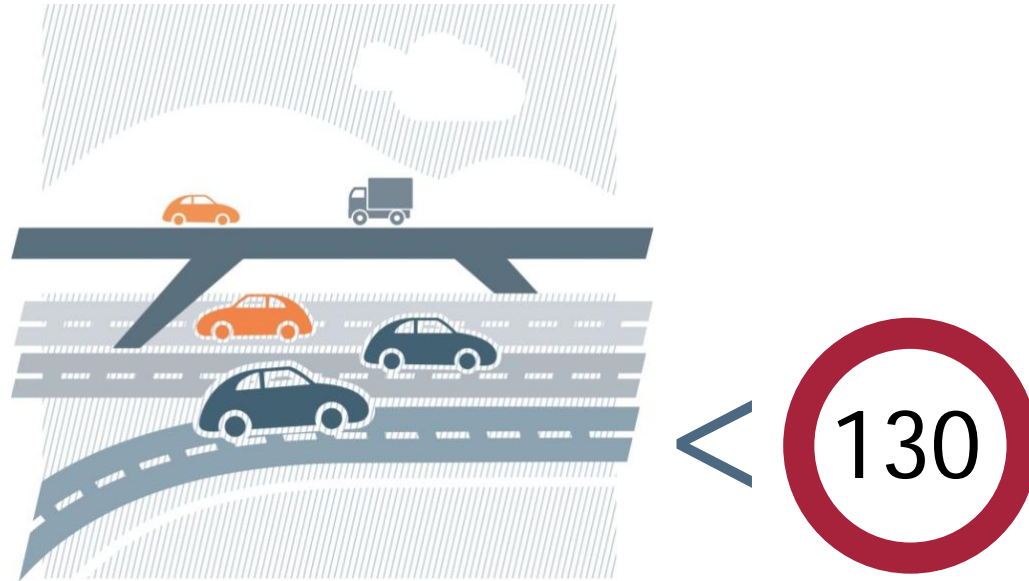
- No significant change with respect to existing driver assistance systems

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/)

## Driver out of the loop

- Not in accordance with regulatory law (Vienna Convention of 1968, national road law)
- Shared responsibility for control between driver and system  
→ need for action

## // Highway scenarios



Test and develop applications for error-free driving for cars and trucks on highways

# // Innovation

- Predictive automated driving style
- Improve energy efficiency using information of traffic control systems, digital maps and vehicle sensors
- Particular manoeuvres like the minimum risk manoeuvres transparently indicated to other traffic participants



# // Innovation

- Cooperative ITS technologies based on ITS G5 used for robust vehicle-to-vehicle communication as well as for developing and implementing the foreseen automated cooperative functions
- Driver take-over situations e.g. from “partial automated” to “driver only” or “conditional automated” to “driver only” demonstrated and evaluated
- Fault-tolerant and resilient system architecture



## // Challenges

- Fault-tolerant and resilient system architecture for highly automated driving functions will be developed and tested.
- Extensions to the existing V2V communication protocols based on ITS G5 will be specified to enable dialog and negotiations before and during lane change or filter-in manoeuvres.
- New application requirements will be identified.
- A new set of messages and mechanisms will be defined ensuring a robust and fault-tolerant cooperative system.
- The protocol extension will be used for the discussion with standardisation organizations.





# // AdaptIVe Final Event: **SAVE THE DATE!**

## *Adapt//Ve* **FINAL EVENT**



**SAVE THE DATE** June 28 - 29, 2017  
Aachen, Germany // [www.AdaptIVe-ip.eu](http://www.AdaptIVe-ip.eu)

Hotel Pullmann Aachen Quellenhof, Monheimsallee 52, Aachen  
Please visit <https://adaptive-ip.eu/index.php/final-event.html> for more information.





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# Adapt//Ve

*Automated Driving Applications and  
Technologies for Intelligent Vehicles*

*Thank you.*



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