



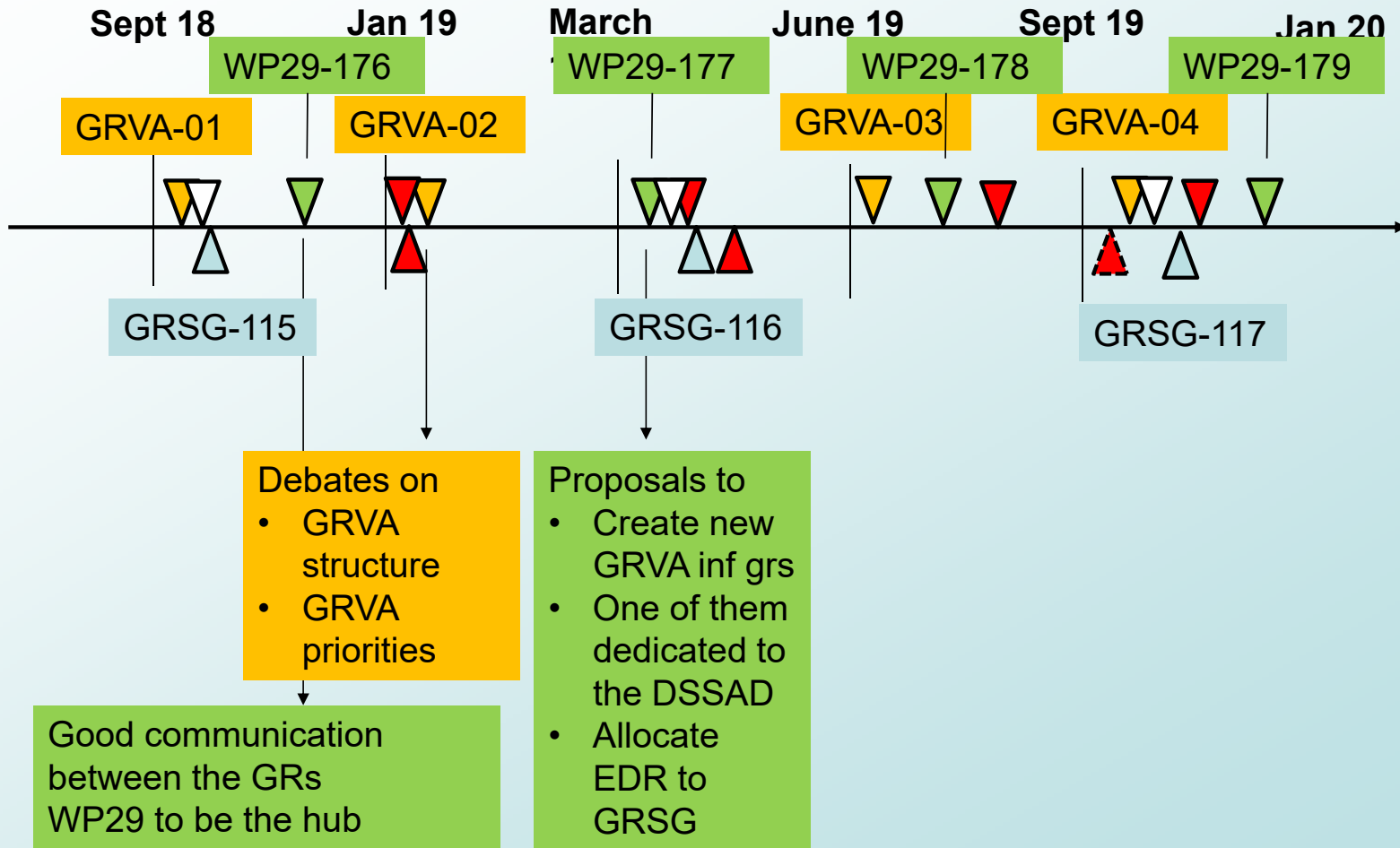
Informal document GRSG-116-46  
(116th GRSG, 1-5 April 2019  
Agenda item 18.)

