



# Project introduction and overview of regional activities

Julian Schindler



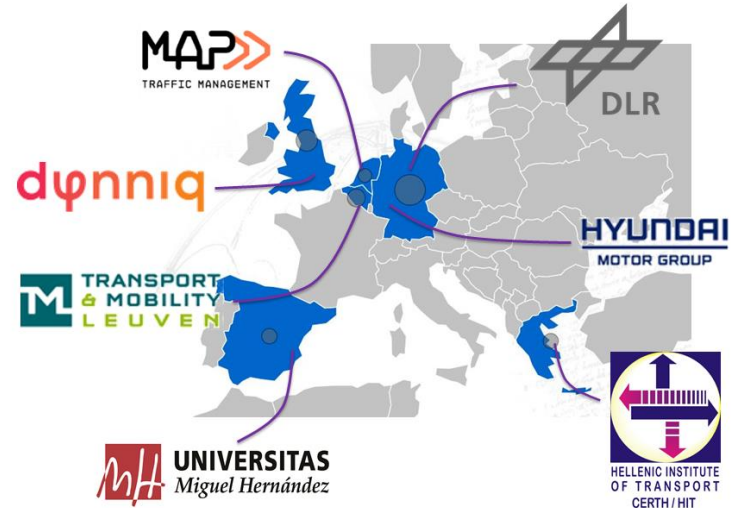
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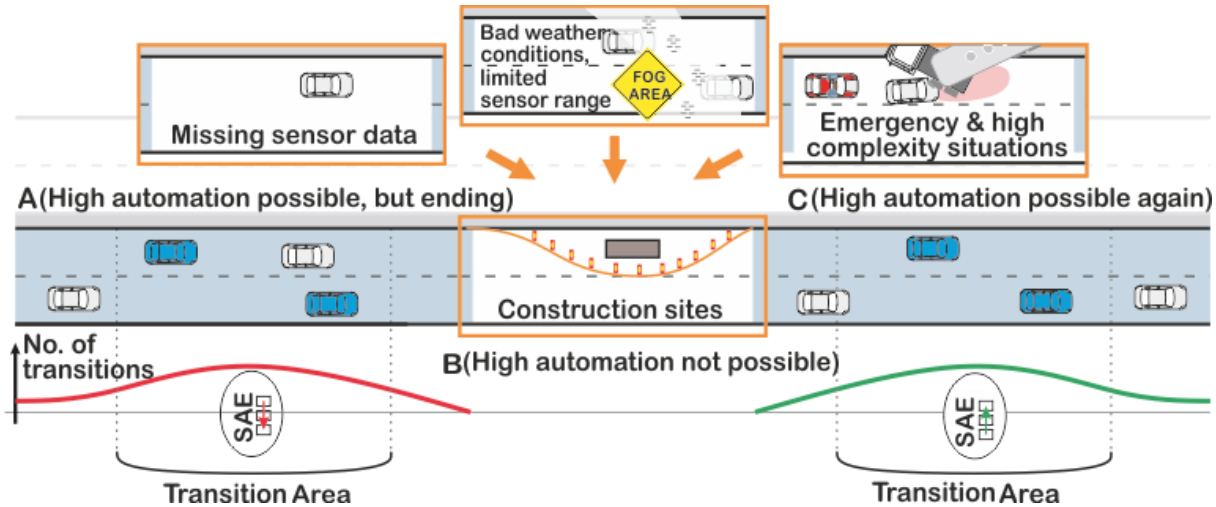


# Transition Areas for Infrastructure Assisted Driving

- European H2020-MG-2014-2015 project
  - ART-05-2016 - Automated Road Transport
  - Period: 01-09-2017 ~ 31-08-2020
  - Budget: € 3,836,353
  - 7 partners + 12 associated partners
- Main objective:
  - To develop and demonstrate
    - infrastructure-assisted traffic management procedures,
    - protocols and
    - guidelines
  - for smooth coexistence between automated, connected and conventional vehicles especially at *Transition Areas*.

