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Federal Department of the Environment,
Transport, Energy and Communications DETEC

Federal Roads Office FEDRO

2nd Annual Conference SCCER Mobility

Challenges for the Federal Roads Office (FEDRO)

August 26th 2015

Daniel Kilcher

«Prediction is very difficult, especially
if it's about the future.»

Niels Bohr
Danish physicist, 1885 - 1962

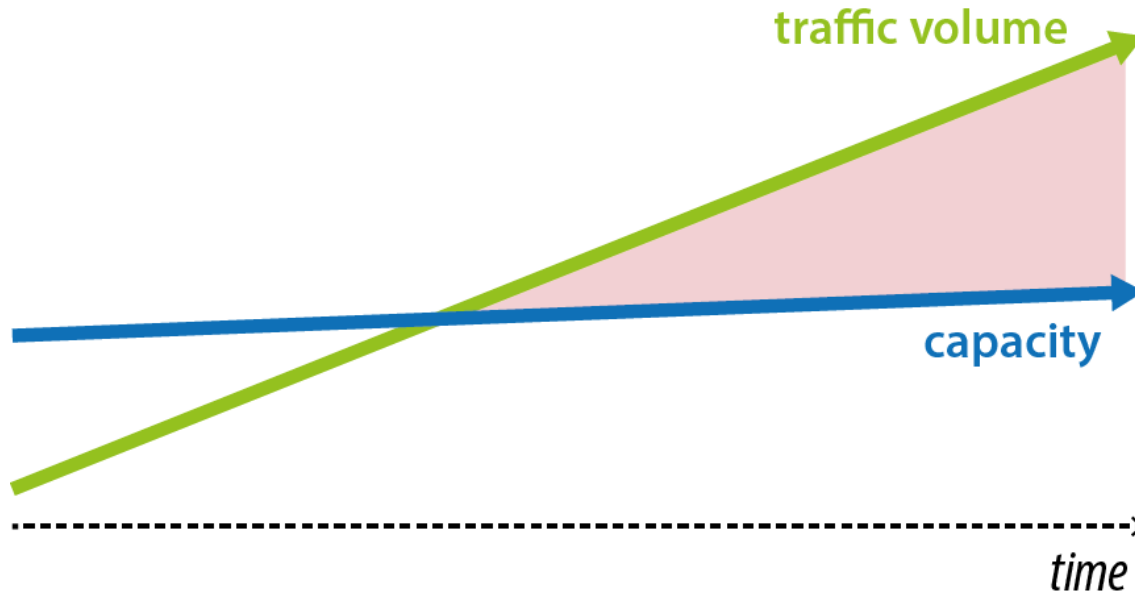


Content

- **Problems to be challenged**
 - *Functionality (capacity – growth / traffic volume)*
 - *Limited space / environment*
 - *Limited funds*
- **Measures and opportunities**
 - *Traffic management*
 - *Bottleneck elimination programme*
 - *Vehicle smartness: driverless driving*
- **Society**
- **Conclusion**



