

# ***Workshop on Traffic Infrastructure Mapping and Automated Damage Assessment Systems***

**Start at 9:30**

*Matthias Rüther*  
JOANNEUM RESEARCH  
[matthias.ruether@joanneum.at](mailto:matthias.ruether@joanneum.at)

Link To Polls: <https://app.sli.do/event/8eg4qvyu>



# Agenda

24/09/21	Topic	Moderator
09:30	Welcome Session: The ESRIUM project	Matthias Rüter
09:40		JOANNEUM RESEARCH Forschungsgesellschaft mbH – Institute DIGITAL
09:40	Current Approaches in R&D for Railway Asset Management	Michaela Haberler-Weber
10:00		ÖBB Infrastruktur AG
10:00	Challenges and Potential of Road Infrastructure Digitization	Yannick Wimmer
10:20		ASFINAG Autobahnen- und Schnellstraßen-Finanzierungs-Aktiengesellschaft
	10' minutes break	
10:30	ESRIUM Use Cases	Manuel Walch
10:50	Including Immediate polls	FH OÖ FORSCHUNGS & ENTWICKLUNGS GMBH
10:50 11:10	Sensor Technology	Richard Ladstädter and Matthias Rüter
	Including Immediate polls	JOANNEUM RESEARCH Forschungsgesellschaft mbH – Institute DIGITAL
11:10	Data Platform	András Csepinszky
11:30	Including Immediate polls	NNG Software Developing and Commercial LLC
	10' minutes break	
11:40	Communications (C-ITS)	Yannick Wimmer
12:00	Including Immediate polls	ASFINAG Autobahnen- und Schnellstraßen-Finanzierungs-Aktiengesellschaft
12:00	Driving Functions	Selim Solmaz and Martin Rudigier
12:20	Including Immediate polls	Virtual Vehicle Research GmbH
12:20	Feedback Collection and Closing Remarks	Matthias Rüter
	Interactive discussion (open end)	JOANNEUM RESEARCH Forschungsgesellschaft mbH – Institute DIGITAL

# Motivation and Goals

- Digital Twins of Traffic Infrastructure have an Increasing Role
  - In Fostering Automation
  - In Optimization, Management and Maintenance
  - In Providing Greener, Safer, Smarter Mobility Solutions
- This Workshop should bring together Stakeholders from
  - Traffic Management
  - Sensing and Data Acquisition
  - Data Analysis and Information Extraction
  - Data Management and Provision
- The Workshop is Supported by ESRIUM, an EU-H2020 Project Focusing on the Digitization and Assessment of Road Wear and Damages.



# ESRIUM

SAFE AND EFFICIENT ROADS



This project has received funding from the European Union Agency for the Space Programme under the European Union's Horizon 2020 research and innovation programme under grant agreement No 101004181.

The content of this presentation reflects only the author's view. Neither the European Commission nor the EUSPA is responsible for any use that may be made of the information it contains.

# Objectives of ESRIUM



ESRIUM is a Horizon 2020 project increasing the safety and resource efficiency of transport on European roads.

Its key innovation is a digital map of road surface damage and road wear.

The digital road wear map will contain unique information for the road operators to enhance the road maintenance planning and to provide routing recommendations (in-lane and cross-lane) to vehicles.

Through ESRIUM, transportation becomes...

- **Smarter:** Exploiting detailed driving recommendations received from the road operator in every automated and connected car.
- **Safer:** Allowing the vehicle to drive on undamaged road surface.
- **Greener:** A longer paving lifetime makes road operations greener and more resource-efficient.

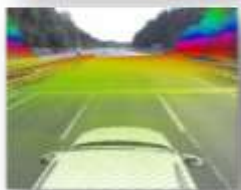
# Technical Challenge

Cost Efficient Data Acquisition



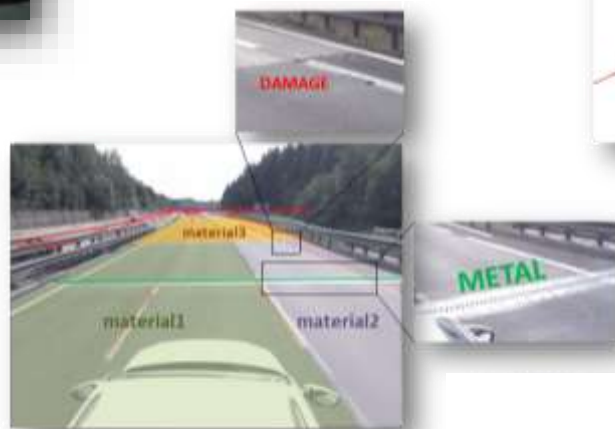
(a)

