

FZI Forschungszentrum Informatik



Autonomous Passenger Transport in Real Operation in Karlsruhe

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Autonomous Passenger Transport in Real Operation in Karlsruhe

The long journey
from the test area autonomous driving Baden-Württemberg
via the EVA-Shuttle
to the SHOW-Testsite

Future Mobility





IKOI



The long journey

Testing Ground

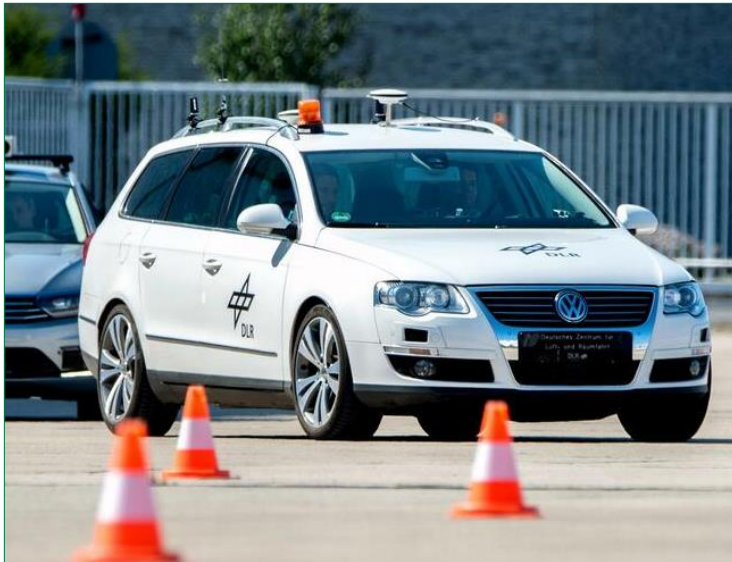


Foto: dpa

?