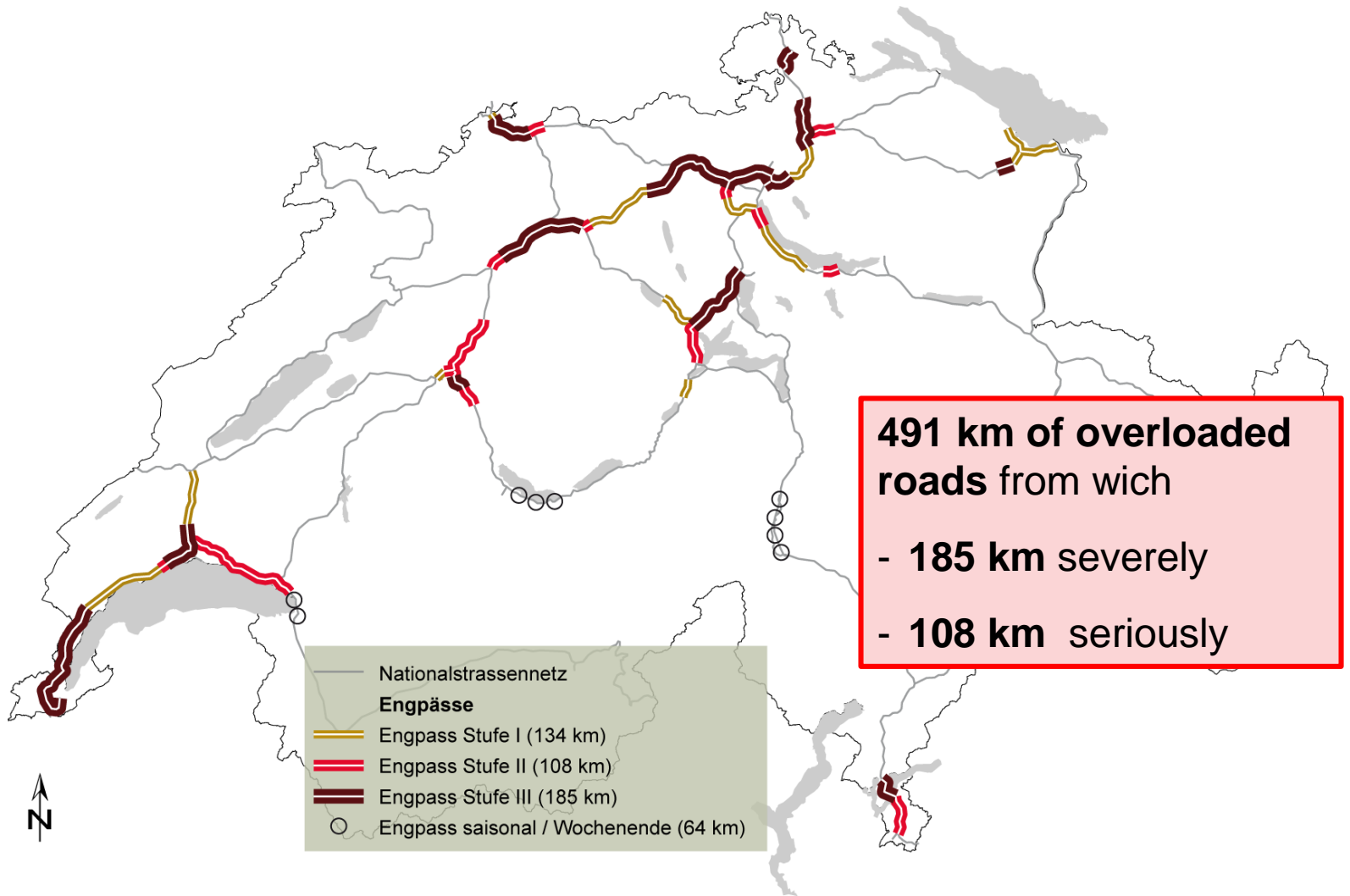
Functionality: situation today



→ a quarter of the national motorway network is now already overloaded.



