



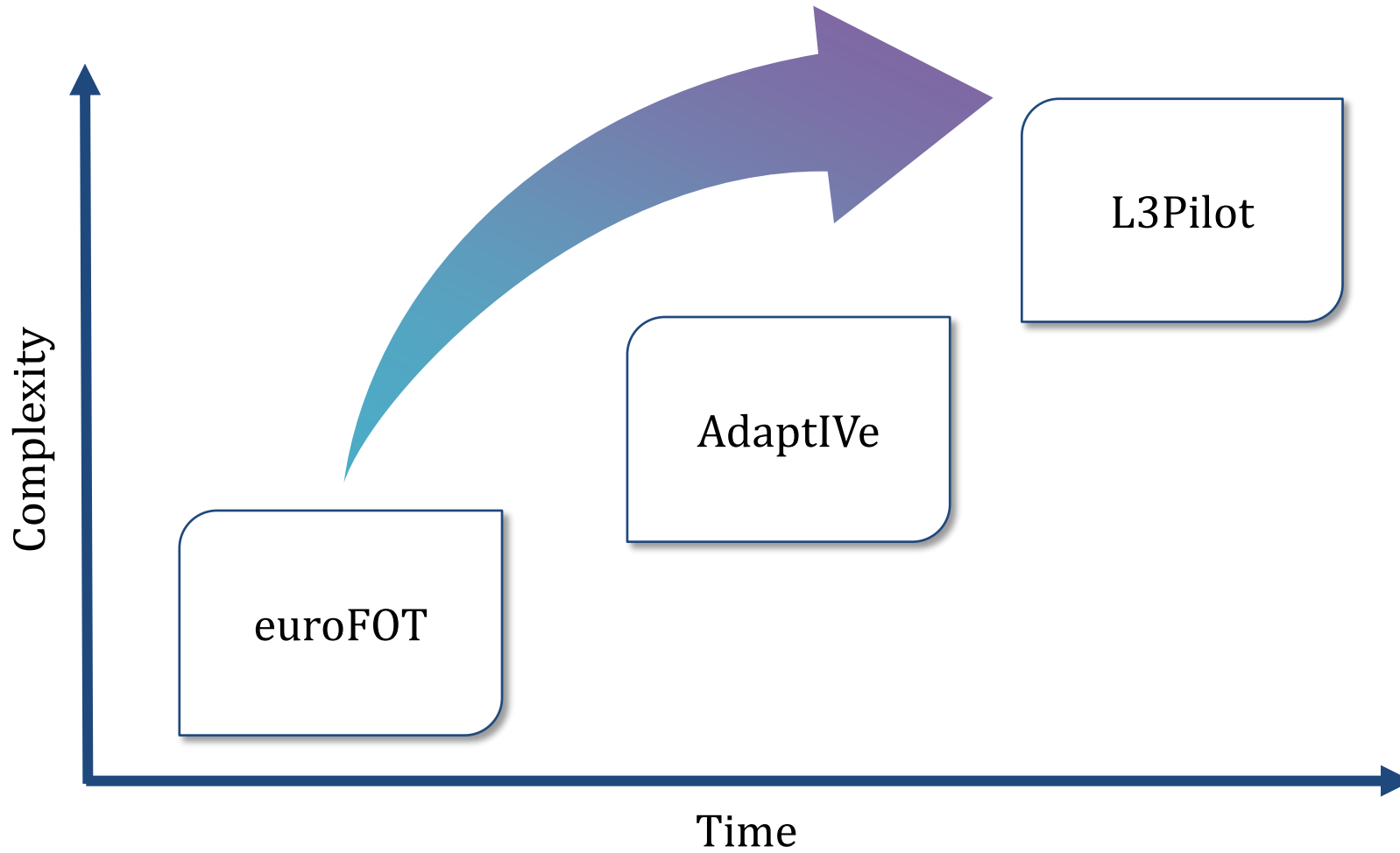
VOLKSWAGEN
AKTIENGESELLSCHAFT

L3PILOT 

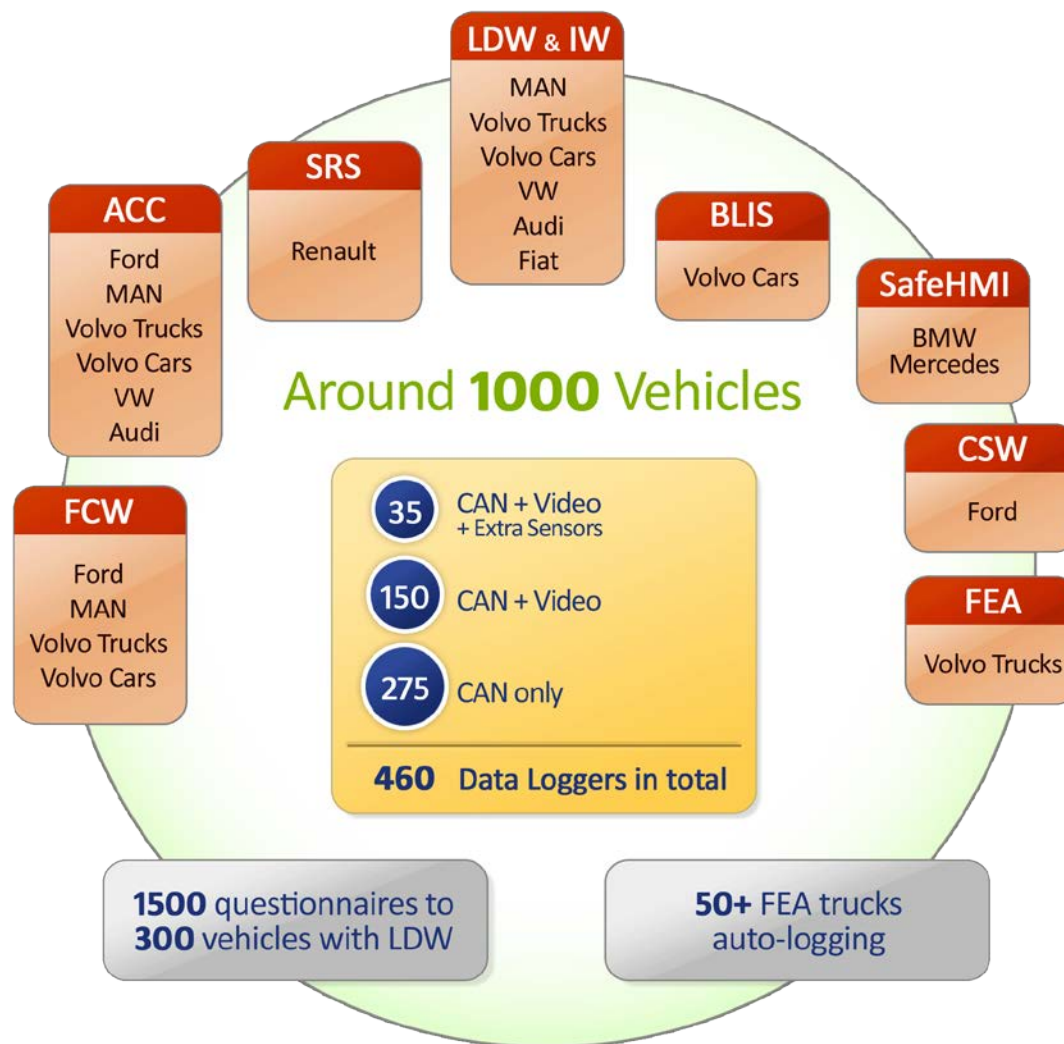

PILOTING AUTOMATED DRIVING ON EUROPEAN ROADS

Aria Etemad
Volkswagen Group Research

From euroFOT to L3Pilot



Previous Projects: euroFOT



Longitudinal control functions

