Infrastructure for shared autonomous mobility

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Shared Autonomous Mobility, Siemens-Mobility
Use Case: Infrastructure for shared selfdriving vehicles

Enable level 5 of autonomous driving

Improved safety for complex traffic conditions
Use in shared shuttles

Enhanced ease of traffic

Serving first/last mile for public transport
Infrastructure enhances driving abilities of self-driving vehicles in traffic critical situations

- **Roadway junction**: Impossible for SDV to detect vehicle at sufficient range to ensure safe left turn.
- **Roadway connectivity**: Impossible for SDV to detect vehicle at sufficient range to ensure safe merge.
- **Steep hill scenario**: Impossible for SDV to detect vehicle at sufficient range to ensure safe avoidance maneuver.
- **Hairpin turn**: Impossible for the SDV to detect vehicle at sufficient range to ensure safe avoidance maneuver.
- **“Sun blinding” of sensors**: Degraded sensor performance.
Innovation: That’s why …

We ensure safe and fluent traffic (ease of traffic) for self-driving PT vehicles and complex traffic situations in all weather conditions.
We will demonstrate multitude of use cases for self-driving vehicles.

Infrastructure works reliably, even in the case of changing weather and light conditions (rain, snow, fog or glaring sunlight).

Infrastructure identifies risks – even if they are not in the immediate surrounding of the vehicle.

Vehicle reduces its speed to avoid critical situations.
Practical overview of the system

Traffic cell data fusion on TCCC

Roadside cognition and localization

Operation control center in the cloud

Vehicle cognition, localization and control

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Camera
RTLS
Road Site Unit
WLAN access point
Radar
Lidar
Occupancy Grid is at the core of our development roadmap

Cantina 1

Vehicle

Pedestrians
Realtime monitoring traffic cell
Monitoring with detailed access to infrastructure components
Streckenabschnitte mit vermehrter Anzahl an manuellen Eingriffen während des Betriebs im Rahmen des OTS-Projekts → kritische Stellen.
Cloud-based micro services of SDV Suite – Overview
Test beds in relevant environments – Together in an eco-system of strong partners

OTS
Munich

HEAT
Hamburg

Singapore

Airports
Munich

Interurban
KoRa9
Further Information

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Please see us at any of the testfields (appointment required)

• Cetran (Singapore)
• Testfeld Mch P (Munich)
• Heat (Hamburg)
Questions?

Seeking partners for 5G-PPP, H2020-ICT calls