Functionality: bottlenecks 2030





Challenges



Limited space
Impact on the environment



Limited funds
Costlier operation

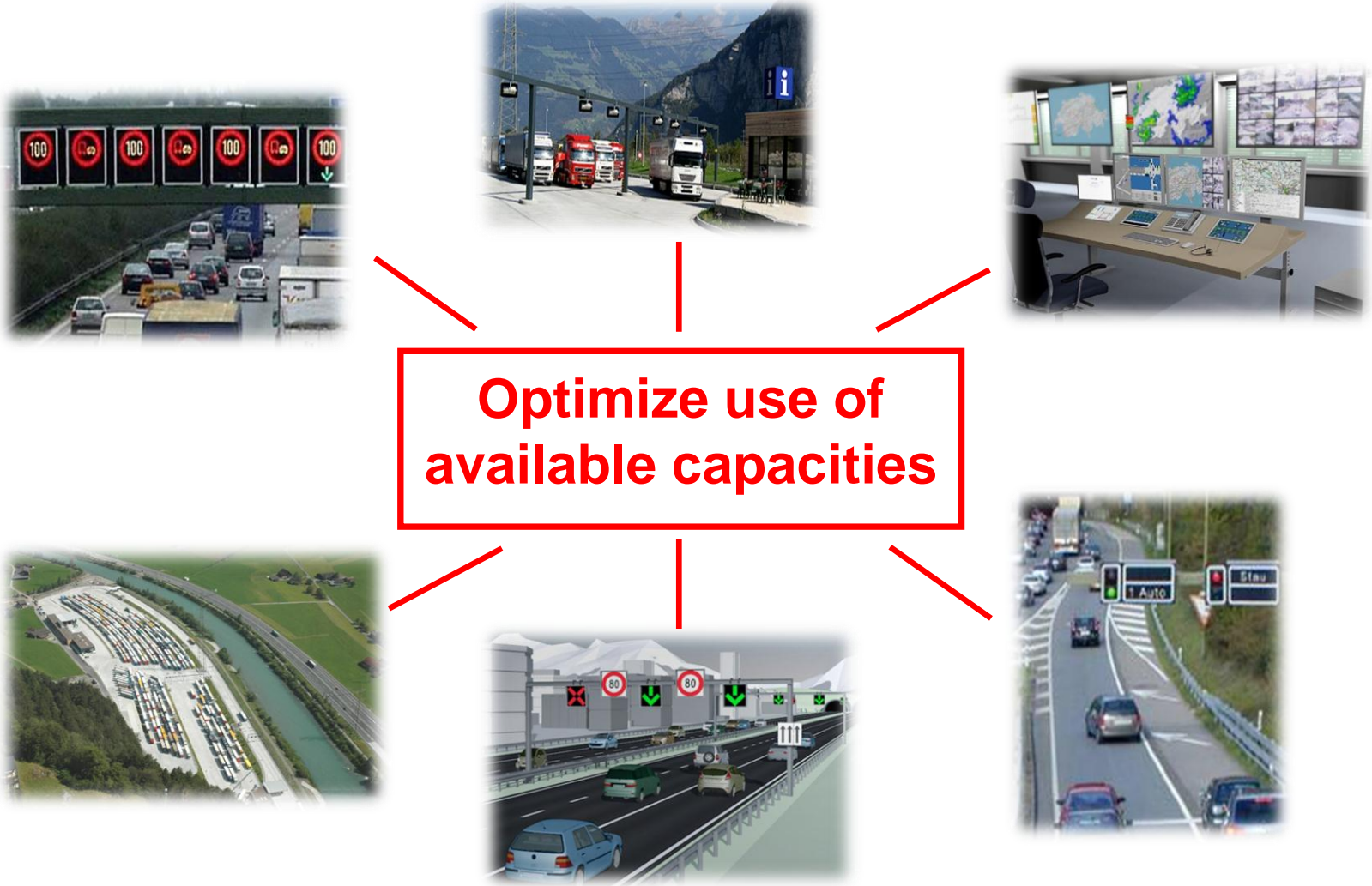


Content

- **Problems to be resolved**
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Traffic Management