- ♂ Forward Collision Warning (FCW)
- ♂ Adaptive Cruise Control (ACC)
- ♂ Speed Restriction System (SRS)

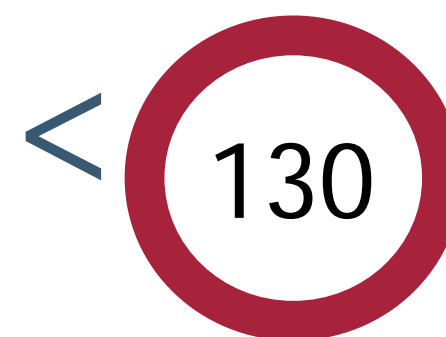
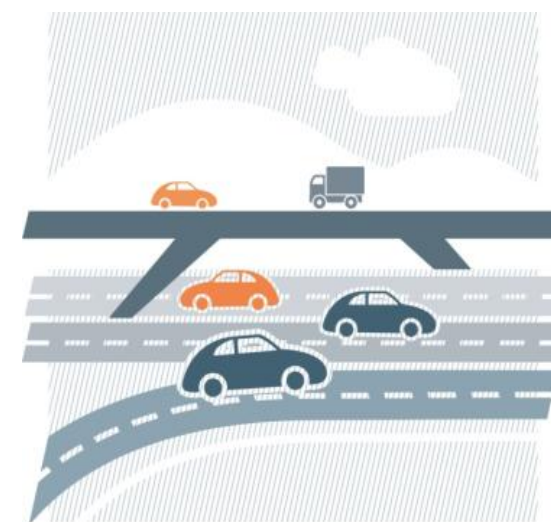
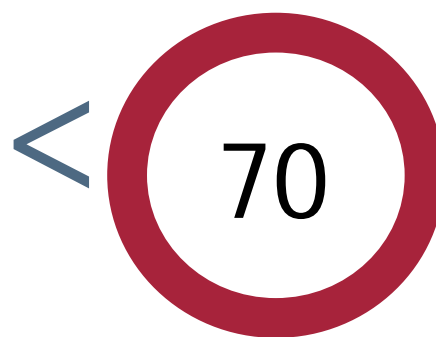
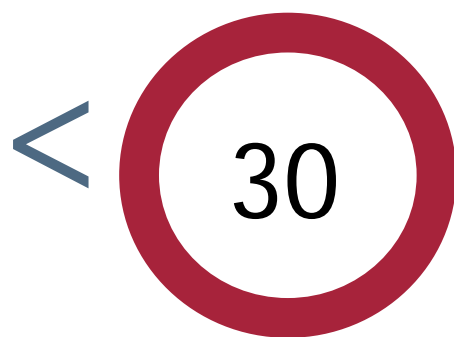
Lateral control functions