# Report on Automated Vehicle activities

GRSG-116  
April 2019



# Timeline





# State of play at GRVA

## ➤ ALKS

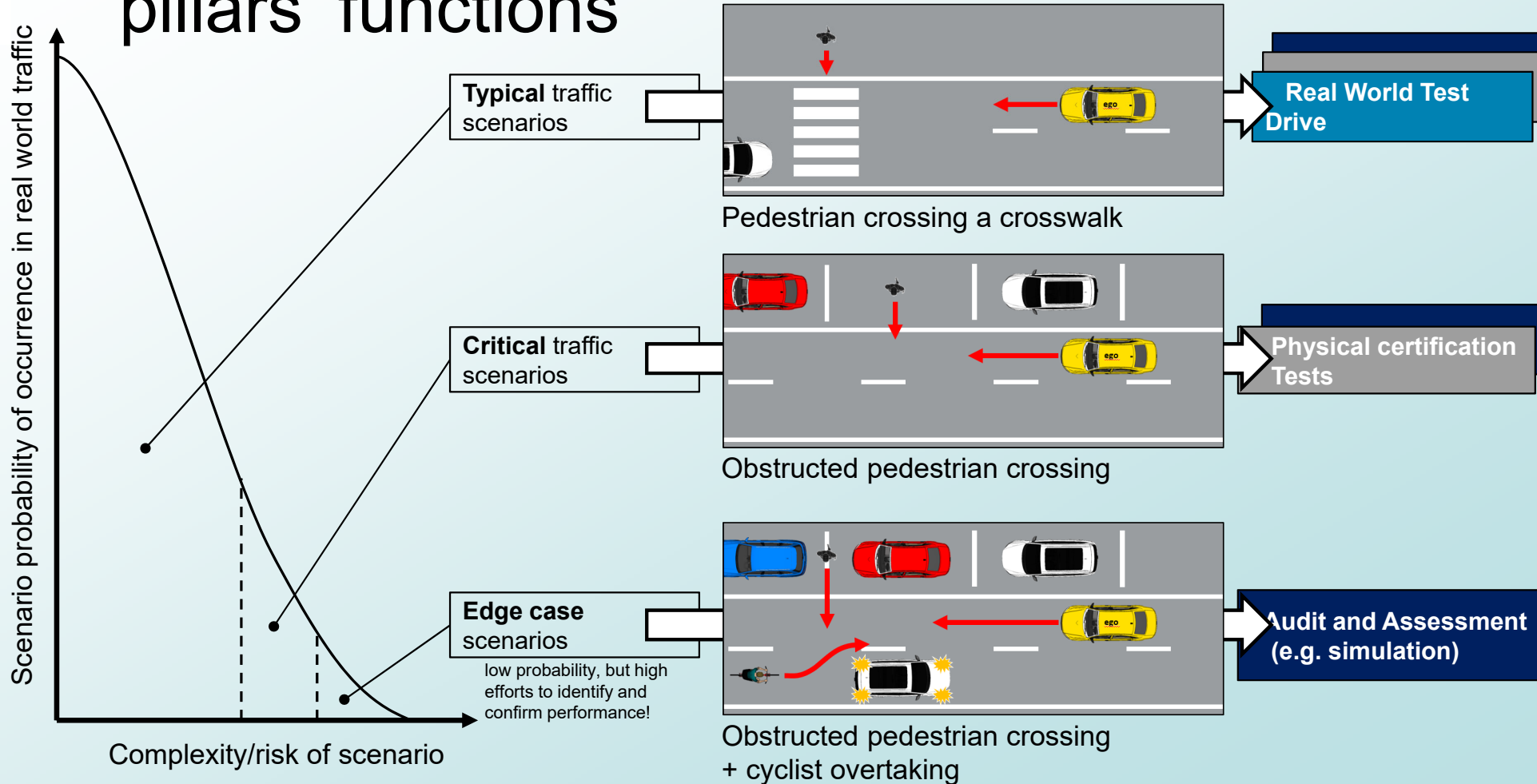
- Entry in and exit from the transition phase
- Which support can the driver still have from the system when he overrides the ADS?
- Which control to activate LKAS, which information on status?
- DSSAD

## ➤ VMAD

- 3-pillar approach
- Audit? CEL?



# Examples for the different pillars' functions





# Concept for certification – the three pillars and their individual purpose

## PILLAR 1

### Audit/Assessment

Simulation

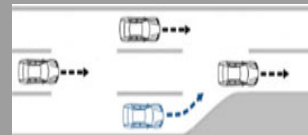
- Understand the system to be certified
- Assess that the applied processes and design/test methods for the overall system development (HW and SW) are effective, complete and consistent
- Assess system's strategies/rest performance to address (multiple) fault-conditions and disturbances due to deteriorating external influences; vehicle behavior in variations of critical scenarios
- Simulation: Test parameter variations (e.g. distances, speeds) of scenarios and edge-cases that are difficult to test entirely on a test track



## PILLAR 2

### Physical Certification Tests

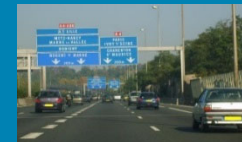
- Assess critical scenarios that are technically difficult for the system, have a high injury severity and are representative for real traffic
- Compare with critical test cases derived from simulation and validate simulation tools



## PILLAR 3

### Real World Test Drive

- Assess the overall system capabilities and behavior in non-simulated traffic on public roads and show that the system has not been optimized on specific test scenarios
- Assess system safety requirements like e.g. HMI and ODD
- Assess that the system achieves a performance comparable to an experienced driver





