



Adapt|Ve

*Automated Driving Applications and
Technologies for Intelligent Vehicles*

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Vehicle Automated Functions for Urban Driving

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// Motivation for automated driving functions

*Zero
emission*

Reduction of fuel consumption & CO₂ emission
Optimization of traffic flow



*Demographic
change*

Support unconfident drivers
Enhance mobility for elderly people



Vision zero

Potential for more driver support by avoiding
human driving errors



// Potentials for automated driving



Drivers are supported in demanding or repetitive tasks. Travel comfort increases.



Vehicles dynamically adapt the level of automation according to the current situation.



Vehicles react more effectively to external threats.



Vehicles are resilient to different types of system and human failure.

// Challenges and project objectives

Widespread application of automated driving to improve traffic safety, efficiency and comfort



// 29 partners

VOLKSWAGEN
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Research and Technology



DAIMLER



VOLVO

PSA PEUGEOT CITROËN



Wir leben Autos.



RENAULT

 **BOSCH**
Invented for life

Continental

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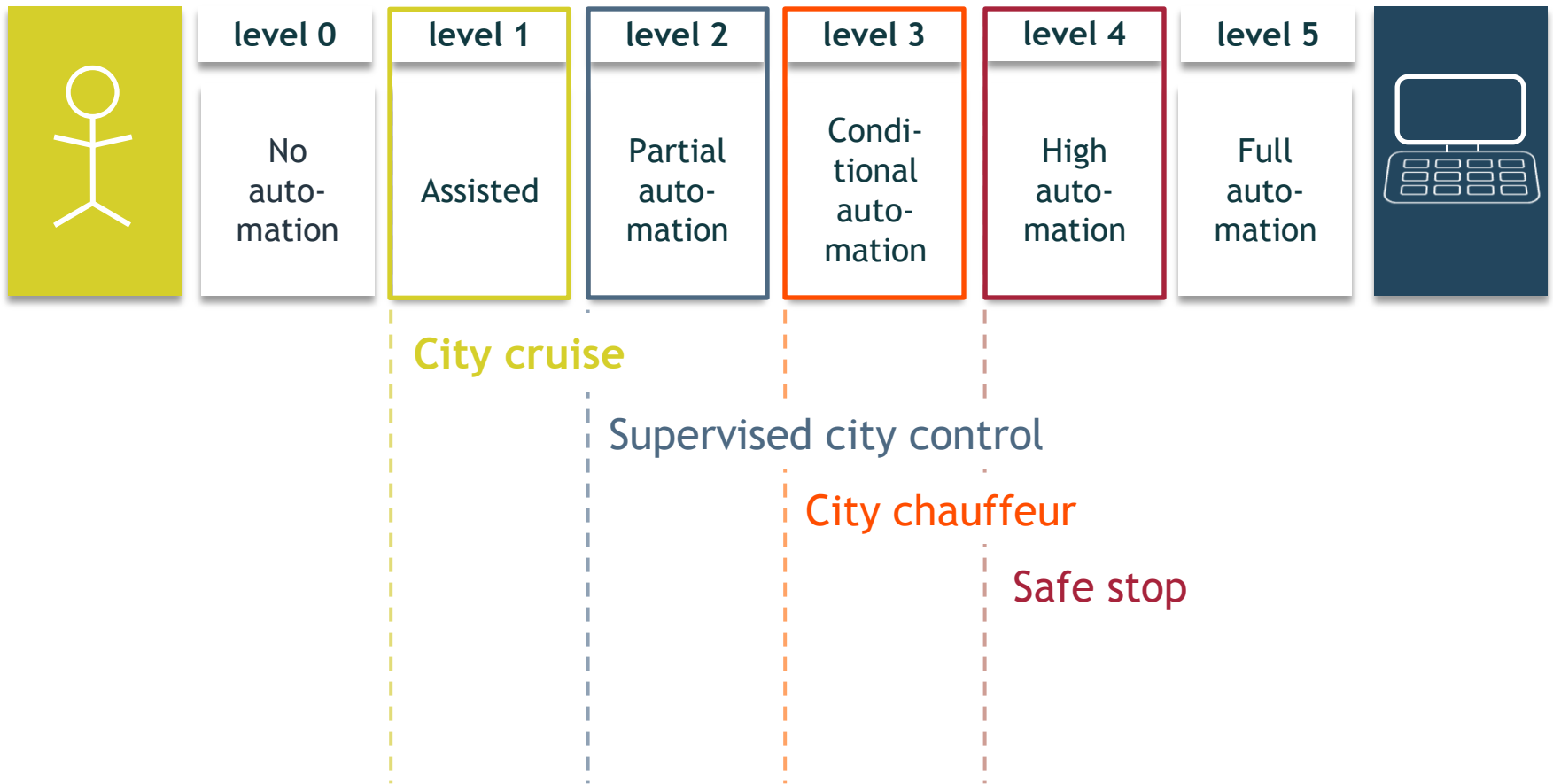
eict