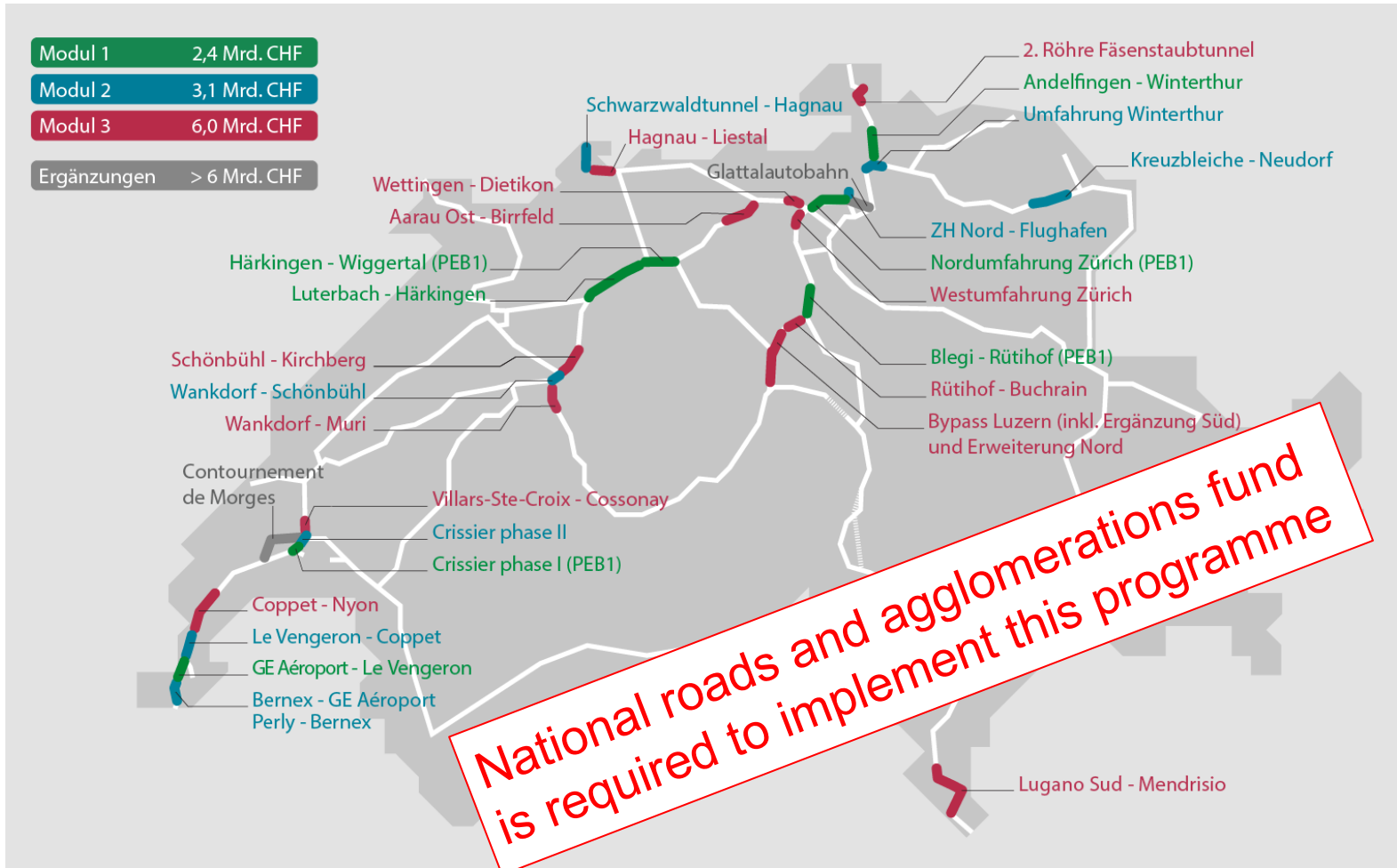


Transformation of emergency lanes



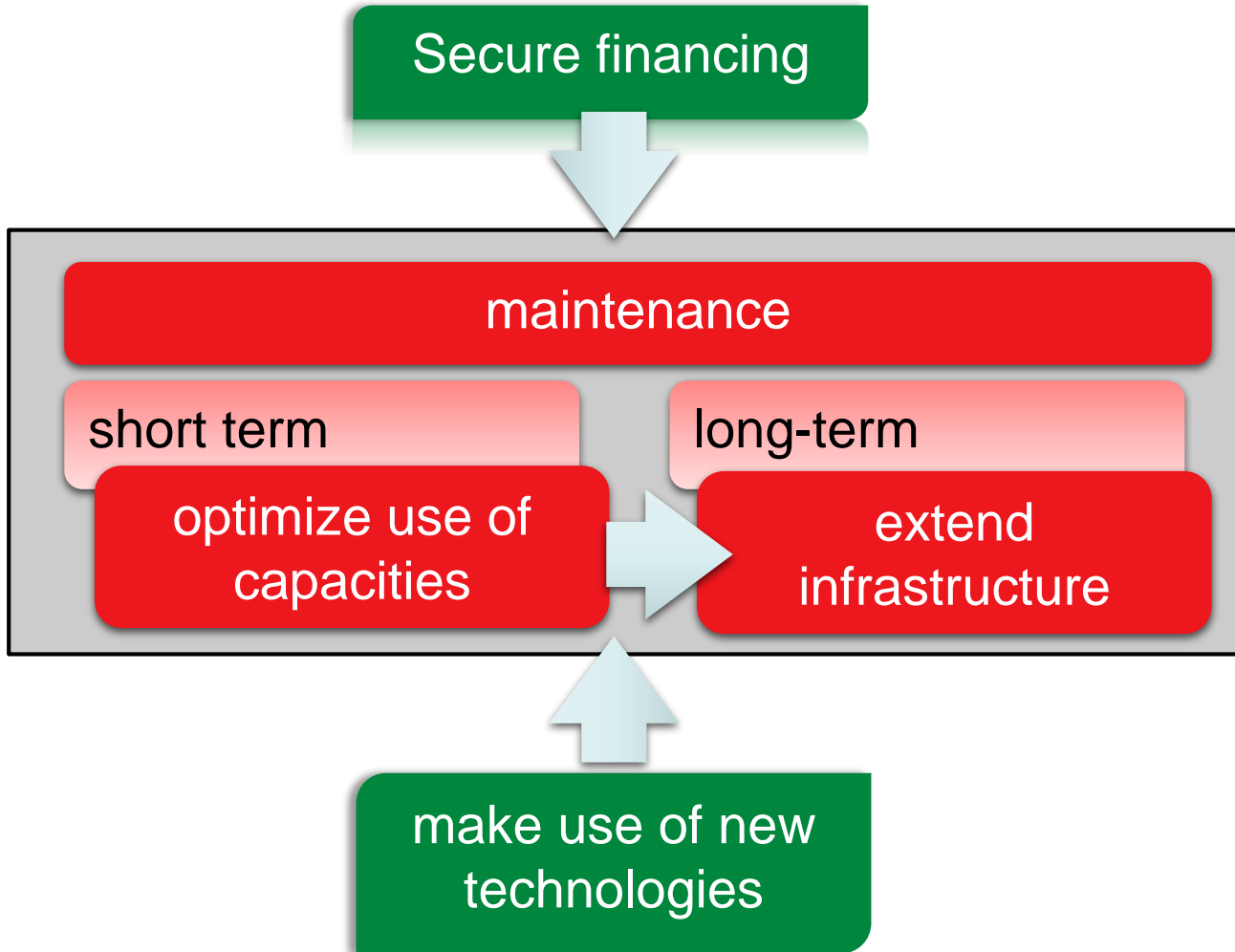


Bottleneck elimination programme





Functionality: summary



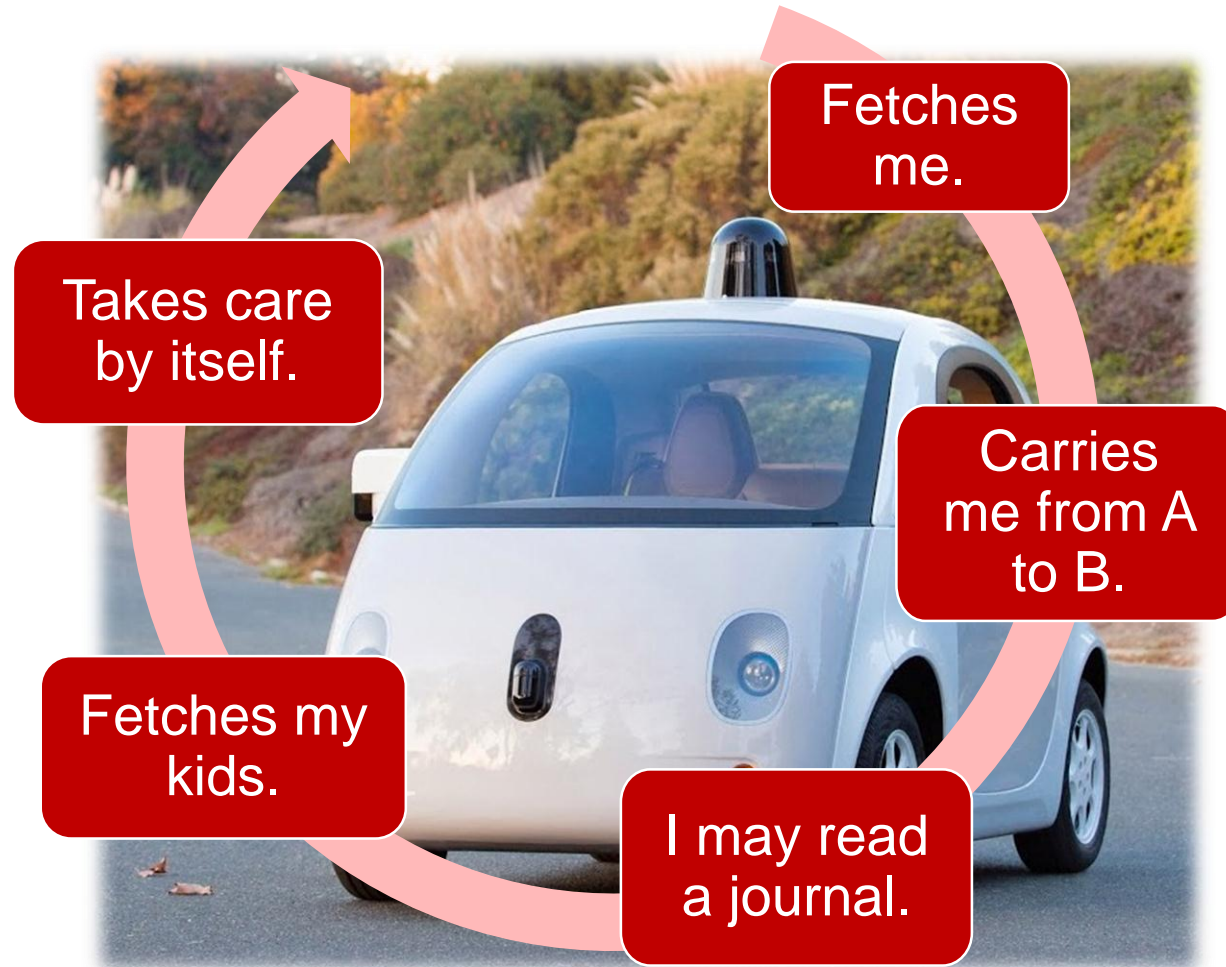


Vehicle smartness: driverless driving

- **The vision**
- **Two ways to get there**
- **Communication**
- **Potential**
- **Points to be resolved**



The vision: the all-in-one take-care package





Smartness by evolution

Extended driver assistance systems:



- *5th wheel stays: «Fun driving»*
- *Car as extended living room*
- *Adaption to human behaviour*

Daimler Jan 2015

→ **Challenge:**

How to deal with human factors?



Smartness by revolution

- No 5th wheel
- No driver but traveller