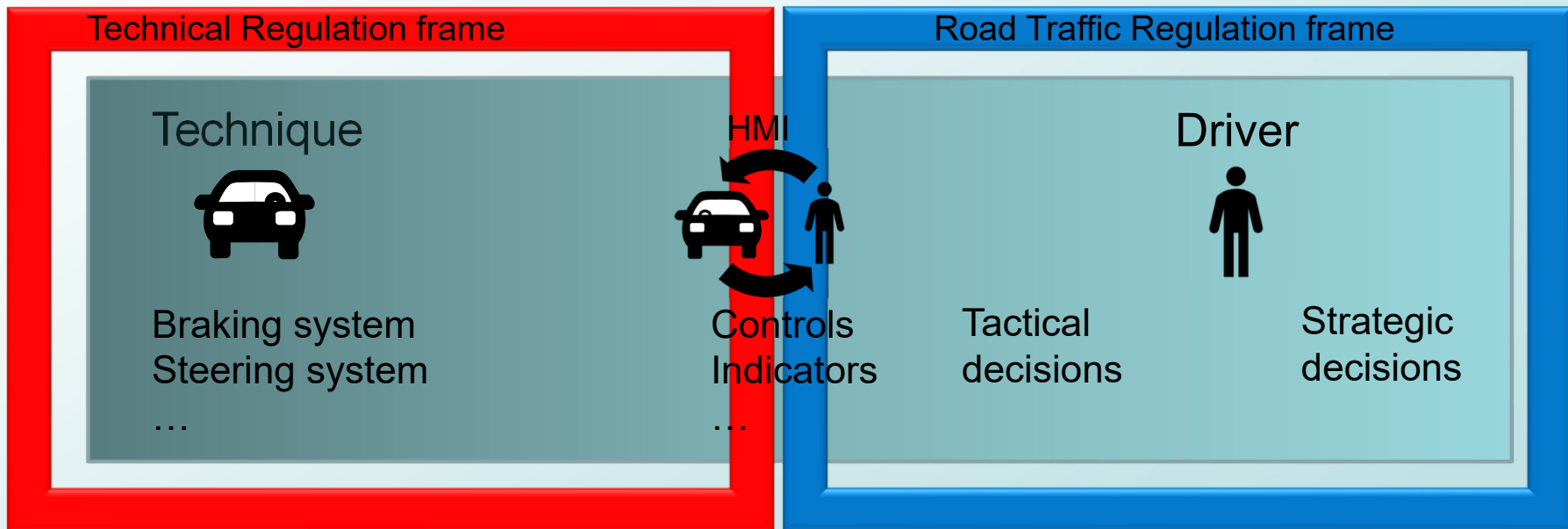
## State of play at WP1

- Important for GRSG in particular for HMI
- Adoption of a Resolution addressing the conditionally and the highly automated vehicles
- Ongoing discussions:
  - What “other activities than driving” may the driver undertake when the AD is engaged
  - Remote driving
  - Amendments to the Vienna Convention and the Geneva Convention.