- ♂ Blind Spot Information System (BLIS)
- ♂ Lane Departure Warning (LDW)
- ♂ Impairment Warning (IW)

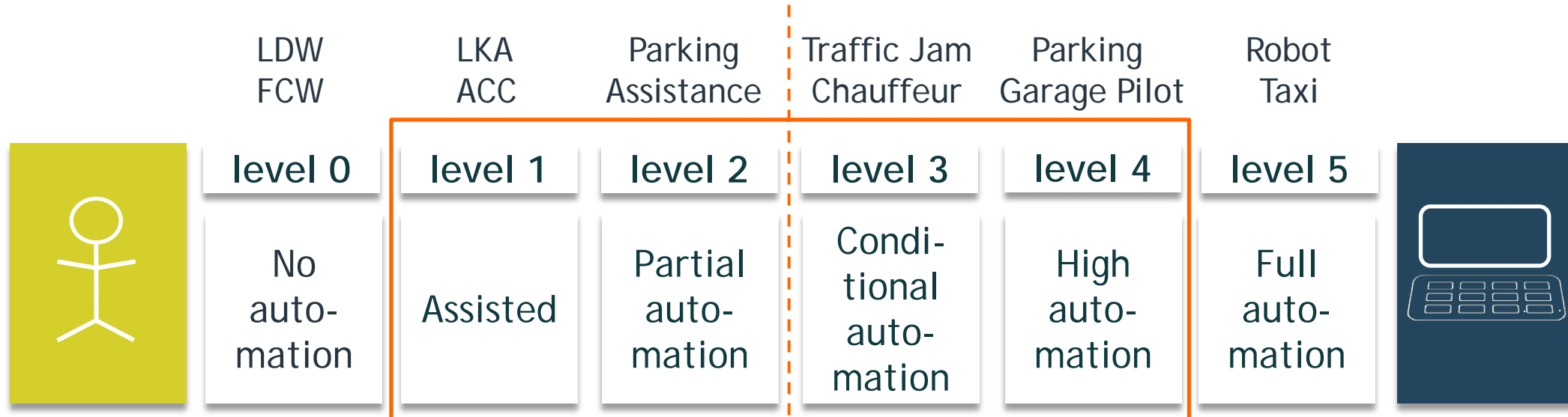
Advanced applications

- ♂ Curve Speed Warning (CSW)
- ♂ Fuel Efficiency Advisor (FEA)
- ♂ Safe Human Machine Interaction (SafeHMI)

