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Ingenuity for life

Infrastructure for shared autonomous mobility

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Shared Autonomous Mobility, Siemens-Mobility

Use Case: Infrastructure for shared selfdriving vehicles

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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

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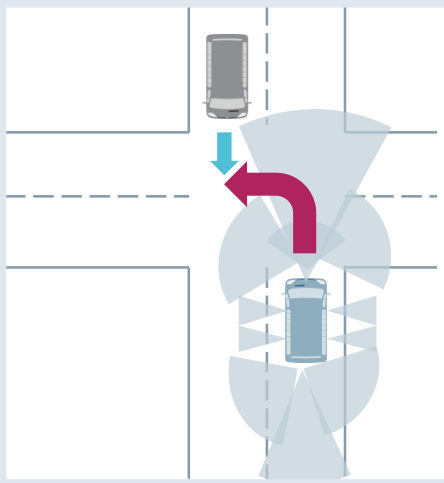
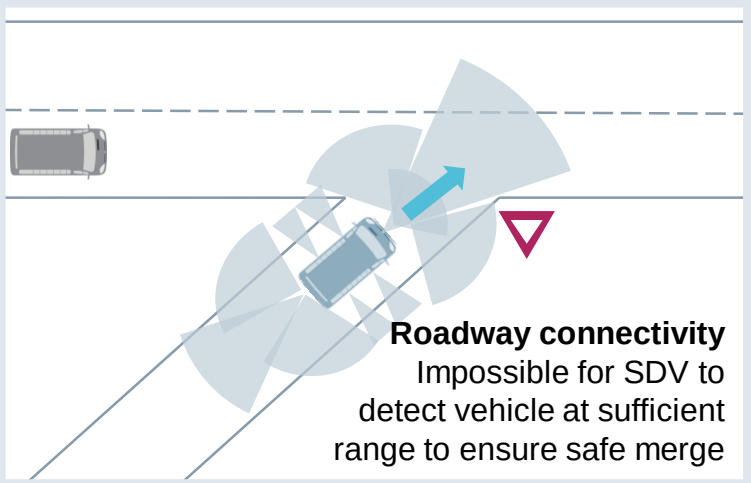
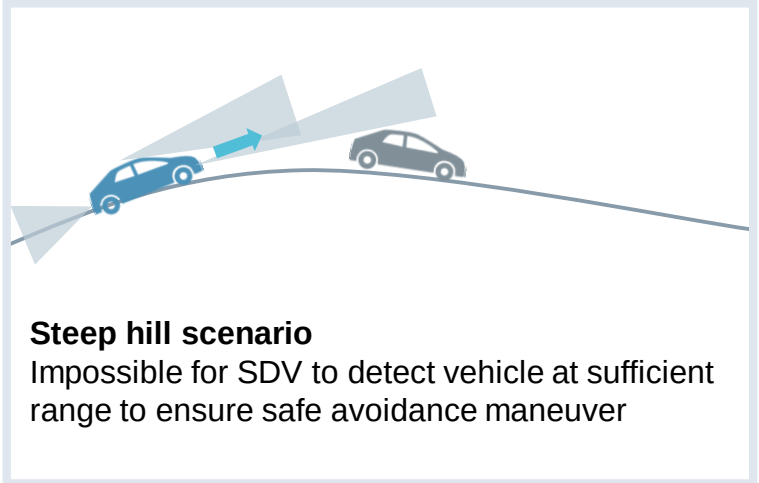


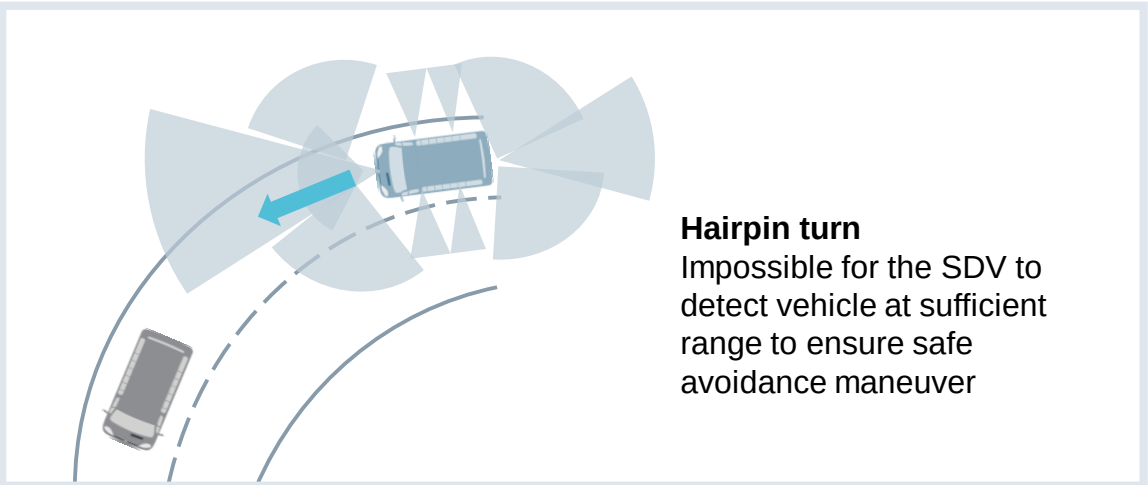
Roadway junction
Impossible for SDV to detect vehicle at sufficient range to ensure safe left turn