- New user group
- First only restricted deployment:
 - *City centre / Motorway*

→ **Challenge:**

How to deal with mixed traffic situations?

Google Dez 2015





Potential of vehicles smartness

- **90% less vehicles** (source: Burns 2013)





Potential of driverless driving

- **90% less vehicles** (source: Burns 2013)
- **Sales drop by 70%**
- **Lighter:**
 - *90% less building resources*
 - *Energy use reduced*
- **Drive safer**
- **Drive slower but without stop and go:
less polluting**



To be clarified

- **Collaboration and coordination between**
 - *Industries*
 - *Industries – Public Authorities*
 - *Countries*
 - *modes of transport*
- **Communication and data traffic**
- **Adaption of legal basis**
- **Well balanced liability**
- **Impacts on the motorway infrastructure and the elimination of bottlenecks**



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Society: Relevant trends for FEDRO

- more individualized
- better informed
- more urbanised
- more risk averse
- aging
- growing
- from driver to traveller

→ ***Each trend presents its own risks and opportunities.***



Conclusion

- **Roads will continue to play their important or even dominant role as part of Switzerland's transport infrastructure**
- **The challenges for the FEDRO will continue to increase and so will the opportunities.**
- **Collaboration and cooperation between the different stakeholders will be essential.**

Thank you for your attention.