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Bundesamt für Strassen ASTRA
Abteilung Strassennetze

Automated driving – mobility in 2050

Erwin Wieland, Deputy Director FEDRO

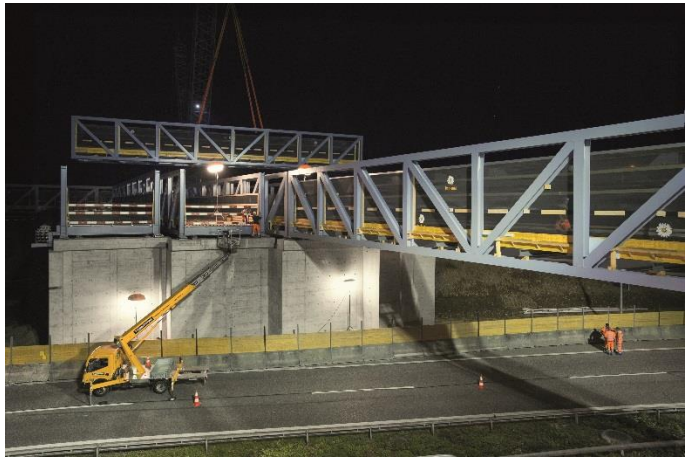
Presented by Hauke Fehlberg, 19.5.22

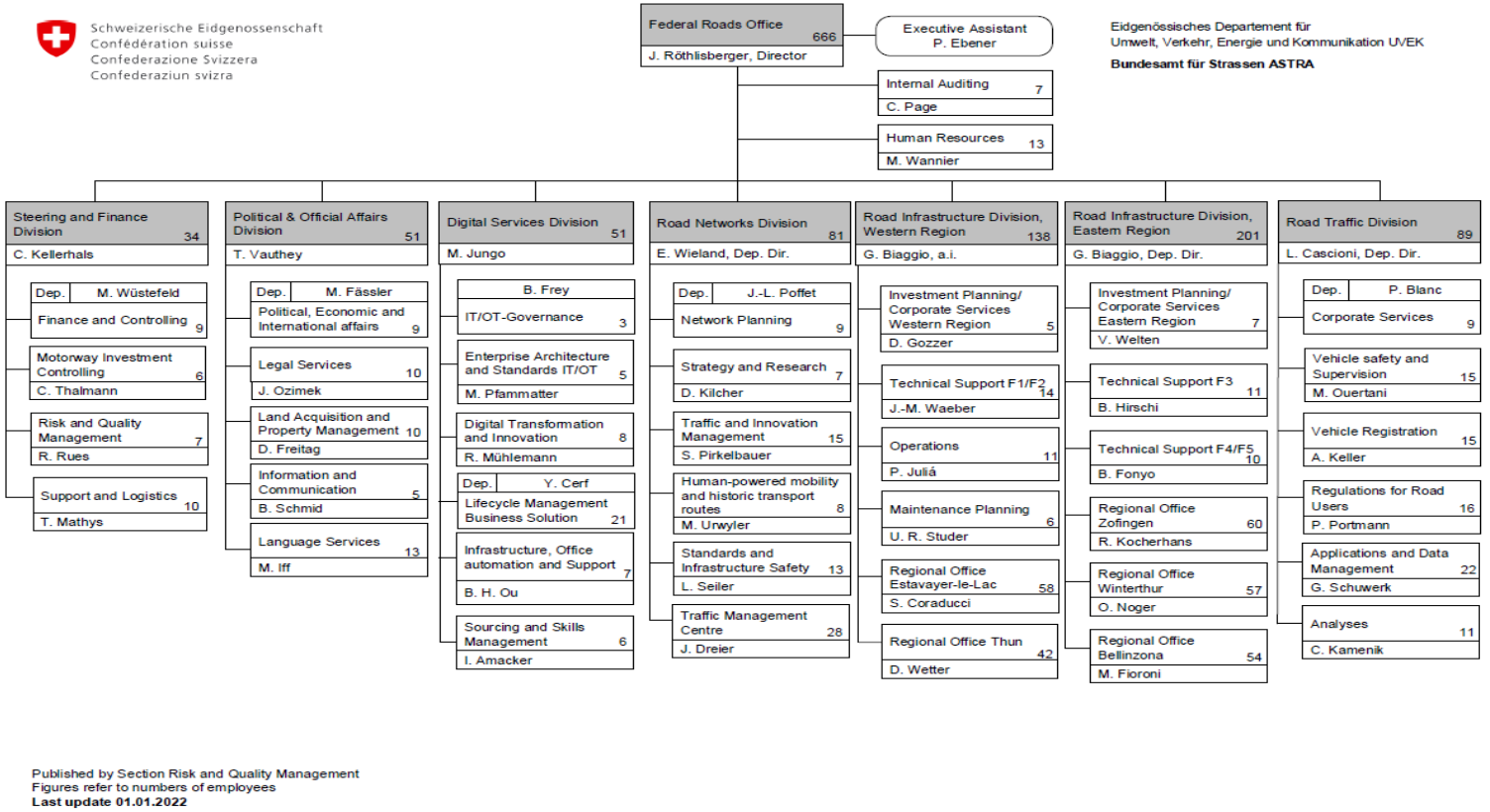
Introduction to FEDRO

Sovereign Tasks of a Ministry
Operational Tasks of Road Authority

- Motorway construction, operation and maintenance
- Access for all road users
- Traffic rules and regulations
- Federal competence centre for motorised private transport

→ individual mobility





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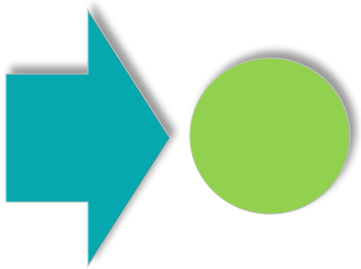
- **636 personnel**
- **9 locations**

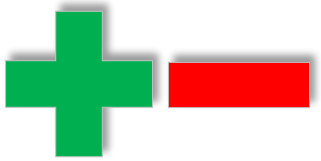
2’200 km roads
4’400 bridges
280 tunnels
3.5 bn fr expenses, 2.2 bn. invest
Largest CH contracting authority

Introduction