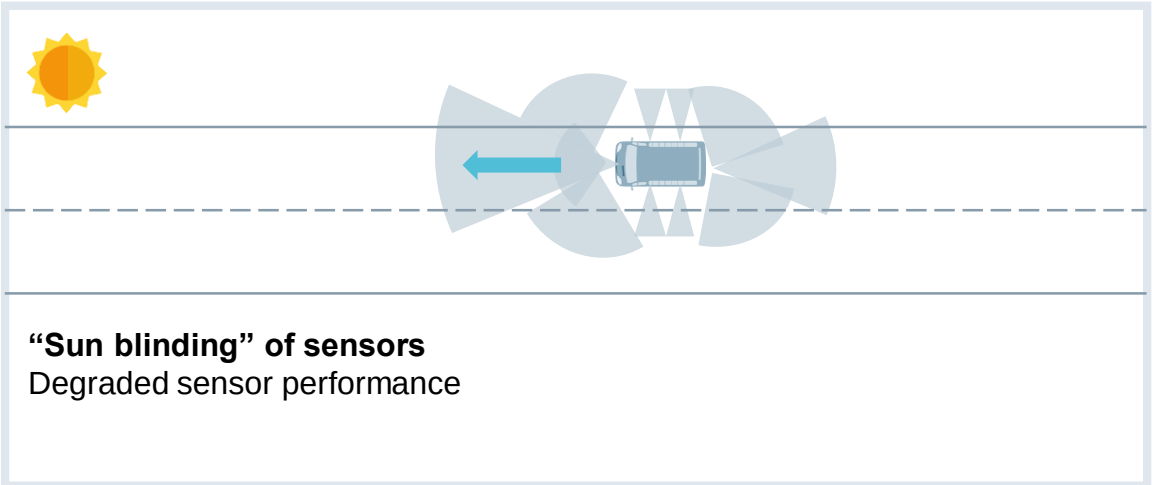
Roadway connectivity
Impossible for SDV to detect vehicle at sufficient range to ensure safe merge



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

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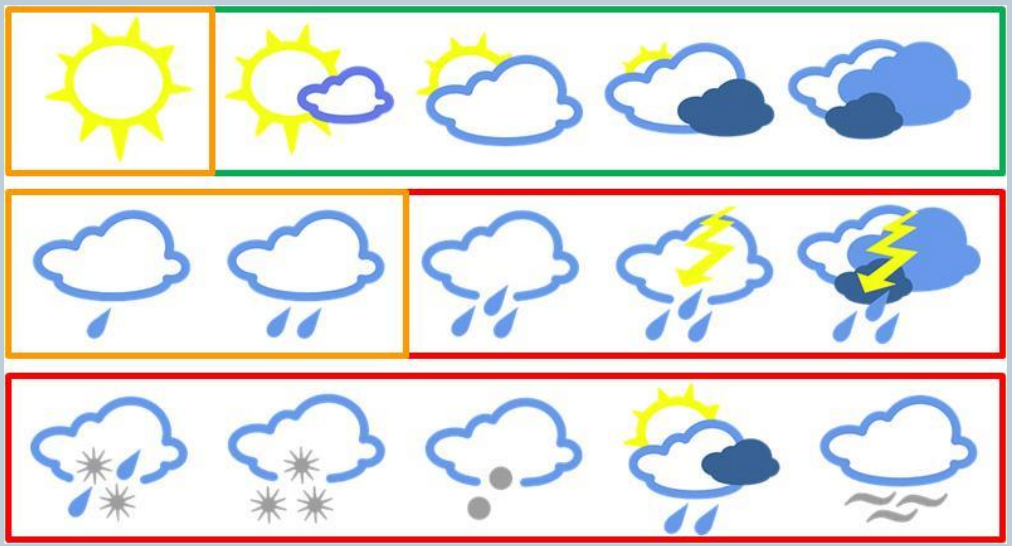
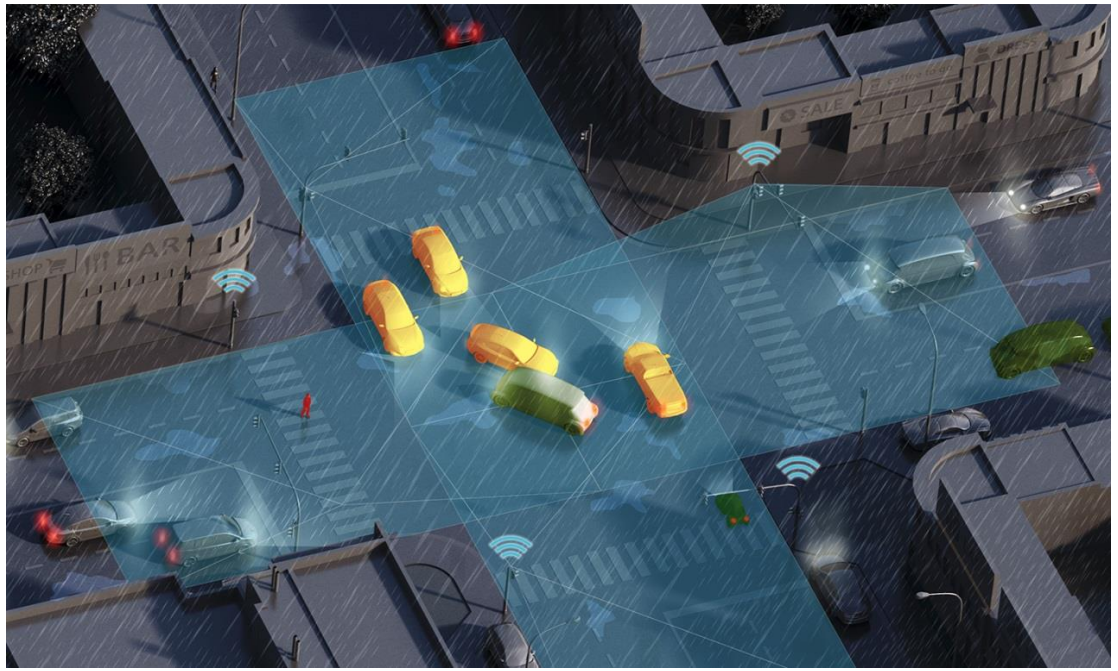
We ensure safe and fluent traffic (ease of traffic) for self-driving PT vehicles