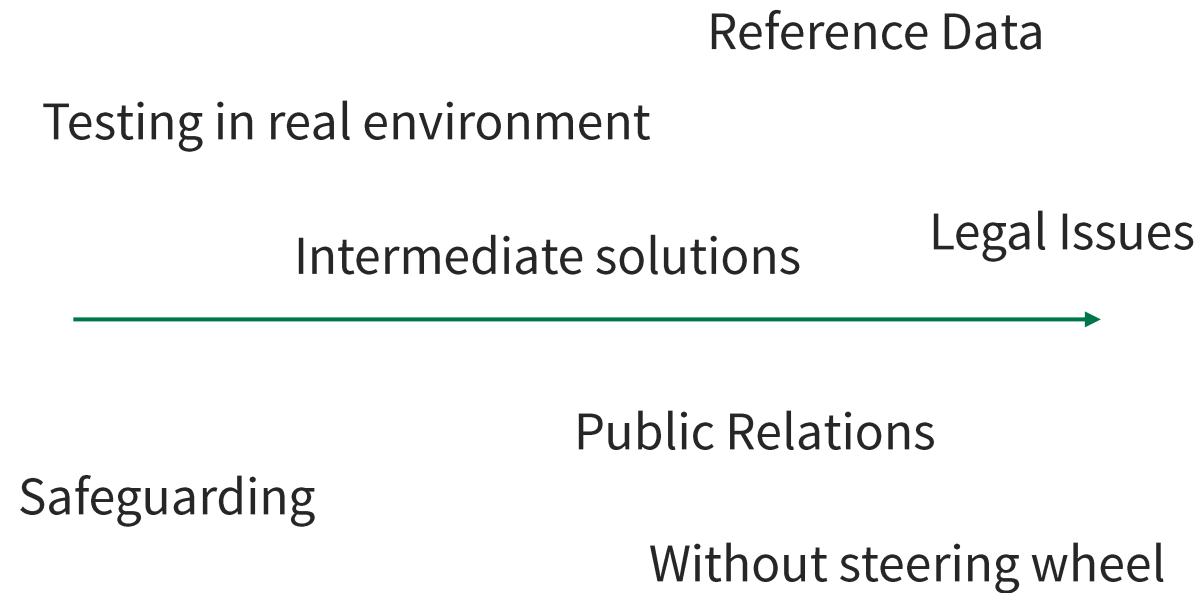
Real Operation



Foto: DLR

The long journey

Testing Ground



Real Operation



The long journey



Test area Buildup

Test area Operation

2016

2017

2018

2019

2020

2021

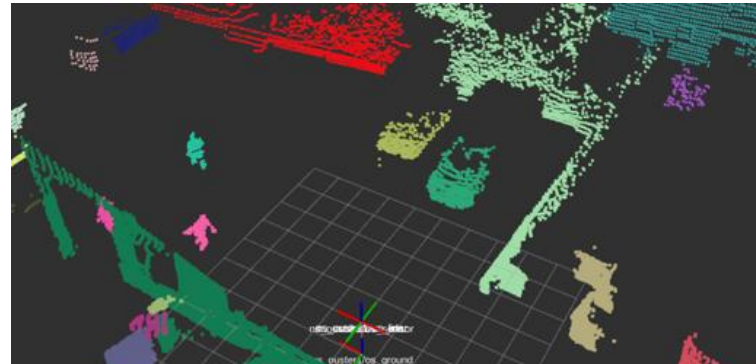
2022

2023

Scope of services



Sensors and Communication



IT Backend and Control center