Previous Projects: AdaptIVe



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



Driver in the loop

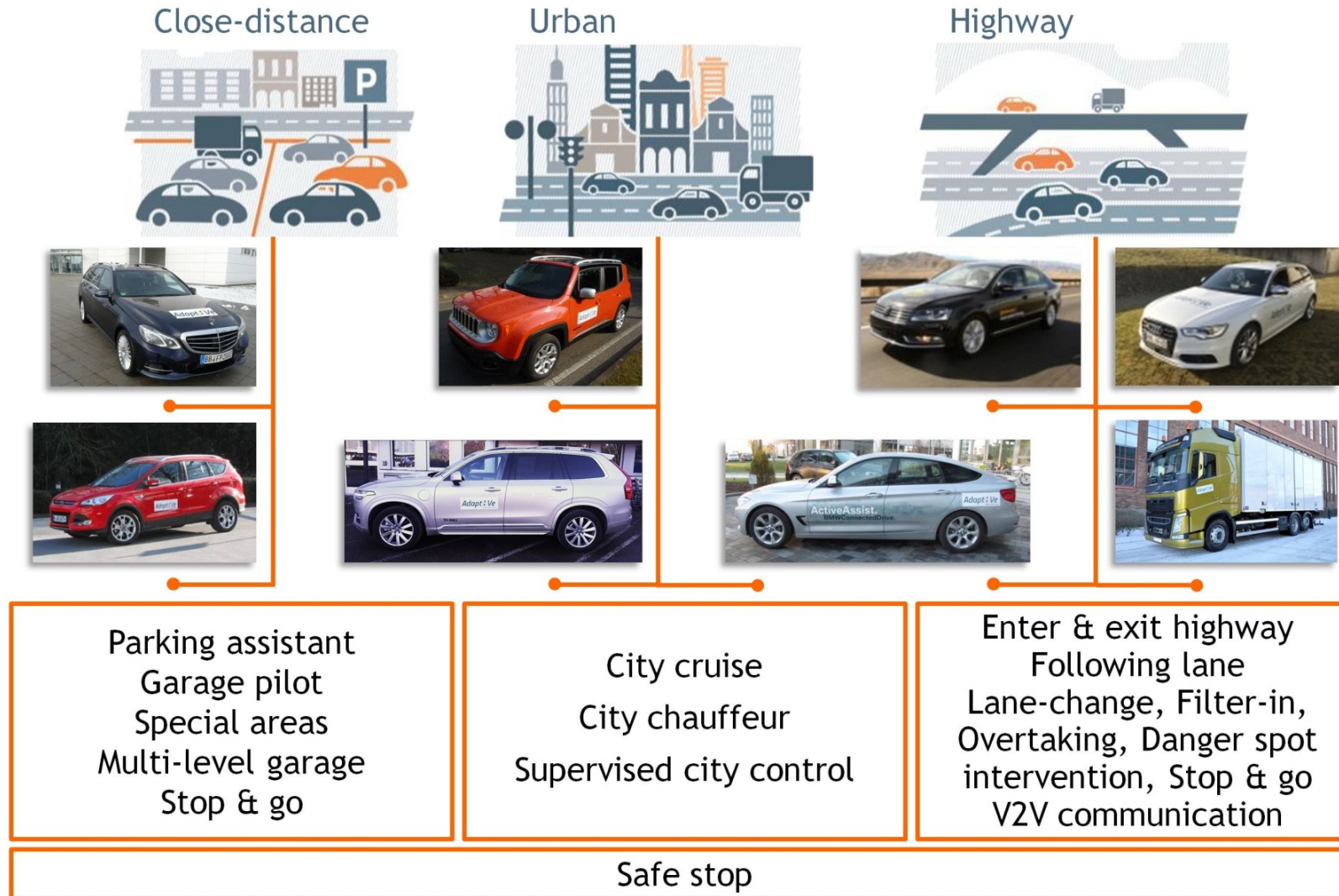
- No significant change with respect to existing driver assistance systems

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/

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