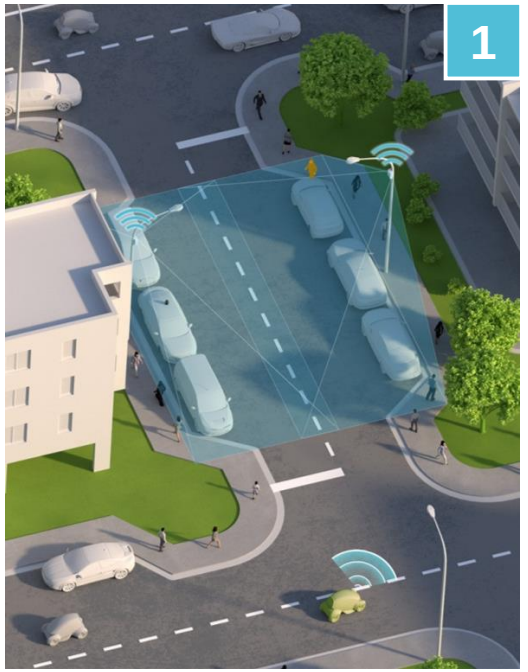
in all weather conditions

and complex traffic situations

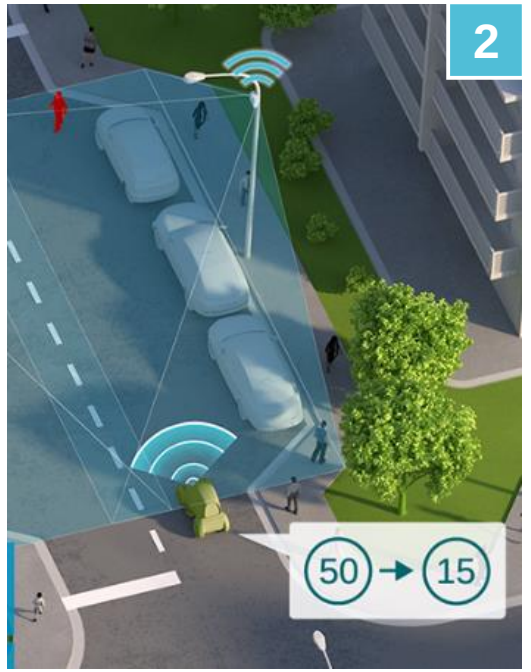
We will demonstrate multitude of use cases for self-driving vehicles



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

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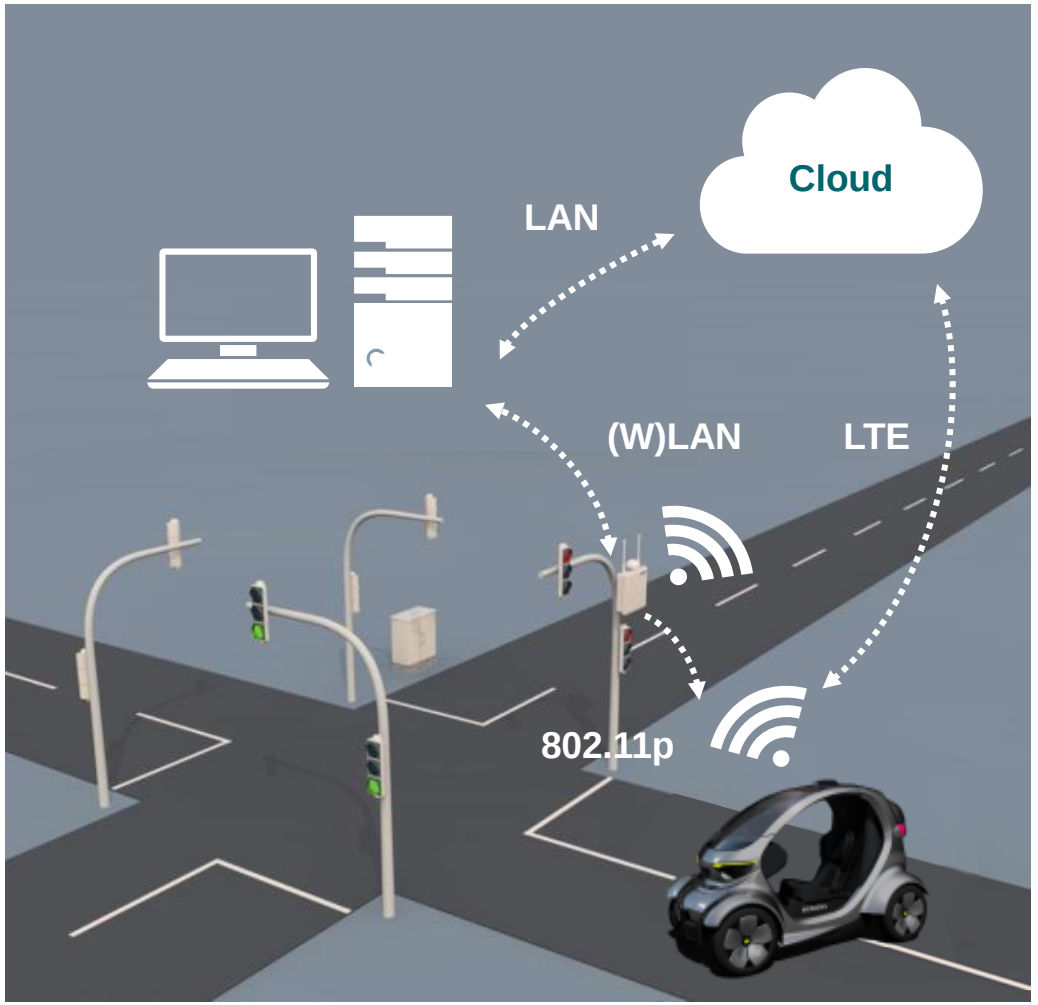
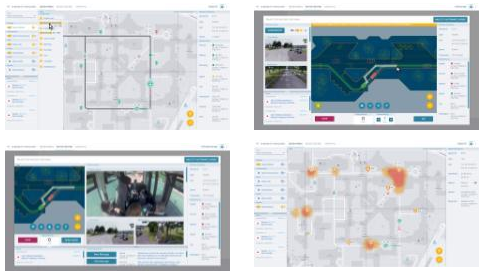
Traffic cell data fusion on TCCC