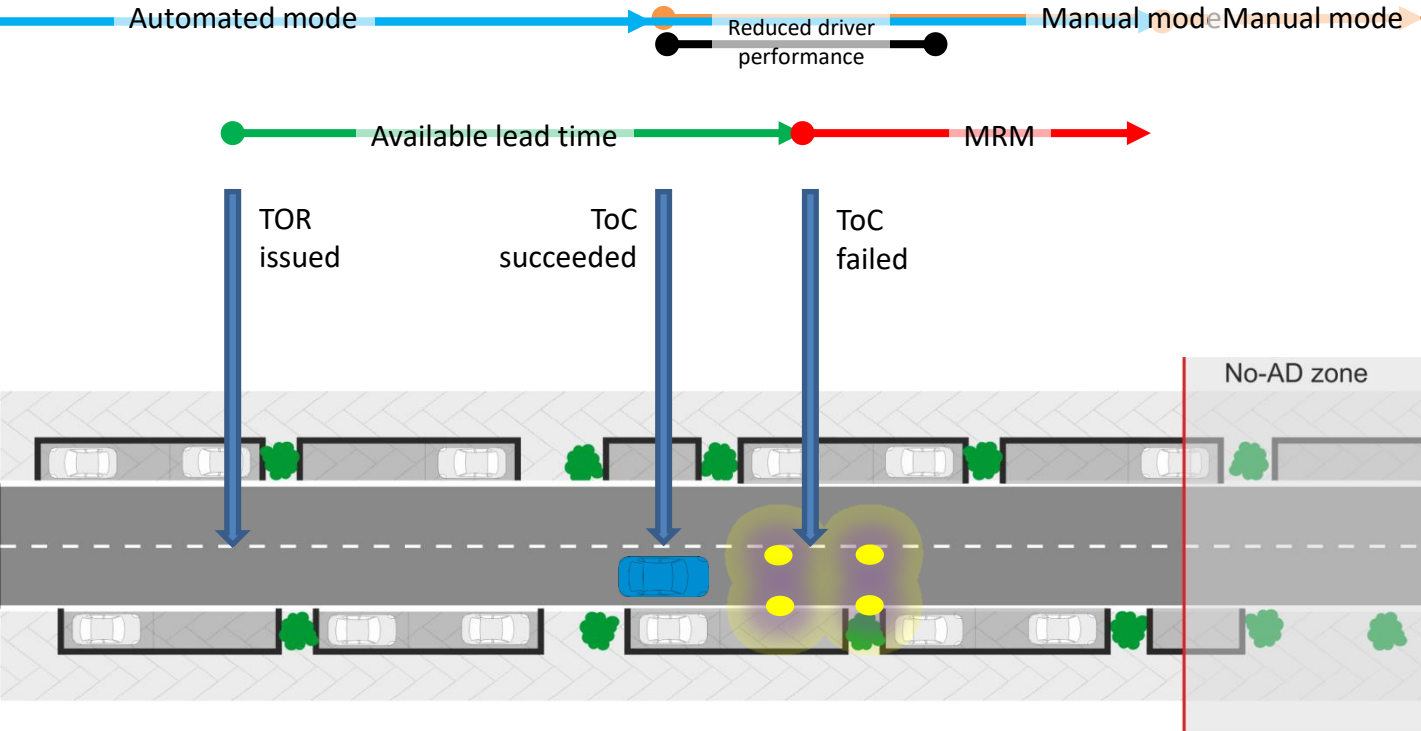


# Definition: "Transition Areas"



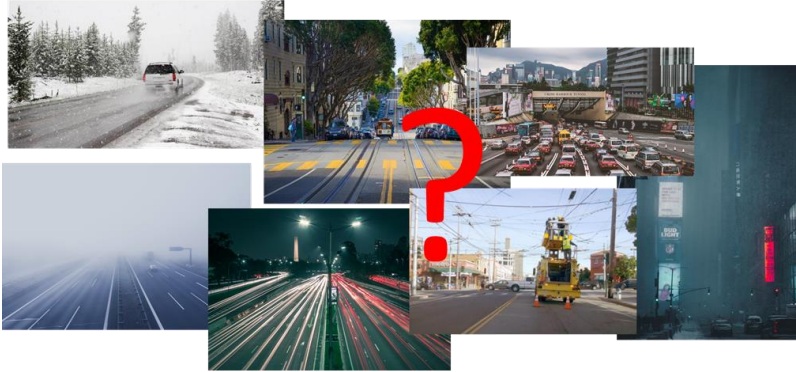
*"Transition Areas" are areas on the road where many highly automated vehicles (blue) are changing their level of automation due to various reasons.*