Digitalisation will fundamentally transform mobility in the coming years and decades.



Automated driving is likely to be a highly influential aspect of this.



Development offers opportunities as well as risks

Positively **influencing development** through action at state level

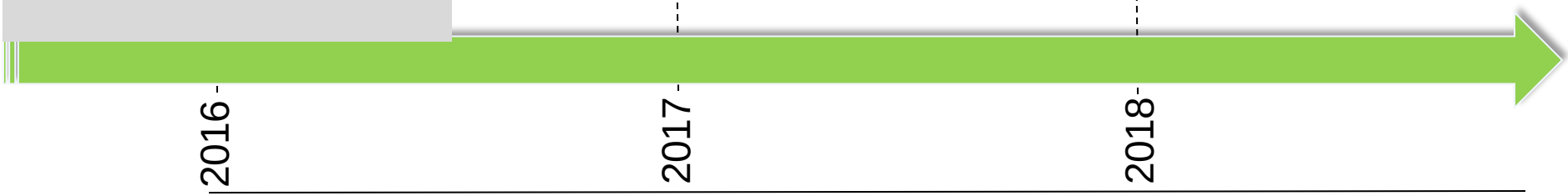
FEDRO is on the ball (I)

For several years, FEDRO has been focusing on issues related to intelligent mobility and automated driving...

Federal Council report: **“**Automated driving – consequences and impacts on transport policy”

Clear need for research and action
Initial project identifying issues to be researched

Federal Council report: “Supply and exchange of data for the operation of automated road vehicles”



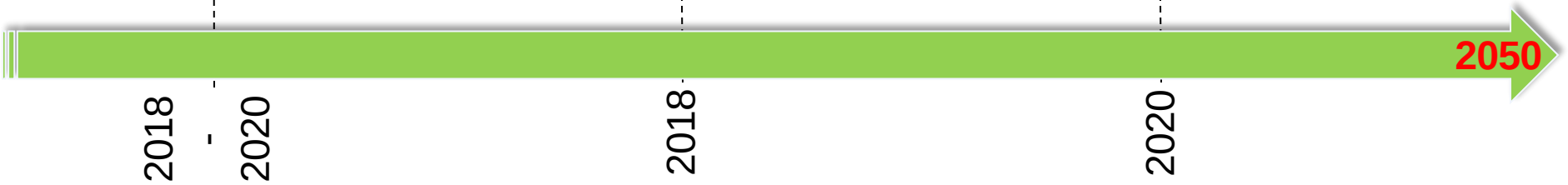
FEDRO is on the ball (II)

... the findings obtained have culminated in concrete **outcomes** and **action plans**.