Roadside cognition and localization



Operation control center in the cloud



Vehicle cognition, localization and control

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Camera

RTLS

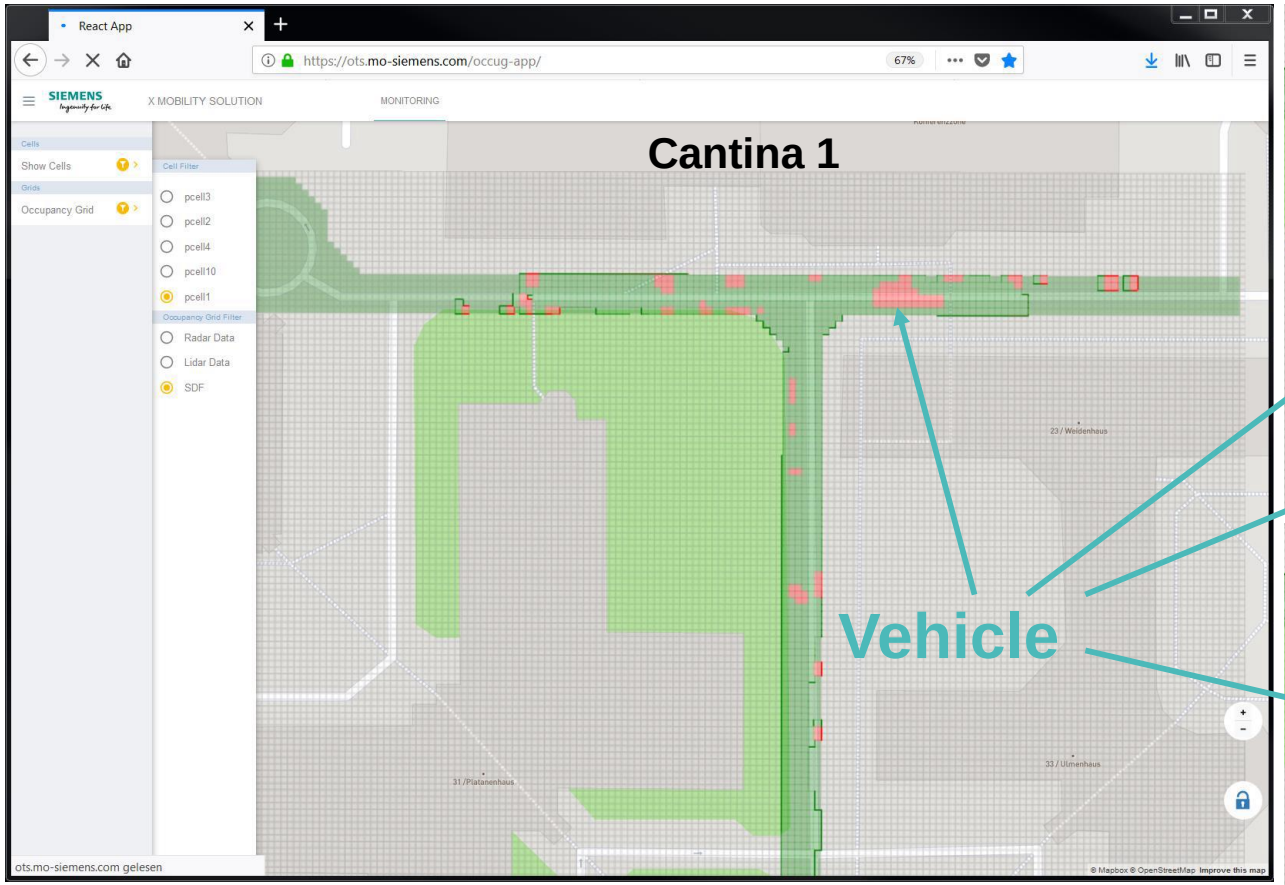