// Urban scenarios



Test and develop applications for medium speed manoeuvres in complex scenarios

// Functions



// Challenge and motivation

- **Complex environment** with demanding driving scenarios, dense traffic, several types of road users and static obstacles
- Driving in urban areas is often:
 - **Demanding** from cognitive and emotional point of view
 - Boring and irritating, creating stress and even anxiety
 - Time and energy demanding



//Traffic Jam Chauffeur // level 3

- **Conditional automated driving** in traffic jam up to 60 km/h
- On motorways and similar roads
- System can be activated, if **traffic jam scenario** exists: detection of slow driving vehicles in front
- Driver must deliberately activate the system, but does not have to monitor the system constantly
- Driver can at **all times override** or switch off the system
- Take over request if traffic jam scenario does not exist any longer
- **Safety benefit** via relief of the driver: no exhausting, manual driving during traffic jams
- **Comfort benefit** via relaxing and use of selected infotainment functionalities



// Demonstrators




Parking assistance,
garage, special areas,
multi-level garage,
Stop & go

City cruise, City chauffeur,
Supervised city control

Enter & exit highway,
following lane, lane-
change, filter-in,
overtaking, danger spot
intervention, Stop & go

Safe stop

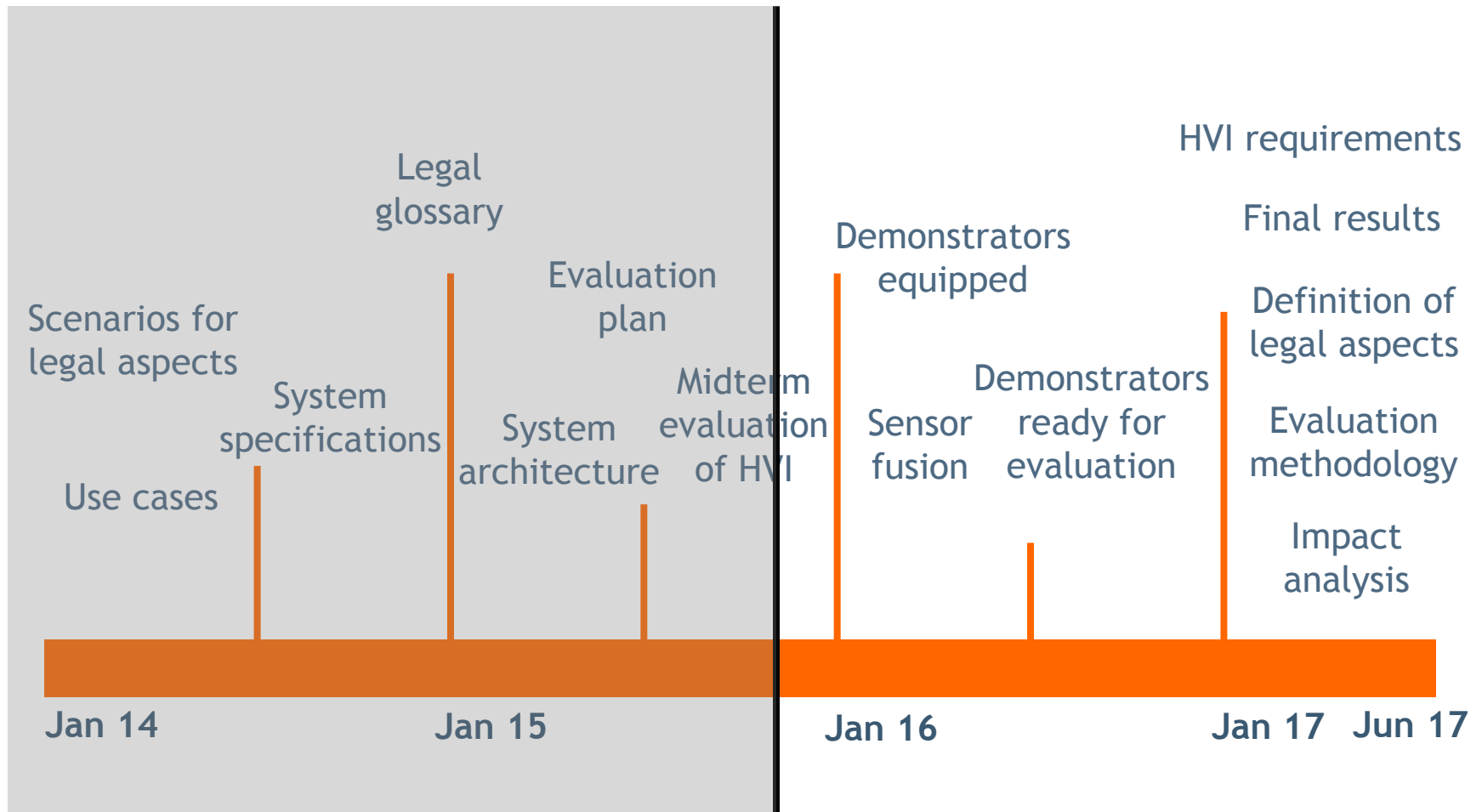
// Crucial aspect: Transitions of control between automation and driver



As long as there are no fully autonomous systems, systems always have to interact with humans at different times and to different degrees.

Goal: Safe and efficient transitions

//Timeline





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Thank you.