// Demonstrators



// Achievement



- **System Classification and Glossary**
- Systematic derivation of relevant system parameters for:
 - Vehicle
 - Driver
 - Environment
- Public Deliverable D2.1 is available on the AdaptIVe website.

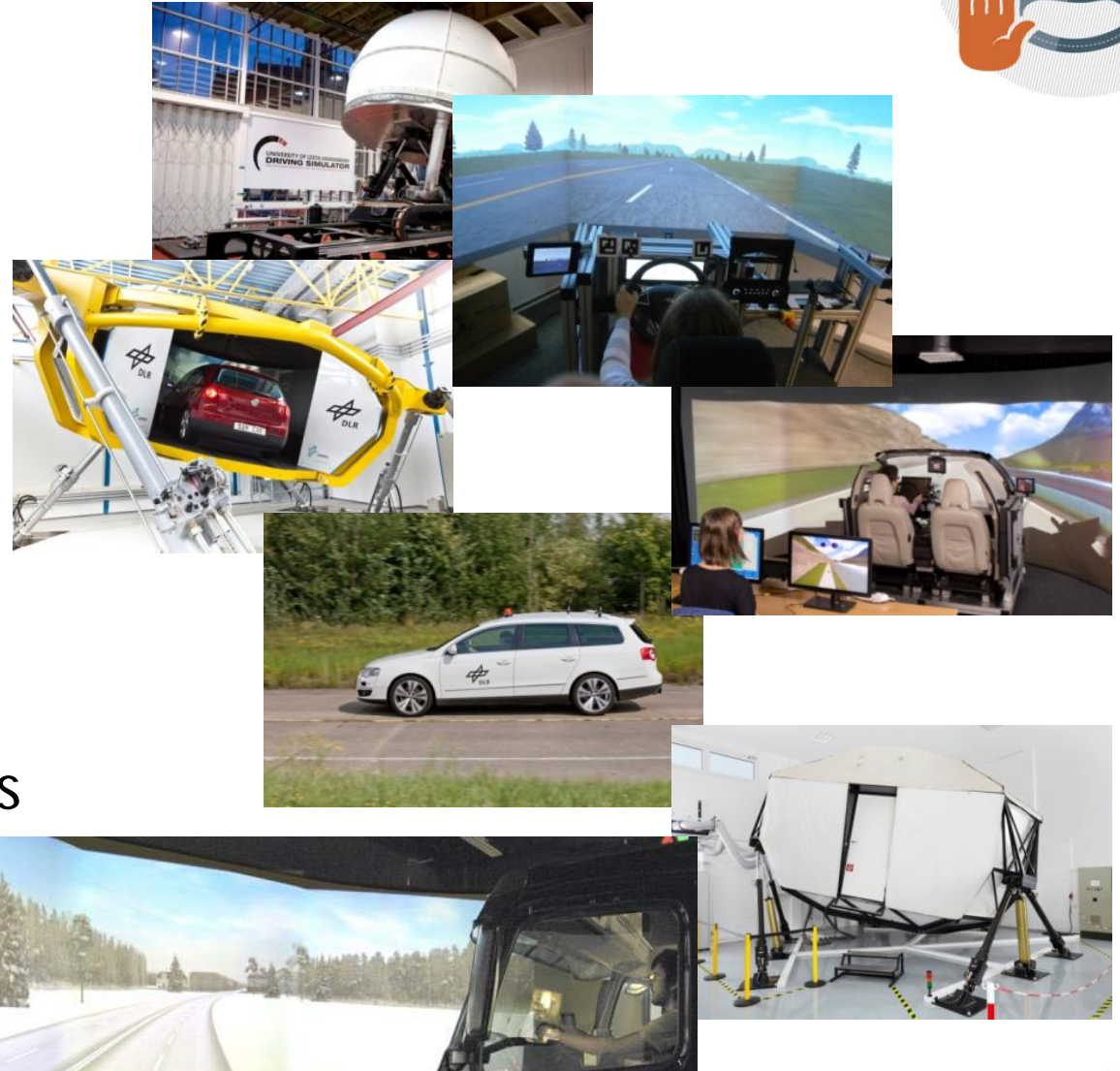
Deliverable D2.1 //
System Classification and Glossary