Road Site Unit

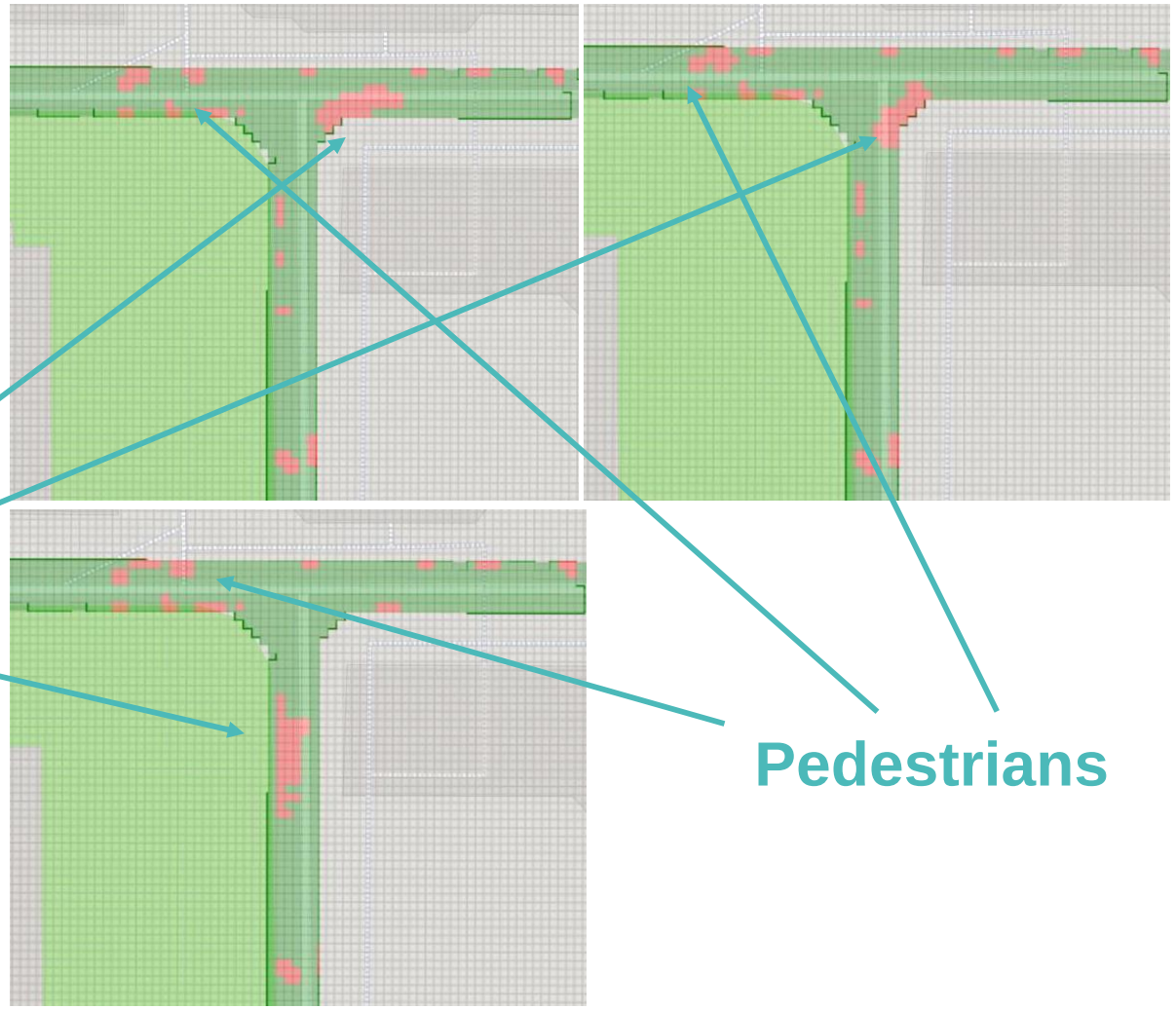
WLAN access point

Radar

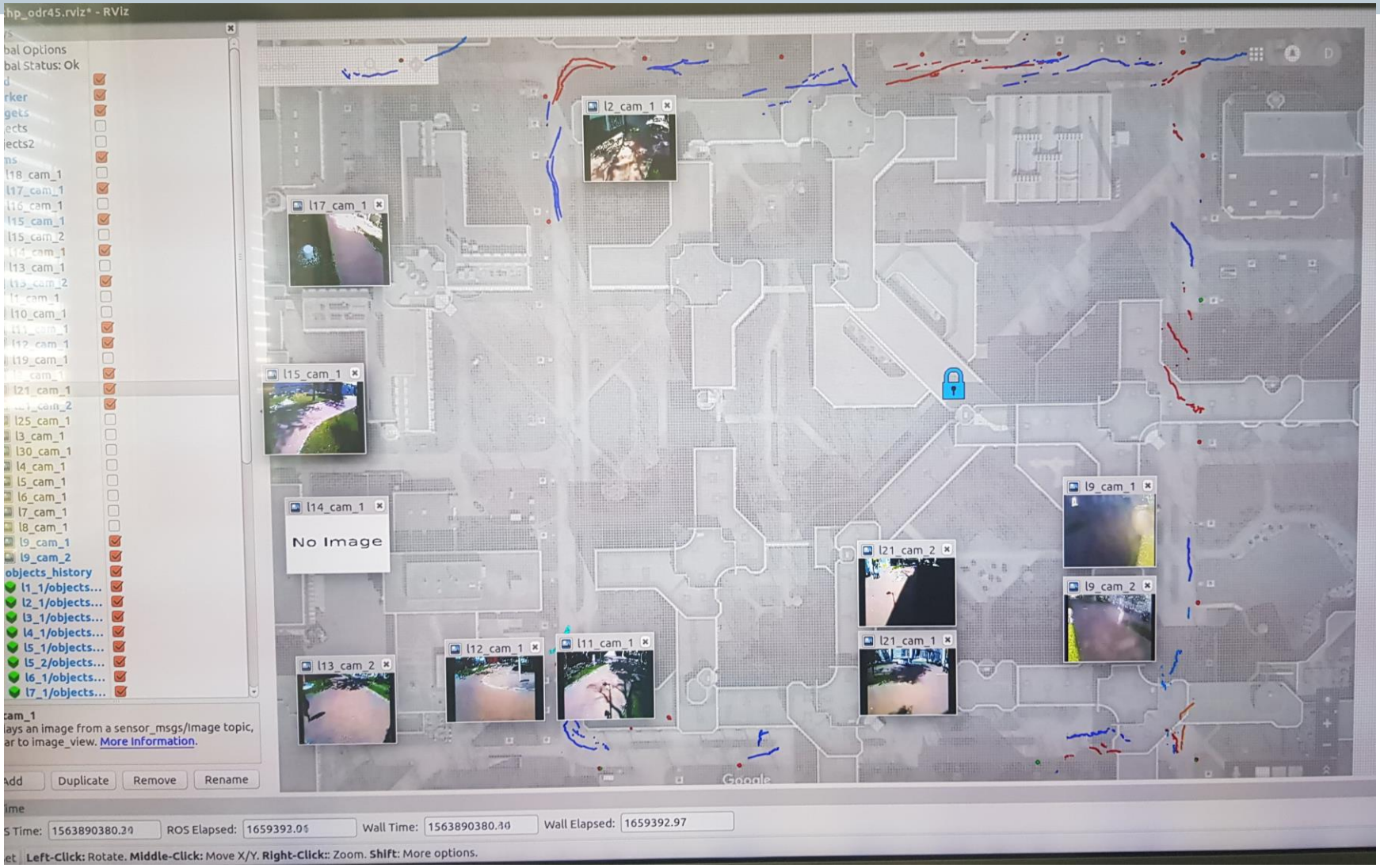
Lidar

Occupancy Grid is at the core of our development roadmap

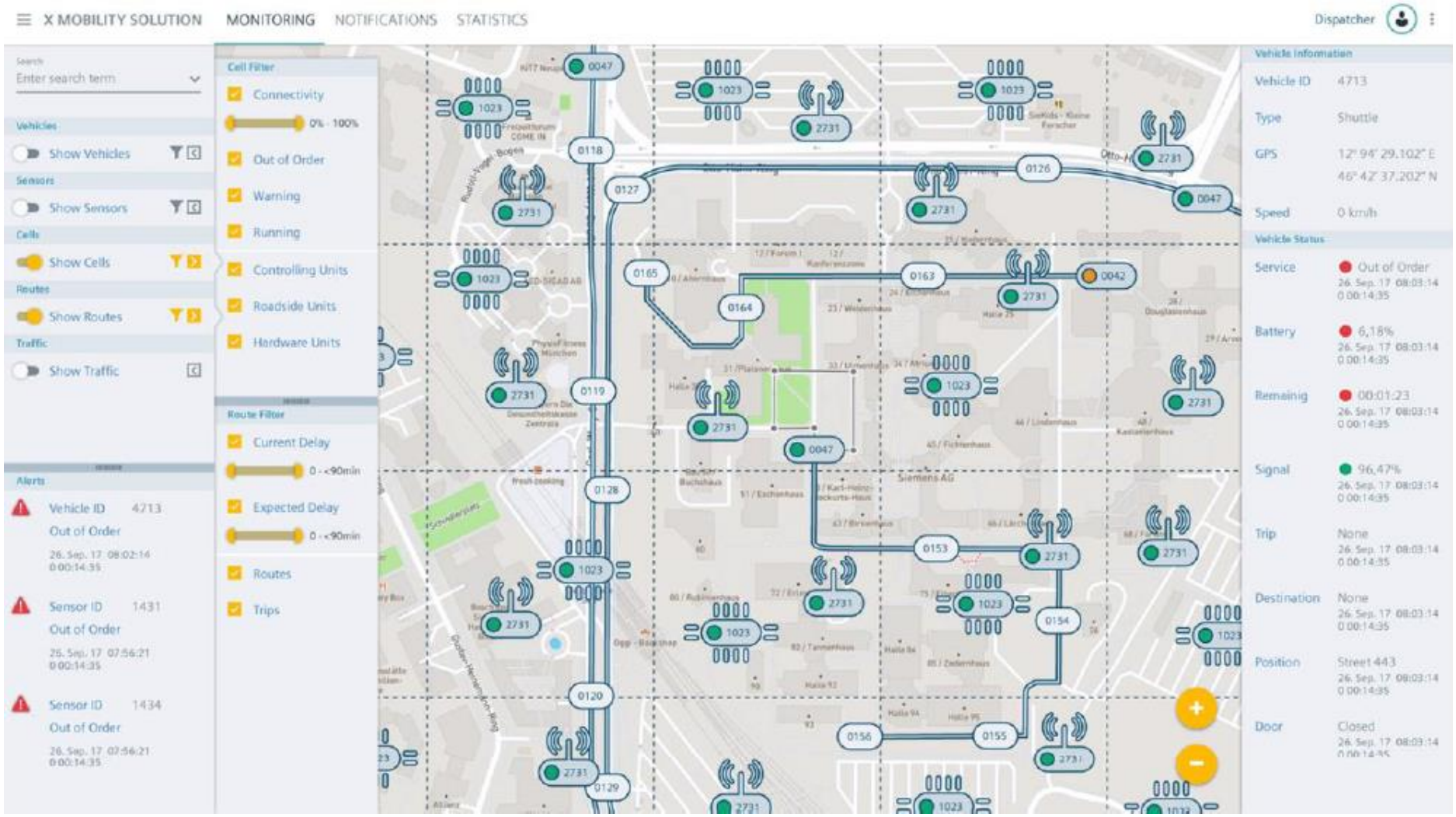