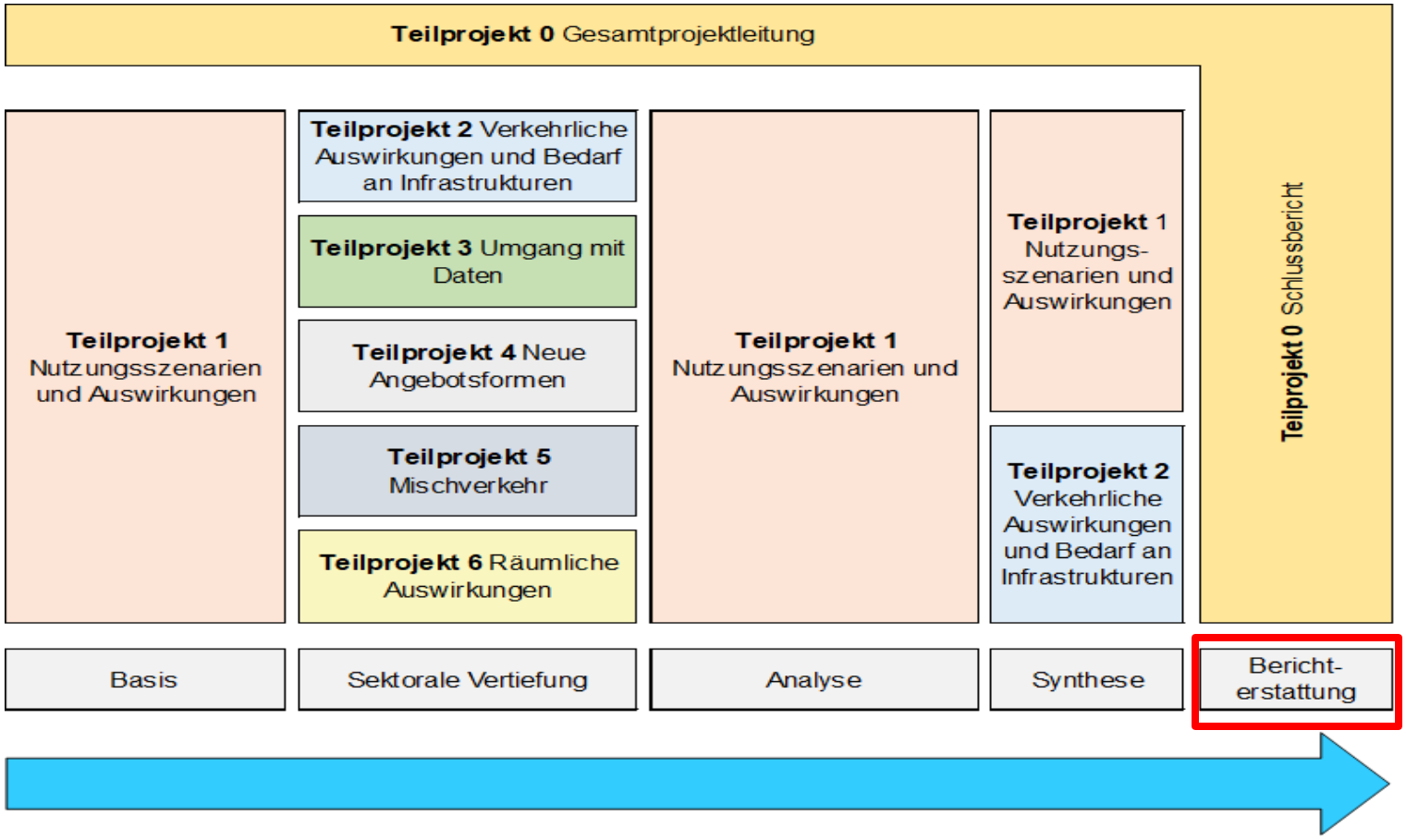
Research package: "Impacts of automated driving"

Federal Council report: "Supply and exchange of data for the operation of automated road vehicles"

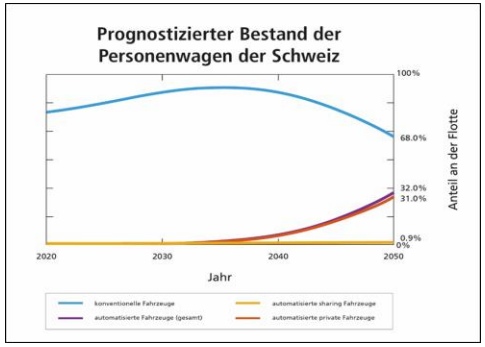
Revision of federal road traffic legislation
Creation of legislation on automated driving (revision of law, preparation of ordinance)