Mobile Units



Testing ground



Maps and Simulation



Realization Support

The long journey



Test area Buildup

Test area Operation



EVA Shuttle

2016

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2021

2022

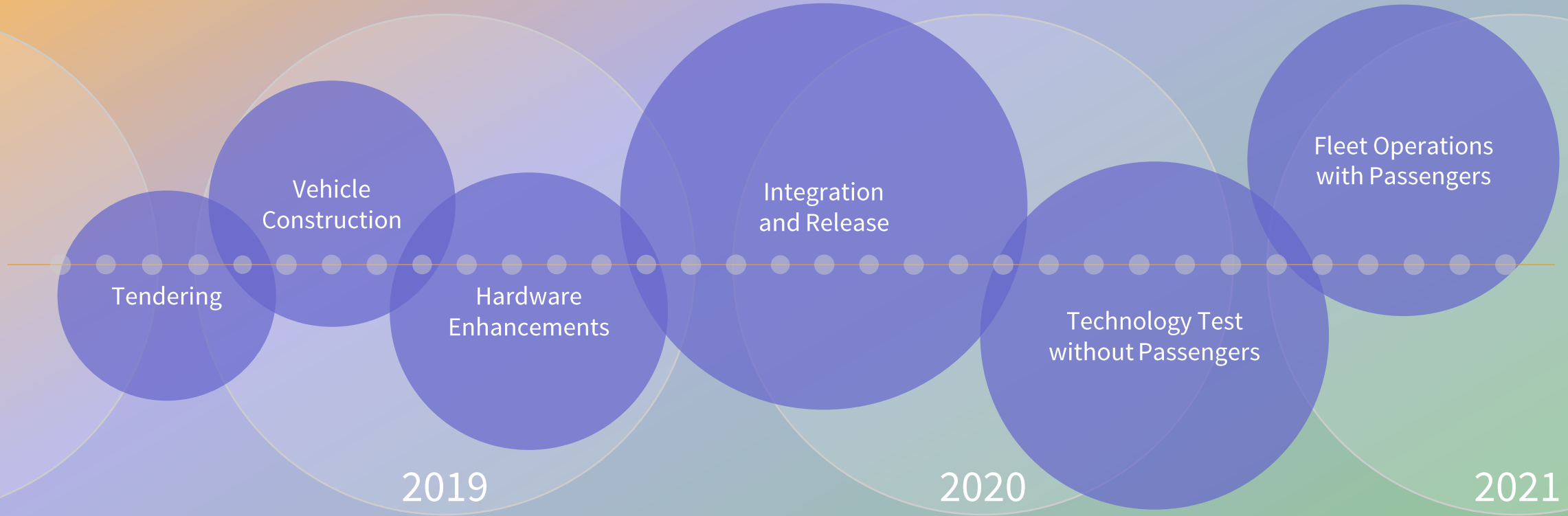
2023

Vision

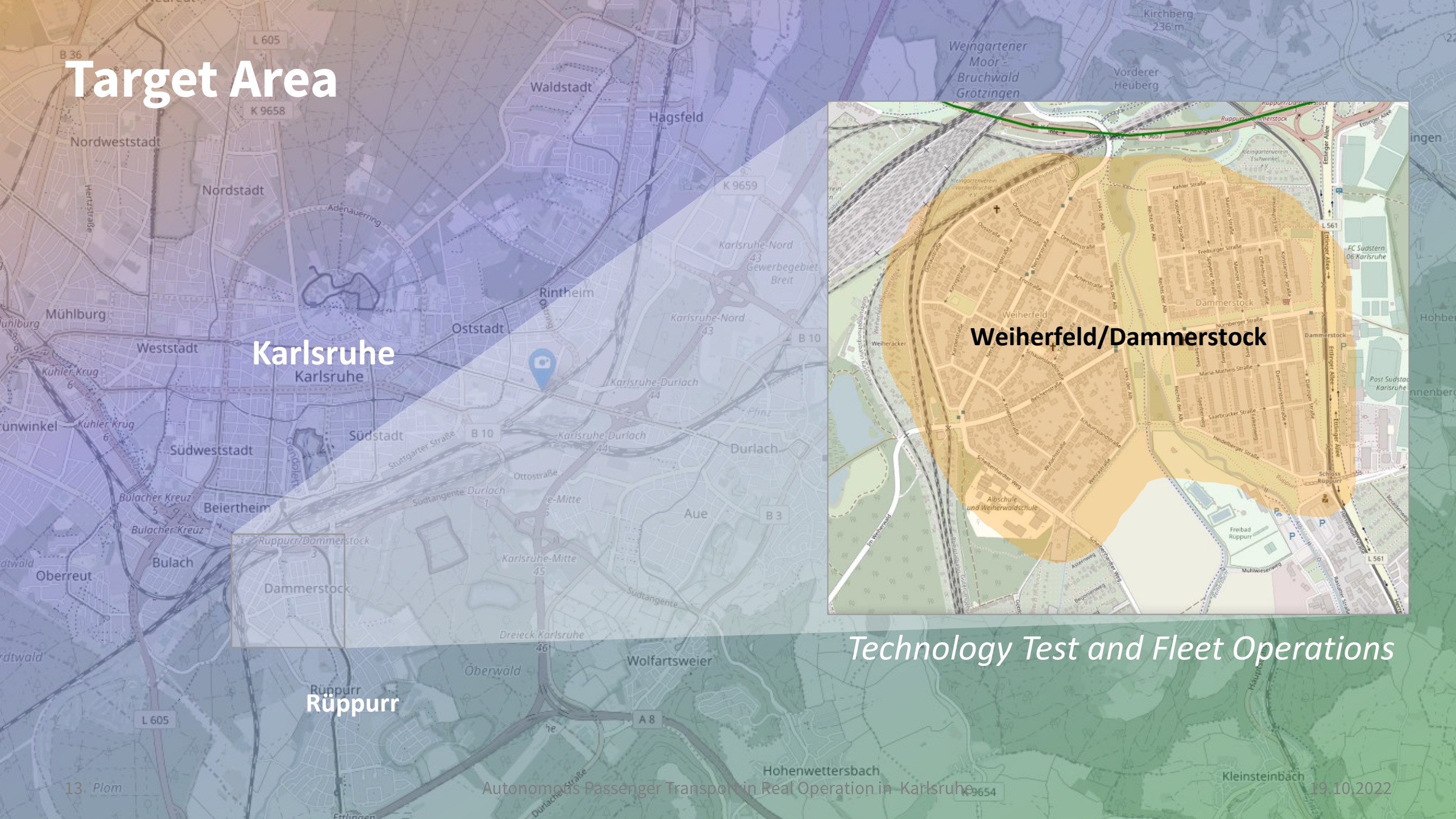
<https://www.youtube.com/watch?v=eg9RrTrDZ7Y>