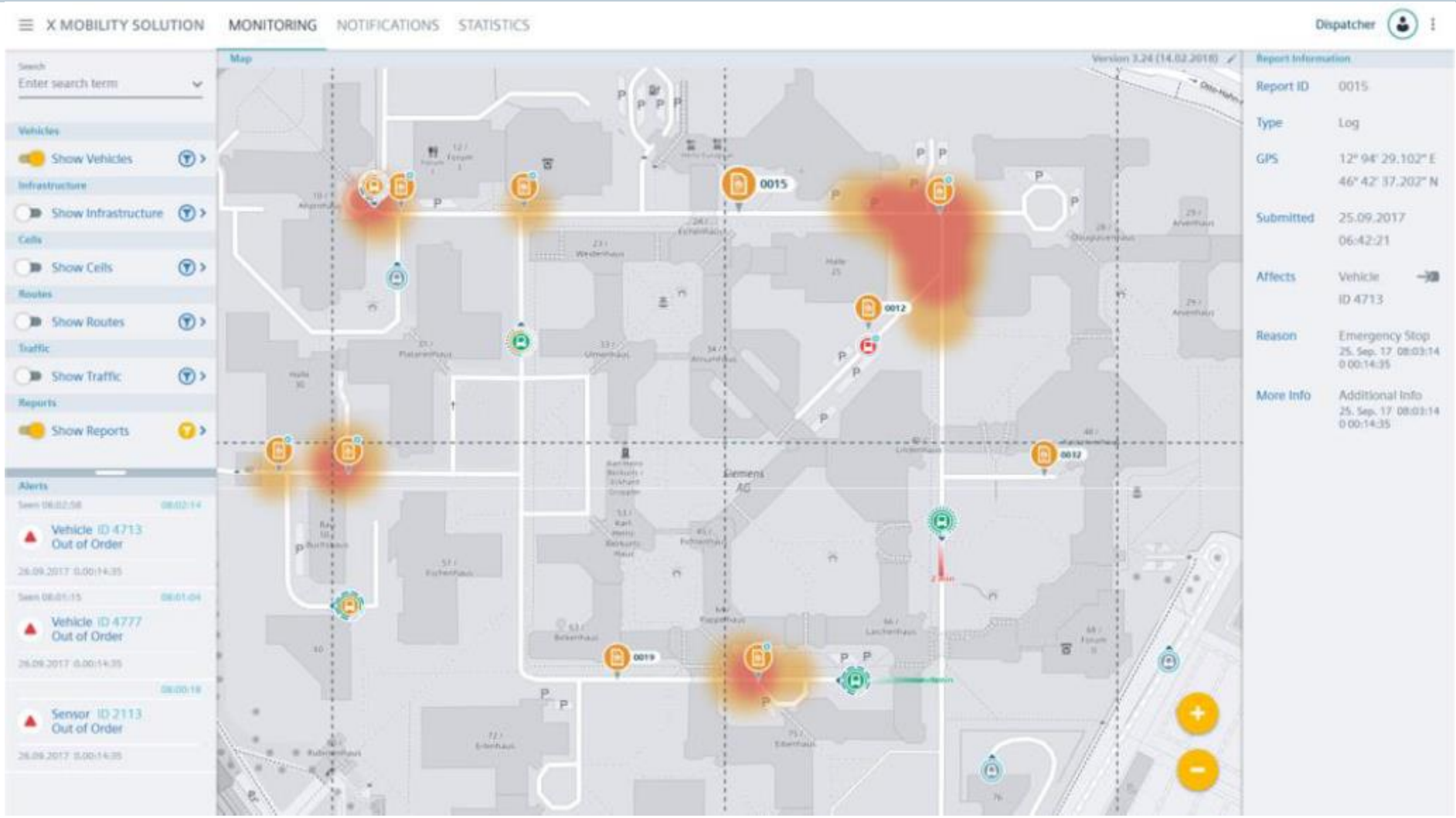
Realtime monitoring traffic cell



Monitoring with detailed access to infrastructure components



Analysis Saftey Driver Intervention



Heat – Map:

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