“Impacts of automated driving” research package



Main findings: Fleet penetration



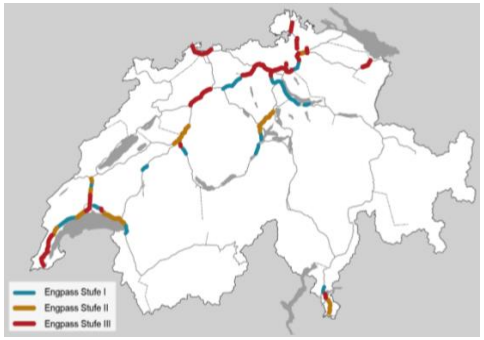
Penetration of the vehicle fleet to take longer than expected

In 2050, between 40 (= extreme scenario) and 70 percent of vehicles still operated *manually*

Efficiency increase requires fleet penetration

Automated vehicles unable to eliminate anticipated bottlenecks on motorways by 2050

Main findings: Road capacities / Demand



Enhancement of network still necessary

Automated vehicles unable to eliminate anticipated bottlenecks by 2050

Automated vehicles can give rise to significantly more traffic

Towns and cities unable to handle increased traffic volume

Main findings: Public transport / Urban sprawl

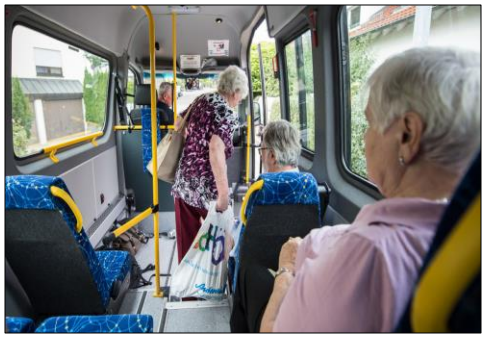
Strong competition for conventional public transport in densely populated areas

Automated and collectively used taxi fleets in densely populated areas attractive and affordable

Not a major impetus for urban sprawl

Commuter stretches too short to be attractive for working en route, not every profession can work remotely

Main findings: Efficiency



Contributing to higher vehicle occupancy

Favouring ride pooling and multi-modal services

New options for constantly developing traffic management systems

More data and options for directly influencing vehicles will bring new opportunities.

Main findings: Dynamic development

Dynamic development resulting in uncertainties

Uncertainties and dynamic development call for agility in a relatively “static” environment

2050 objective – Where we want to be! (i)

Objective = Desirable status of road transport system with automated vehicles in 2050

In 2050...

... automated driving is possible in Switzerland

... our roads **can be and are used by all forms of transport**

... **collective use** of **large proportion** of automated vehicles

2050 objective – This is where we want to be! (ii)

In 2050...

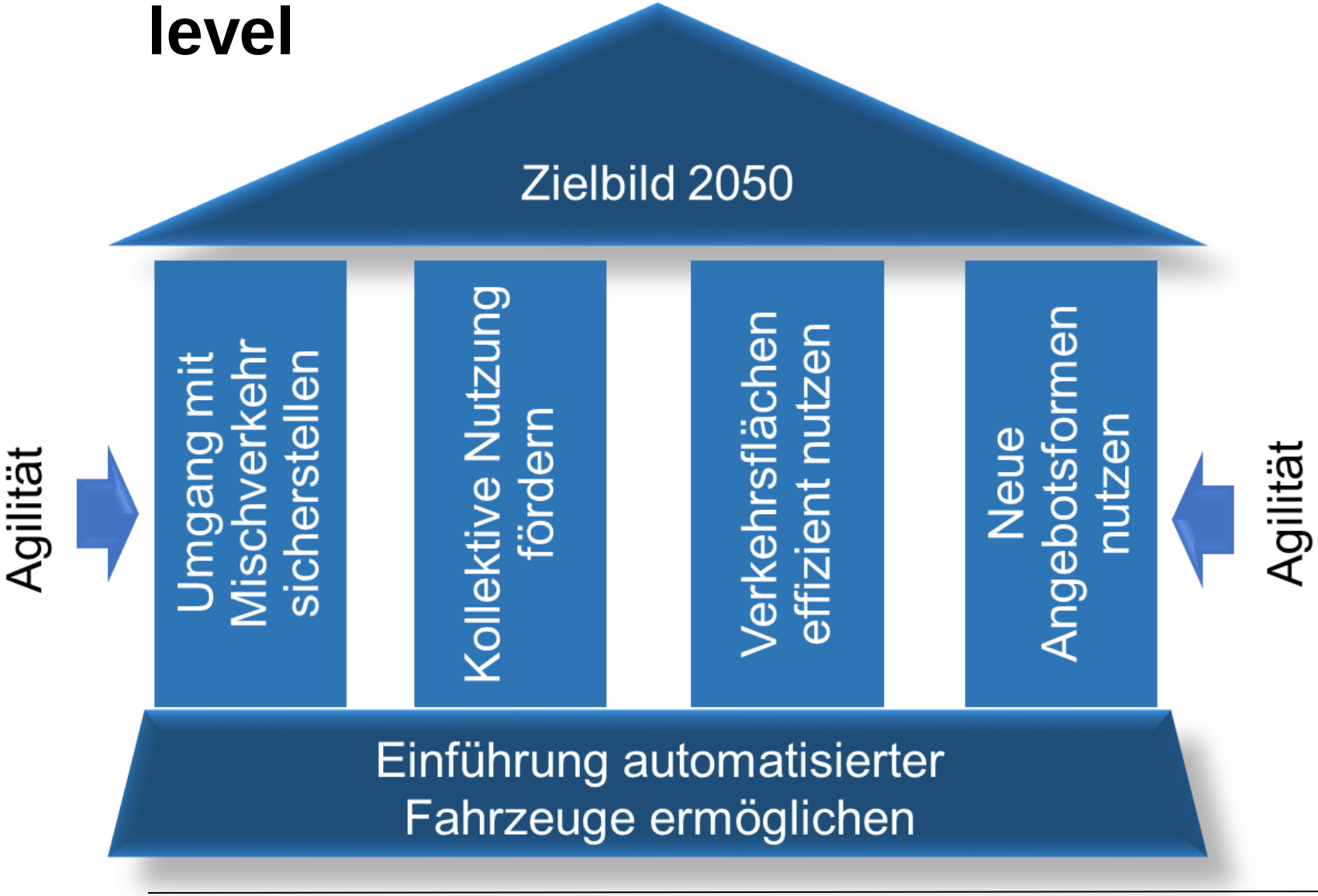
... the **worst bottlenecks** on the network are **eliminated**