# Definition: ToC, TOR & MRM



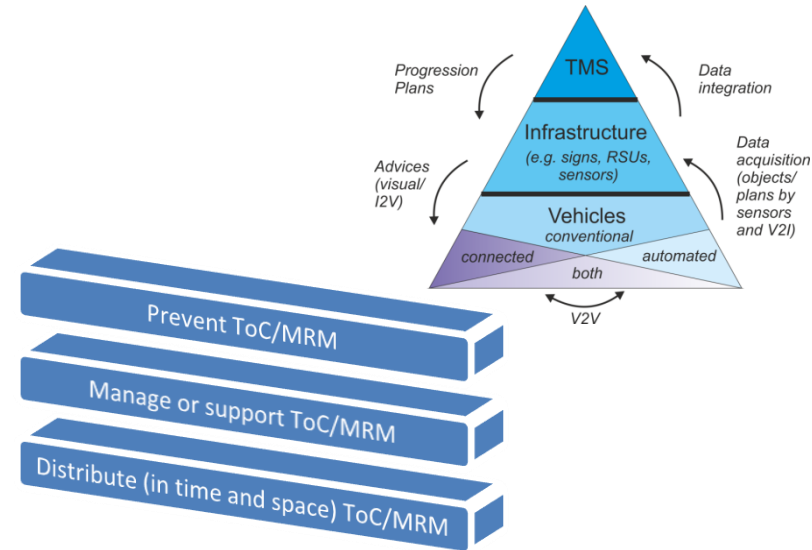
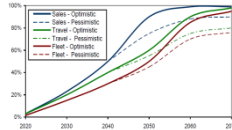
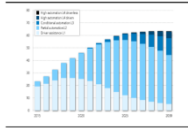
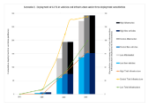
- ToC: Transition of Control
- TOR: Take Over Request
- MRM: Minimum Risk Maneuver