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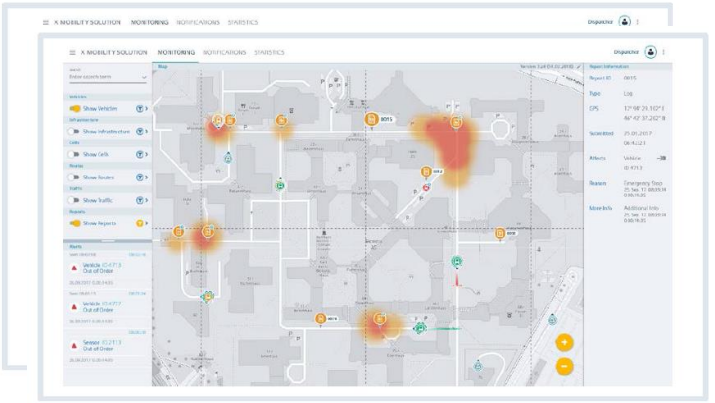
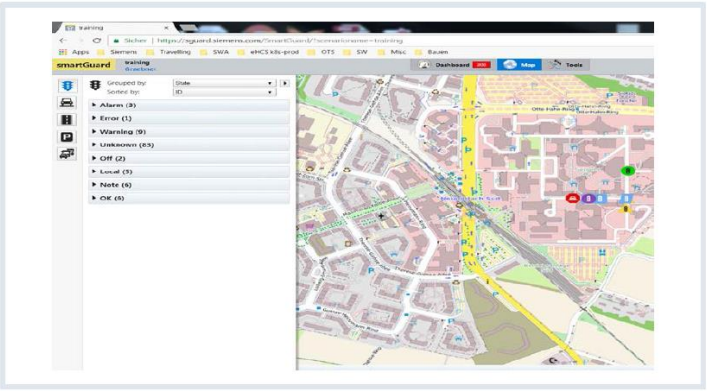
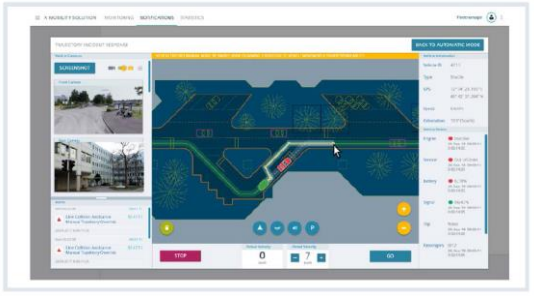
Mobility System Planning