... highly automated vehicles are comprehensively **integrated into a multi-modal transport system**

... **public transport** is in a stronger position following the transformation

... authorities operate a **forward-looking and effective traffic management system**

2050 objective – Activities at federal level



Making it all possible

Drafting and issuing regulations

Involving the general public

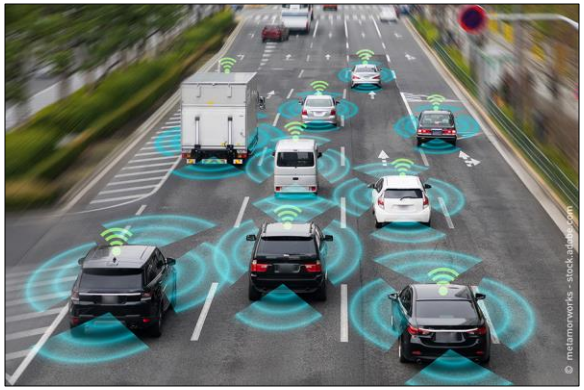
Providing technical and digital infrastructure

Managing mixed traffic

Guaranteeing traffic flow and road safety

Speeding up the fleet penetration of highly automated vehicles

Shortening mixed traffic phase



Encouraging collective use

Supporting the collective use of automated vehicles

Integrating automated vehicles into multi-modal mobility system

Using roads efficiently

Implementing enhancement projects; increasing operational flexibility

Exploiting new potentials; improving traffic management systems

Improving public transport services

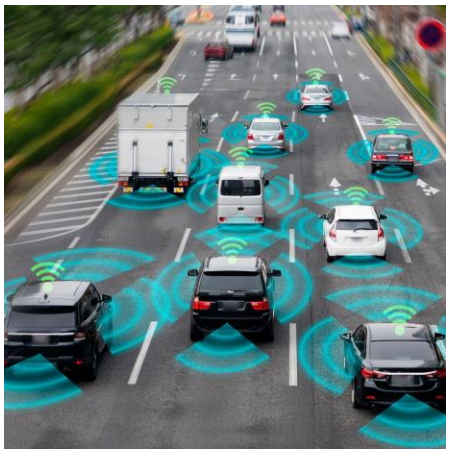
Using automated vehicles to improve public transport services

Introducing effective pricing systems; preventing a widening gap between prices for private and public transport

Flexibility

Flexibility in legislation with delegation of responsibility

Flexibility in implementation (trial and error)



Closing knowledge gaps

Thank you very much for your kind attention!

Erwin Wieland
Deputy Director
Federal Roads Office (FEDRO)
erwin.wieland@astra.admin.ch

Hauke Fehlberg
Strategy and Research
Federal Roads Office
Hauke.fehlberg@astra.admin.ch

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