Dissemination level	PU
Version	1.2
Due date	31.12.2014
Version date	06.02.2015

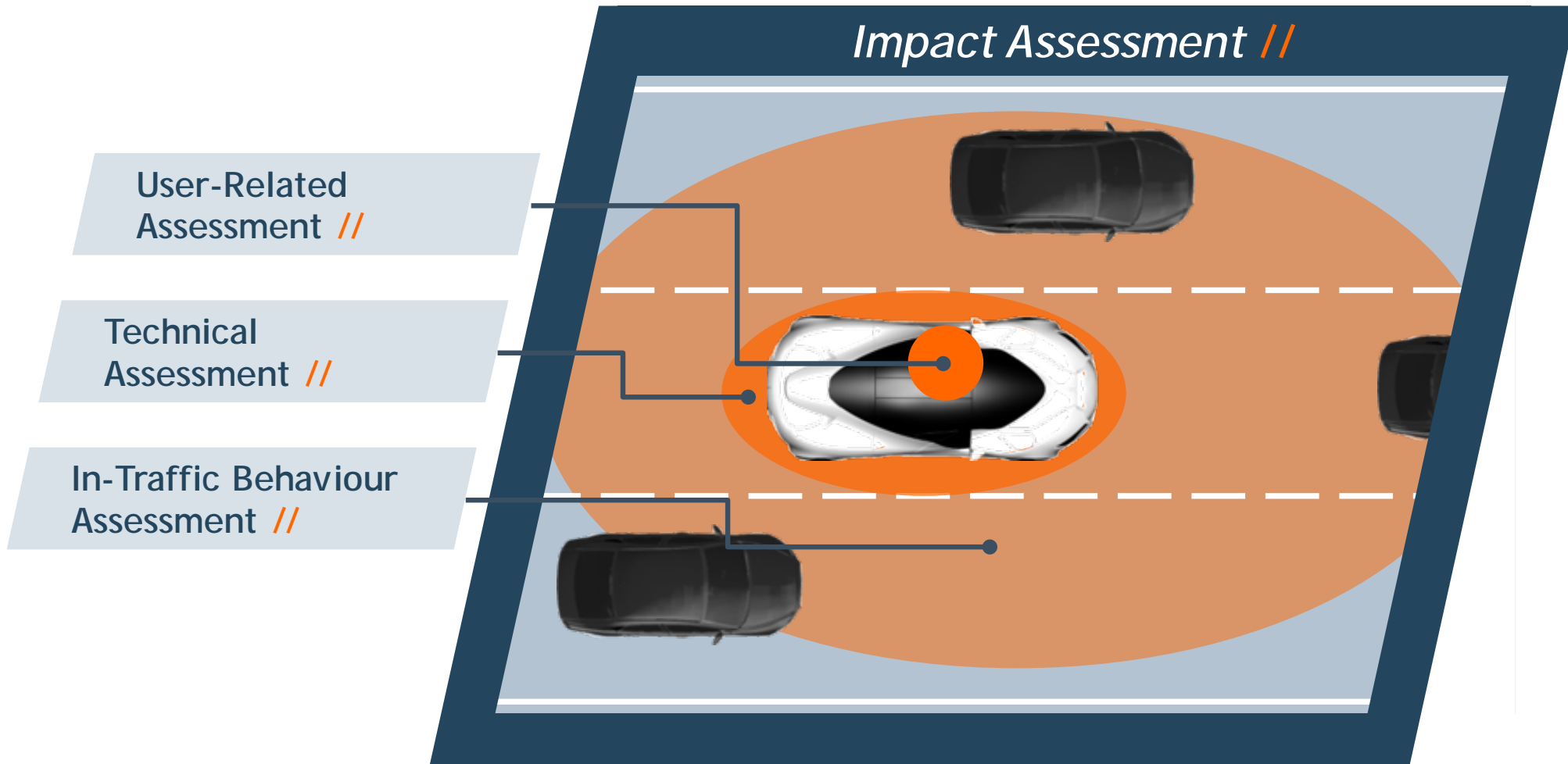
// Achievement



- A total of 17 experiments were conducted
 - Surveys
 - Simulator studies
 - Field studies
- Over 490 car and truck drivers
- One survey with 2743 respondents
- Basis for the human factors recommendations



// Achievement



// Evaluation of Adaptive functions



// Technical assessment:

„Considering human driver behaviour as a baseline, the Adaptive automated driving functions are showing a more uniform driver behaviour.“

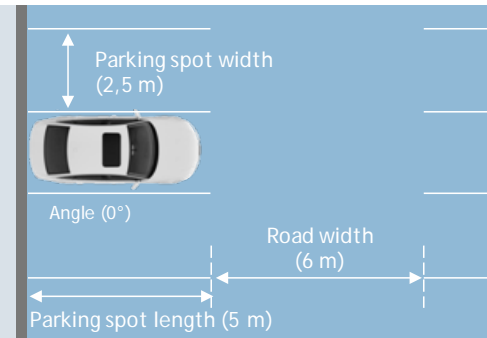


// User-related assessment:

„Test persons noted that automated driving functions affected driving positively in several ways, e.g. fewer dangerous lane changes“

// Impact Assessment:

„Automated parking functions can lead to a possible increase of parking space by 17 %.“



Facts

- Project name: L3Pilot - Piloting Automated Driving on European Roads
- Budget: €68 million
- Funding: €36 million
- Start: September 2017
- Duration: 48 months
- Coordinator: Aria Etemad, Volkswagen Group Research
- Participants: 34 (OEMs, suppliers, research, SMEs, insurers, authorities and user groups)
- Countries: Austria, Belgium, France, Finland, Germany, Greece, Italy, Netherlands, Norway, Sweden, Switzerland, UK