# Challenge facing the Automated Driving (AD)

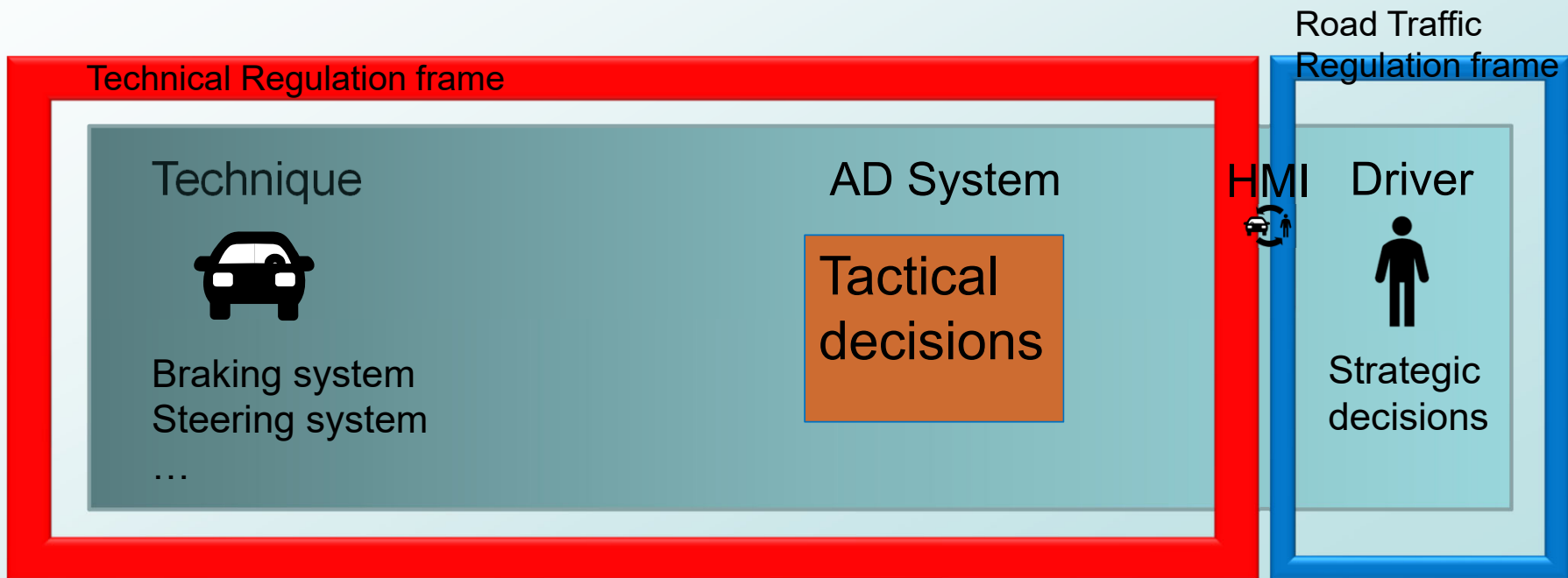
## Conventional vehicles





# Challenge facing the Automated Driving (AD)

Automated vehicles

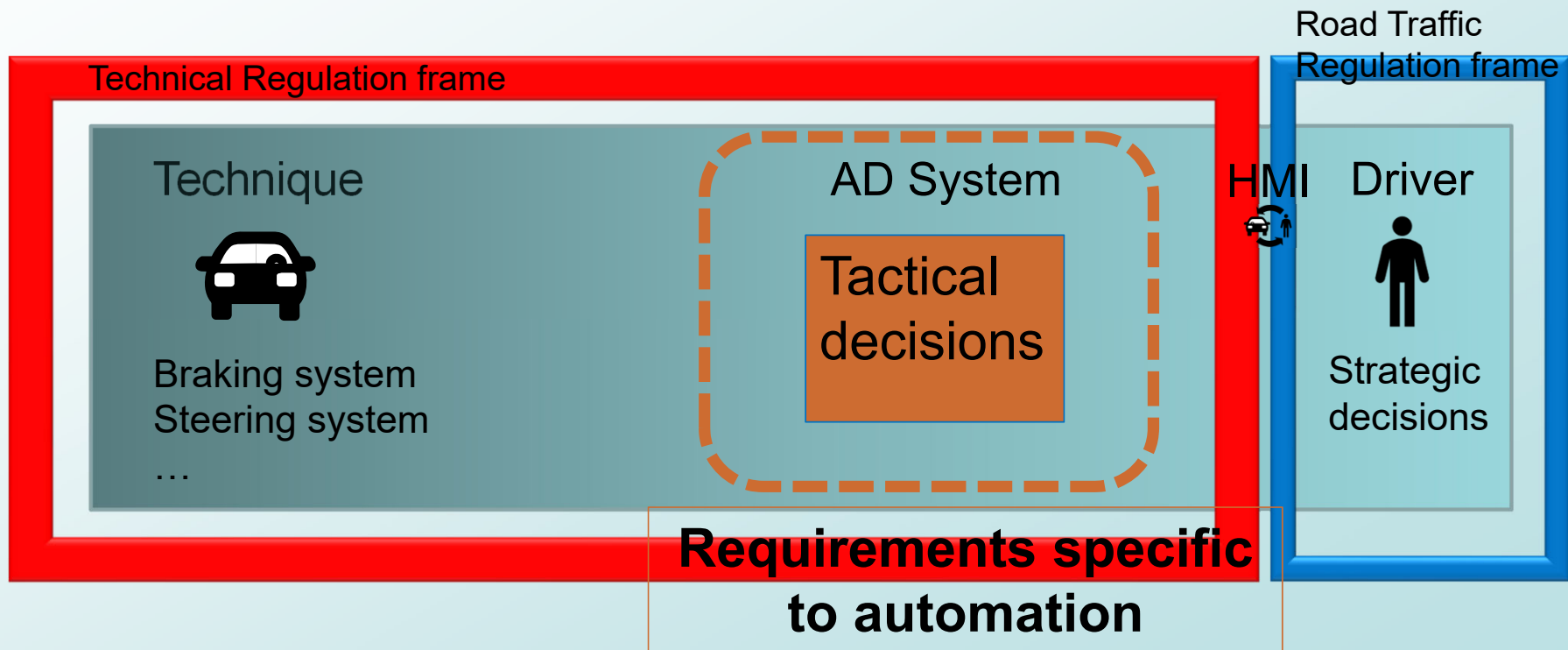






# Challenge facing the Automated Driving (AD)

Automated vehicles





Thank you