Timeline

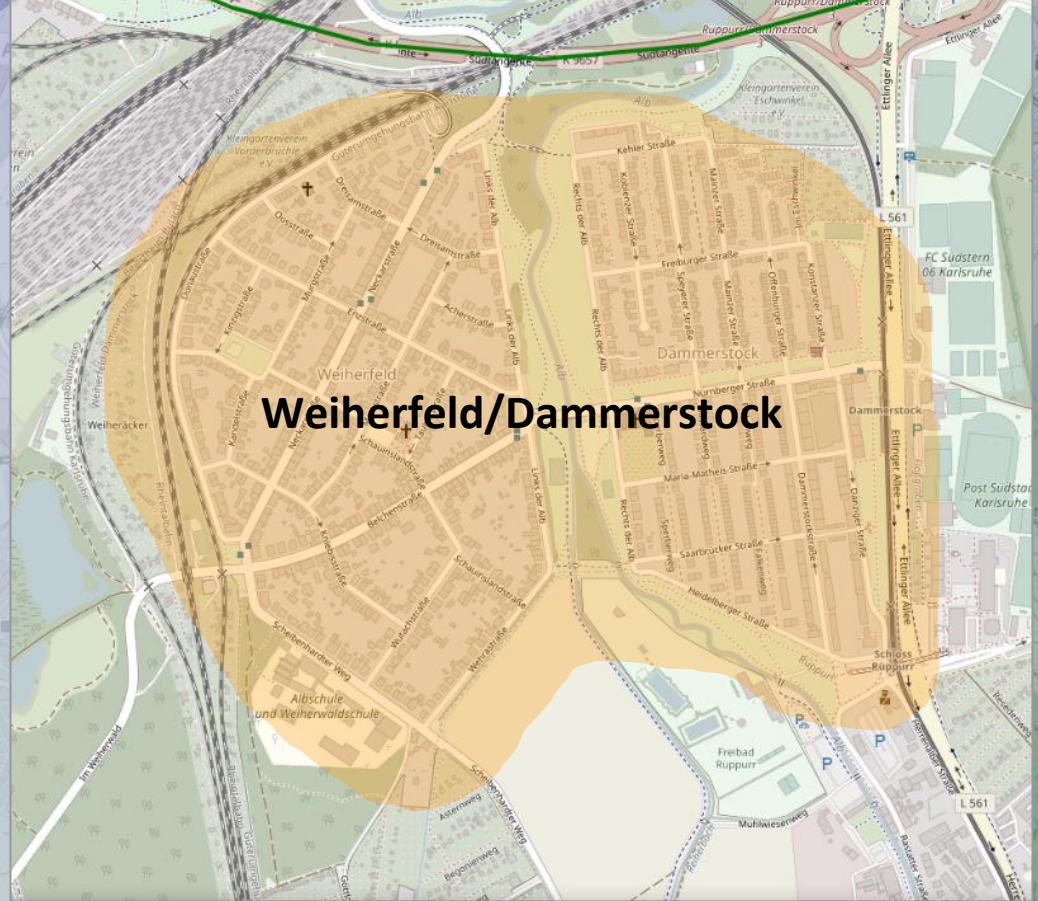


Target Area



Karlsruhe

Weierfeld/Dammerstock



Technology Test and Fleet Operations

FZI-Shuttle

Basis for several project directions

Full **usage of available road** up to 20 km/h

Centimeter precise **LIDAR localization**

Communication with traffic lights via Car2X

Novel safety concept allows **free choice of trajectories**

Multiple **permission** steps up to passenger transport

Realization in **Test Area Autonomous Driving** Baden-Württemberg



The long journey



Test area Buildup

Test area Operation



EVA Shuttle

ÖV-Leitmotif-KI



SHOW

Shuttle2X

2016

2017

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2019

2020

2021

2022

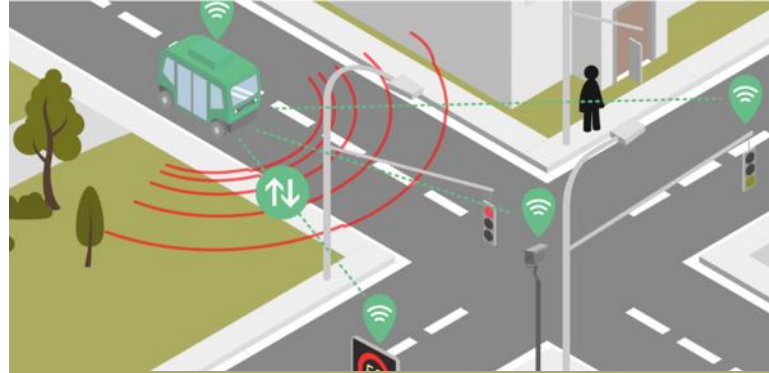
2023

Projects in Real Traffic



ÖV-Leitmotif-KI

Focus
Intelligent management system
for automated vehicles



Shuttle2X

Focus
More safety
by sensors in infrastructure



SHOW

Focus
Real experience