# Scenario and timeline definition



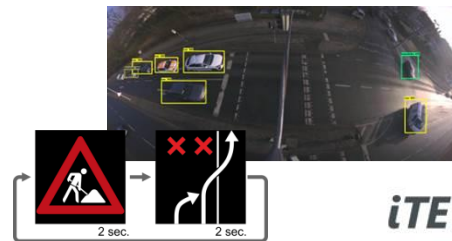
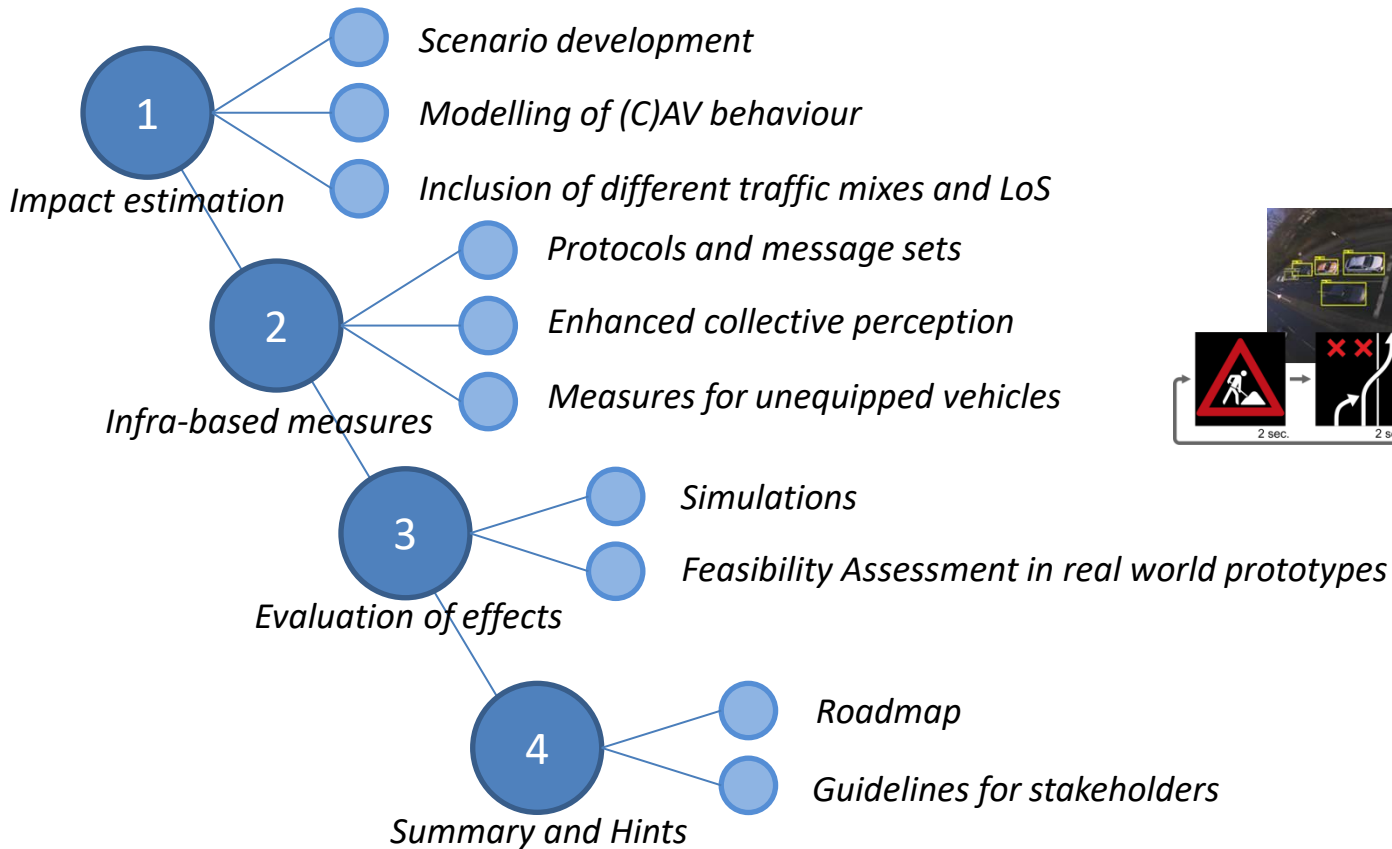
Performed literature studies, expert interviews and stakeholder workshops with mentimeter surveys

- Various parameters (environmental causes, vehicle behaviour, HMI, driver reaction, time ...)
- only limited data available



Mix#	Year	LV	LV-A	CV-1	CV-2	AV-L3	AV-L4	CAV-L3	CAV-L4	AD*
1	2025	90%	6%	4%	-	-	-	-	-	10%
2	2030	85%	6%	4%	2%	2%	-	1%	-	15%
3	2035	80%	6%	4%	3%	3%	1%	2%	1%	20%
4	2040	70%	6%	4%	4%	5%	4%	4%	3%	30%
5	2045	60%	5%	3%	4%	9%	6%	8%	5%	40%
6	2050	50%	5%	3%	4%	12%	8%	12%	6%	50%
7	2055	40%	5%	3%	4%	15%	12%	15%	9%	60%
8	2060	15%	5%	3%	4%	22%	11%	22%	10%	70%

# Methodology



# Related European activities (excerpt)



- “Preparing road infrastructure for mixed vehicle traffic flows”
- Scenarios: Dynamic lane assignment, Construction site/Roadworks zone, Bottlenecks (on/off ramps, lane drops, etc.)
- Important output: ISAD levels



- “Working towards a shared road network. Enabling cities to get automation ready”
- Investigating e.g. capacity of arterial road with signalised junction or mixed road space
- City focus: Gothenburg (SE), Helmond (NL), Milton Keynes (UK) & Stuttgart (DE)



- “Piloting automated driving on European roads”
- large-scale piloting of SAE Level 3 functions, with additional assessment of some Level 4 functions
- 1,000 drivers and 100 cars across 10 European countries, including cross-border



- managing automated vehicles in an urban environment (with signalized intersections and mixed traffic)
- Adaptive GLOSA approaches, collective perception, urban platooning



## Any questions?

Julian Schindler  
DLR  
julian.schindler@dlr.de

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