Co-funded by the
European Union
under Horizon 2020
programme



Supported by

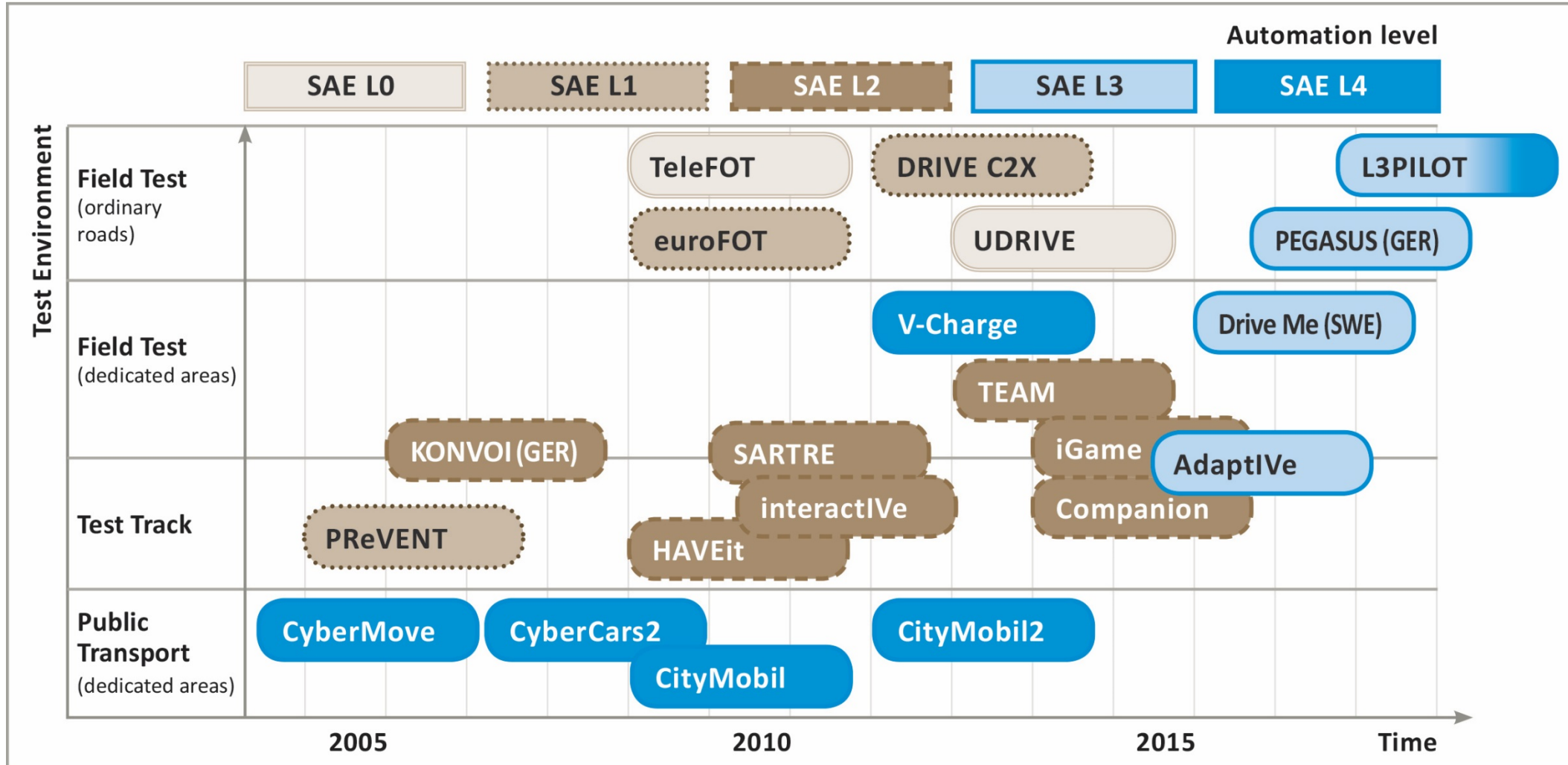


Project Partners

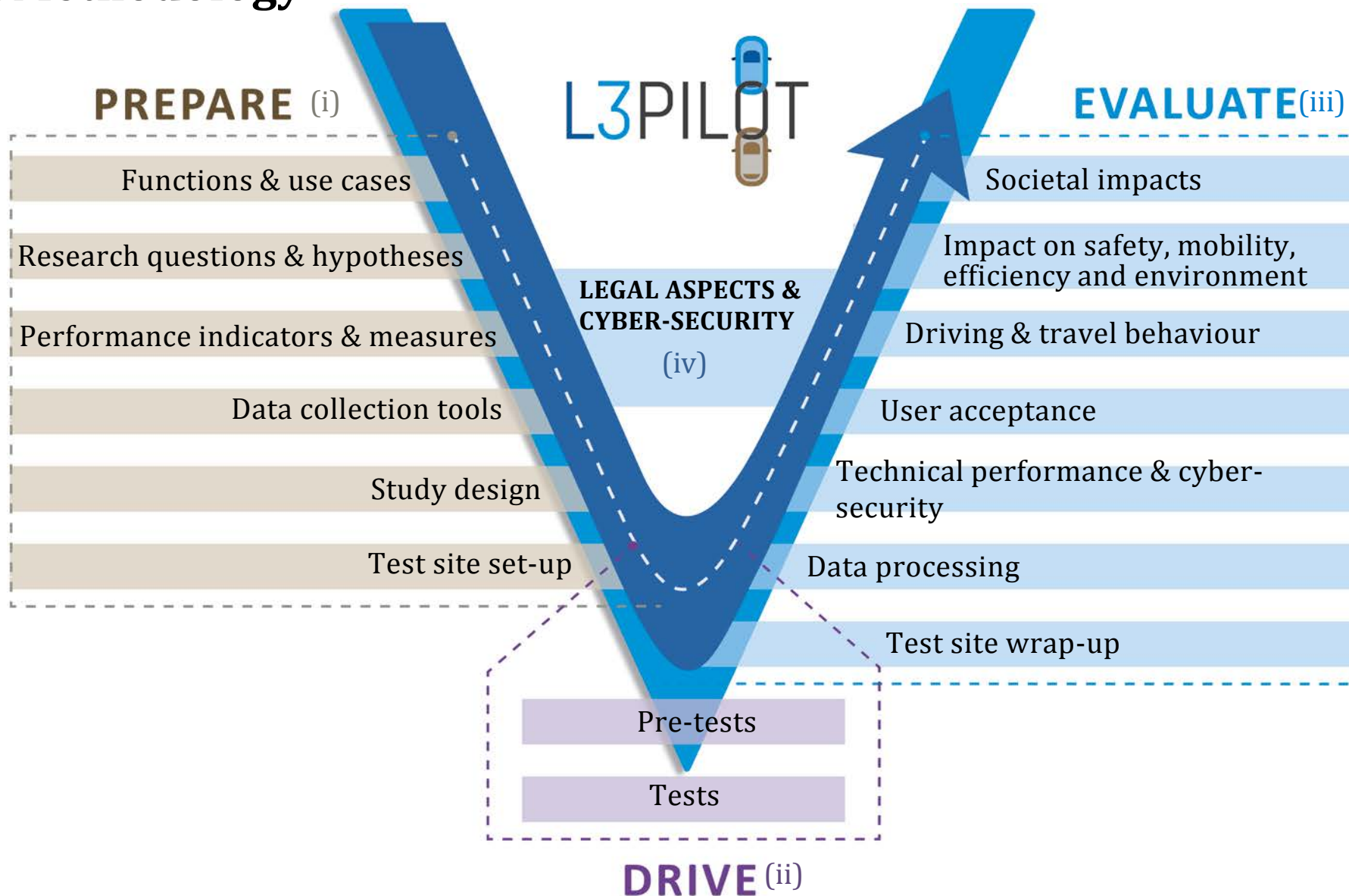


OEMs								
Suppliers								
Research								
SMEs	<table border="1"> <tr> <td data-bbox="287 1098 621 1356"> </td> <td data-bbox="621 1098 1009 1356"> Insurers </td> <td data-bbox="1009 1098 1327 1356"> </td> <td data-bbox="1327 1098 1704 1356"> Authorities </td> <td data-bbox="1704 1098 2048 1356"> </td> <td data-bbox="2048 1098 2211 1356"> User groups </td> <td data-bbox="2211 1098 2461 1356"> </td> </tr> </table>		Insurers		Authorities		User groups	
	Insurers		Authorities		User groups			