for general public



SHOW test sites



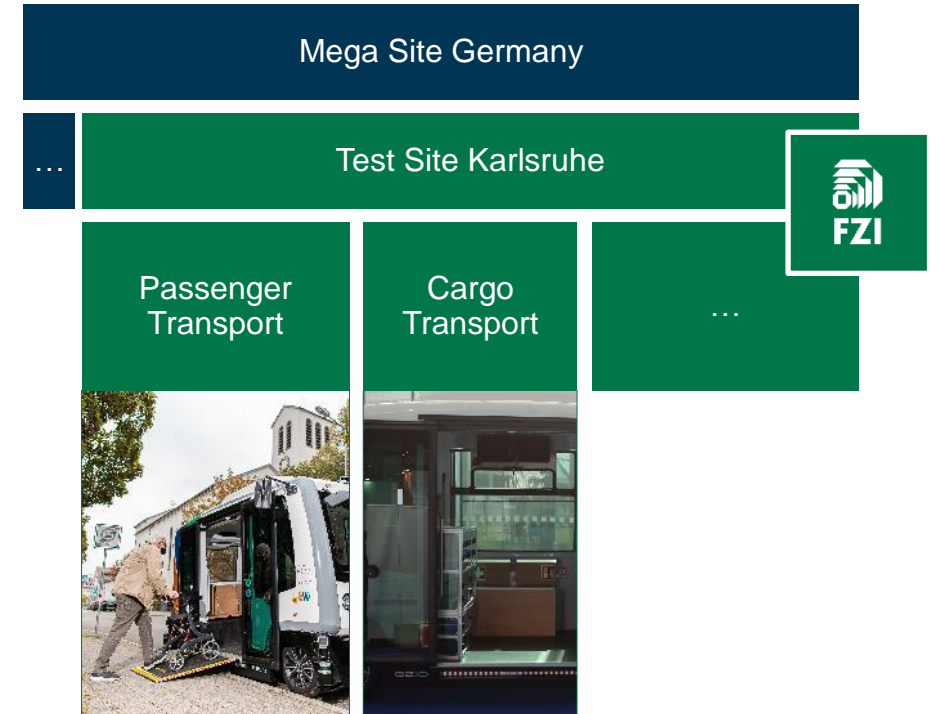
Demo Sites



70

Automated Vehicles

Robotaxis, buses,
and shuttles
for persons & goods



Autonomous Passenger Transport in Real Operation in Karlsruhe

Cargo Transport

Removable Cargo hold

optimized design for different package sizes

electronically lockable compartments

Automated mixed spatial mobility

And

Automated mixed temporal mobility



Cargo Transport



IT-TRANS
International Conference
and Exhibition
Intelligent Urban Transport Systems
10 - 12 May 2022



Passenger Transport

Real Demonstration at Weiherfeld-Dammerstock

2 Shuttles - 10 months - at weekends



Research
Autonomous Driving



Operation
Public Transport



Customer App
On Demand Service



First impressions at IT-Trans

<https://www.youtube.com/watch?v=Aztc0p3tGZg>



The long journey



Test area Buildup

Test area Operation



EVA Shuttle

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