Mobility Service Planning

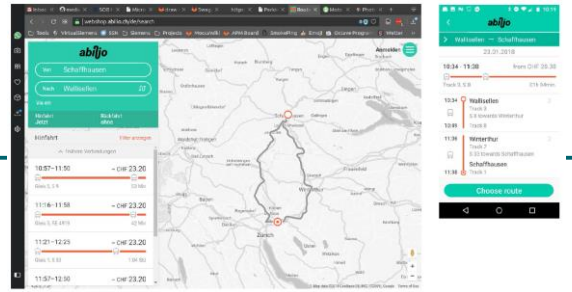


ITS Traffic Management



Fleet Management

Passenger Management



Intermodal Trip Management

Shuttle Passenger Information

Test beds in relevant environments – Together in an eco-system of strong partners

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OTS
Munich

Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit
Technische Universität München
VDI|VDE|IT
Emm!
UTB Projektmanagement GmbH
IKEM
automotive engineering iav

HEAT
Hamburg

Emm!
Hamburg
automotive engineering iav
IKEM
DLR Deutsches Zentrum für Luft- und Raumfahrt
VDI|VDE|IT
HOCHBAHN
hySOLUTIONS

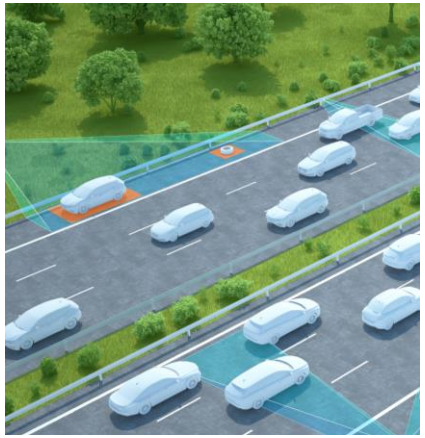
Singapore

SIT SINGAPORE INSTITUTE OF TECHNOLOGY
Emm!
CHANGI airport singapore
ST Kinetics
intel
Land Transport Authority
SBS Transit

Airports
Munich

/Flughafen München
Emm!
TÜV SÜD

Interurban
KoRa9



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Bundesministerium für Verkehr und digitale Infrastruktur
Autobahndirektion Südbayern

Further Information

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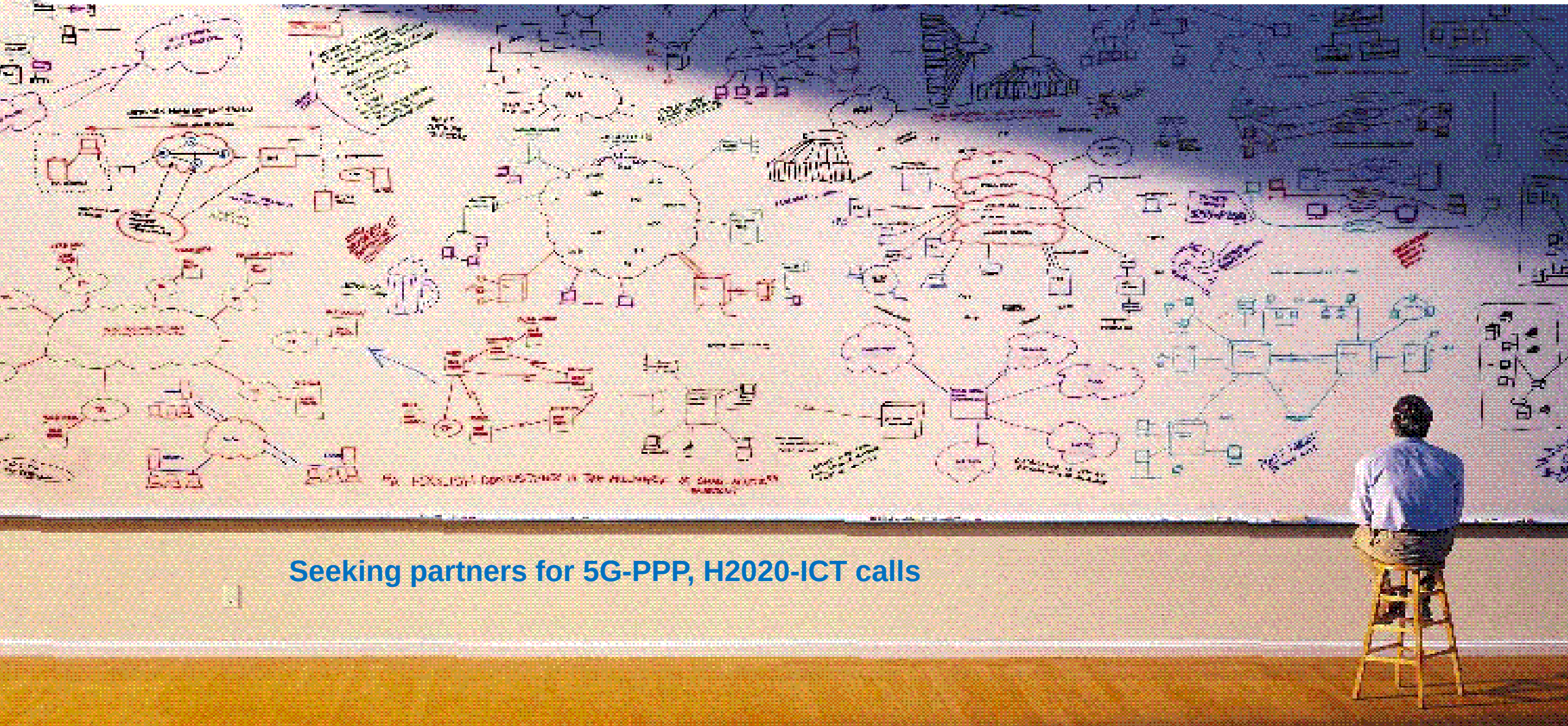
Please see us at ony of the testfields (appointment required)

- *Cetran (Singpore)*
- *Testfeld Mch P (Munich)*
- *Heat (Hamburg)*

Questions ?



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