Landscape on Major European Projects preparing AD

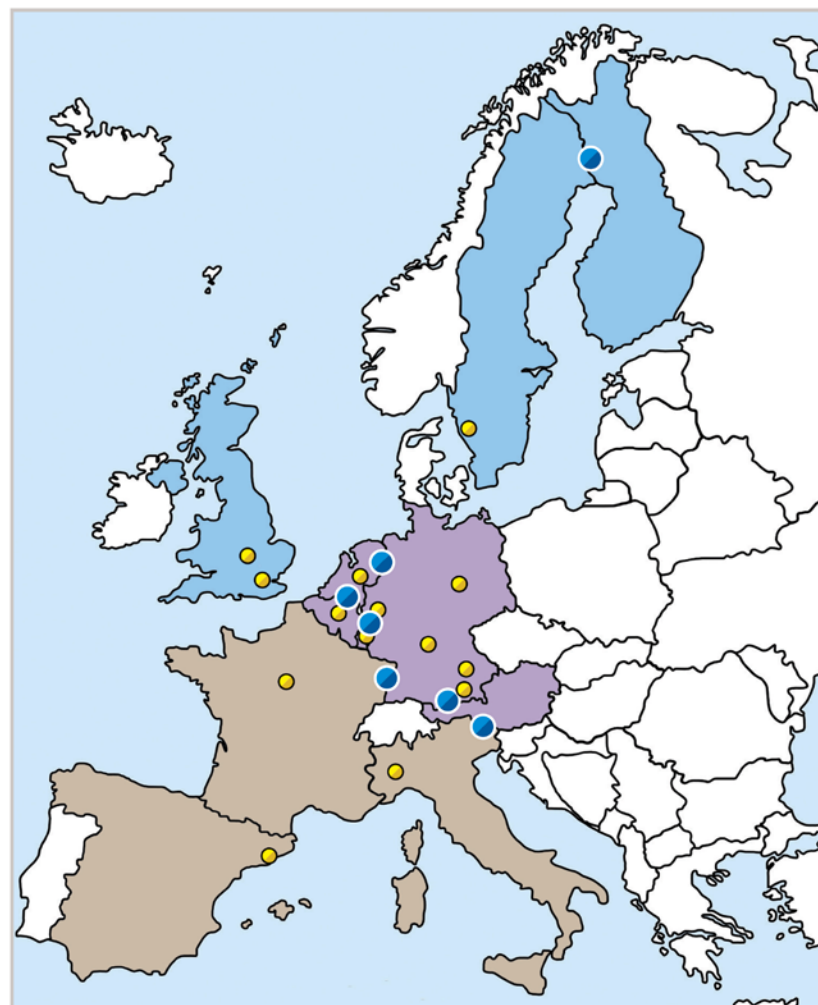


FESTA Methodology



Pilot Centers for a Pan-European Pilot

● Crossborder		
Austria		Germany
Austria		Italy
Belgium		Germany
Belgium		Netherlands
Finland		Sweden
France		Germany
Germany		Netherlands



NORTH

CENTRAL

SOUTH-WEST

● Country, region - OEM

BE, Brussels; NL;
ES, Barcelona - Toyota

DE, Aachen - Ford

DE, Ingolstadt - Audi

DE, Munich - BMW

DE, Offenbach - Honda

DE, Wolfsburg - VW

FR, Paris and other
regions - REN, PSA

IT, Turin - CRF

LU; NL - Delphi

SE, Gothenburg;
UK, London - Volvo

UK, Coventry - JLR



THANK YOU FOR YOUR KIND ATTENTION

Aria Etemad
Volkswagen Group Research