Lane Data Capture



(b)

Detection of Damages and Changes



(c)

Communication of Driving Recommendations for Automated Vehicles



(d)

Reduced Road Wear

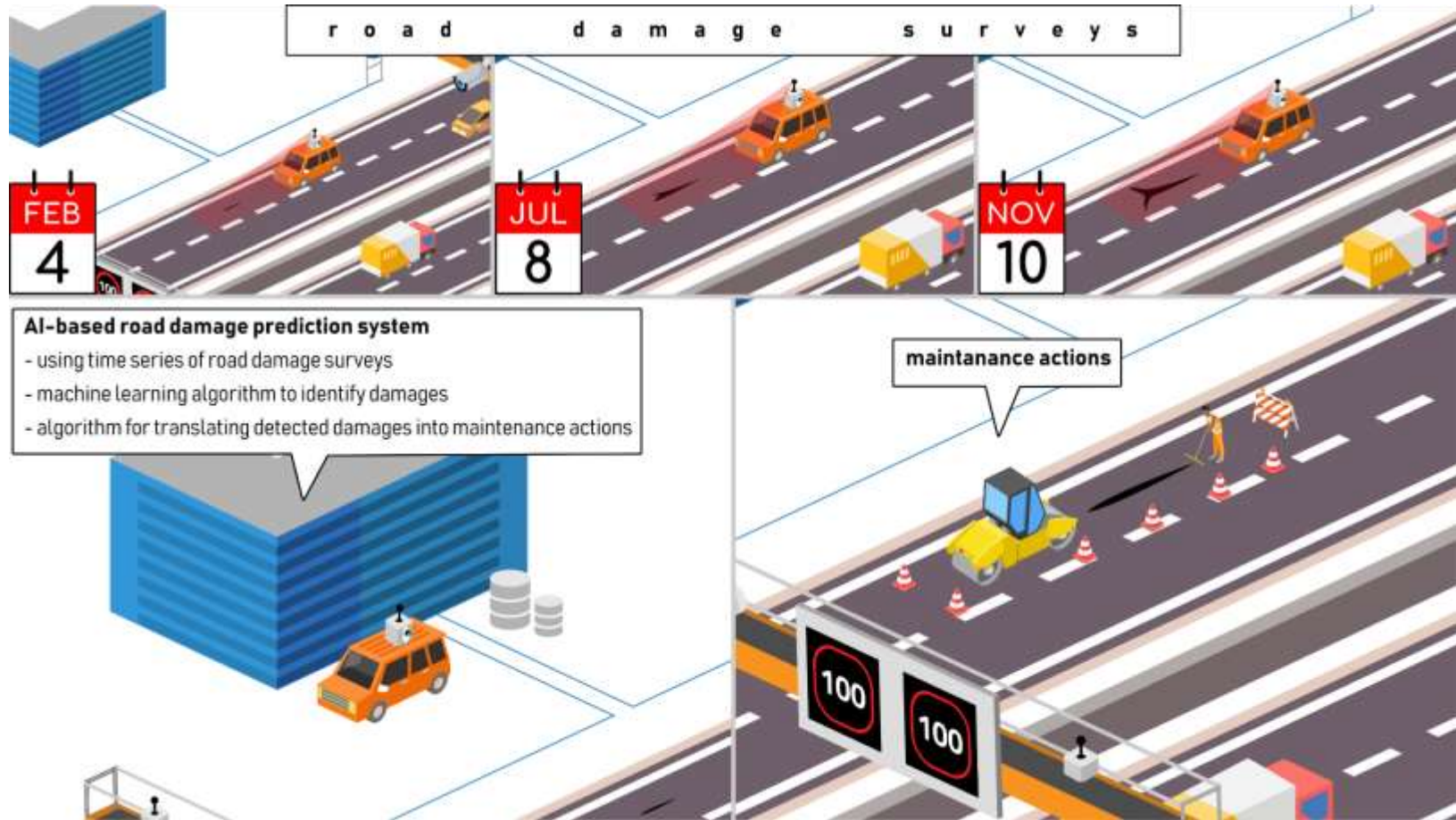


Optimized Maintenance

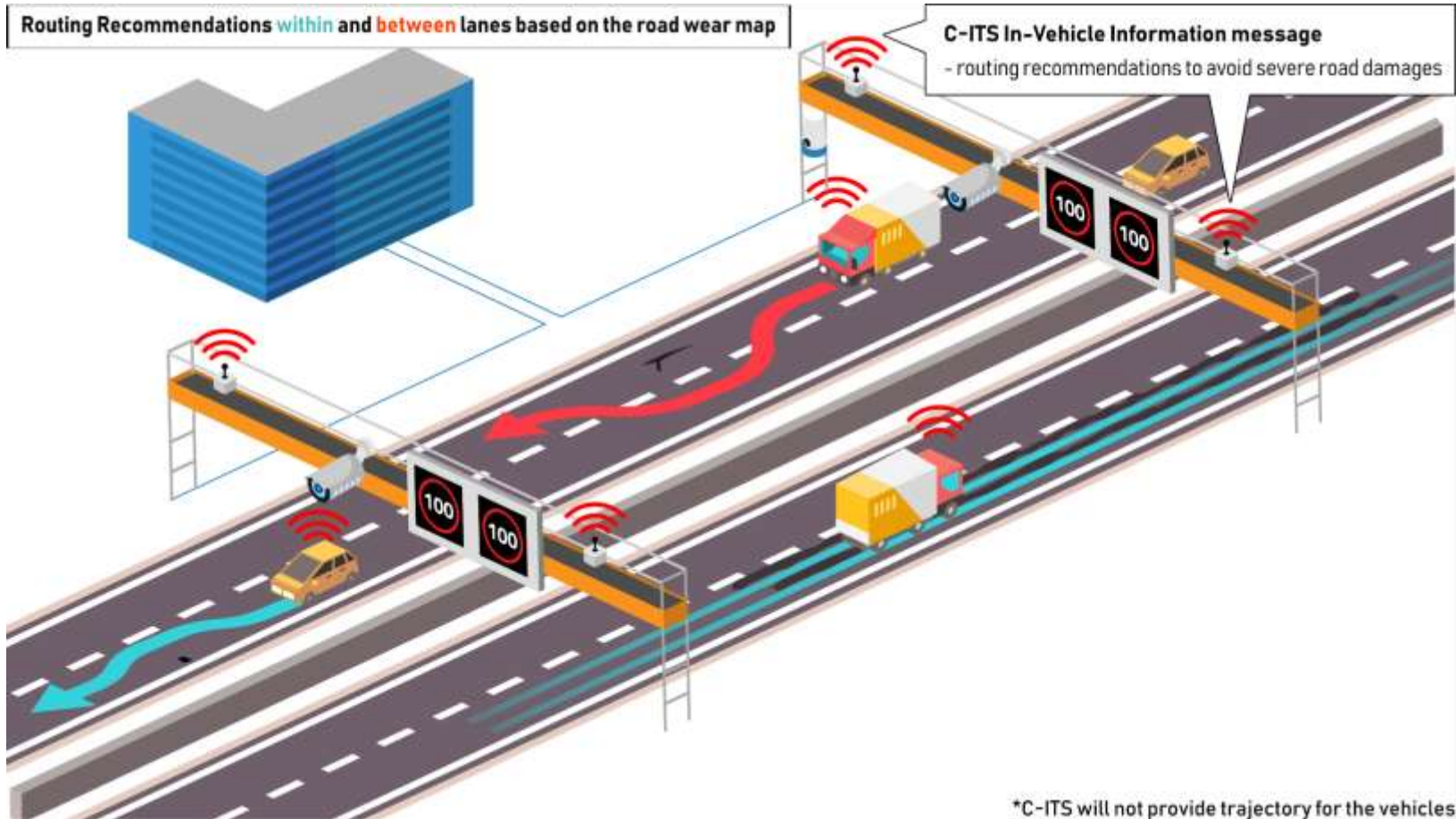


(e)

# AI-based road damage prediction for road maintenance

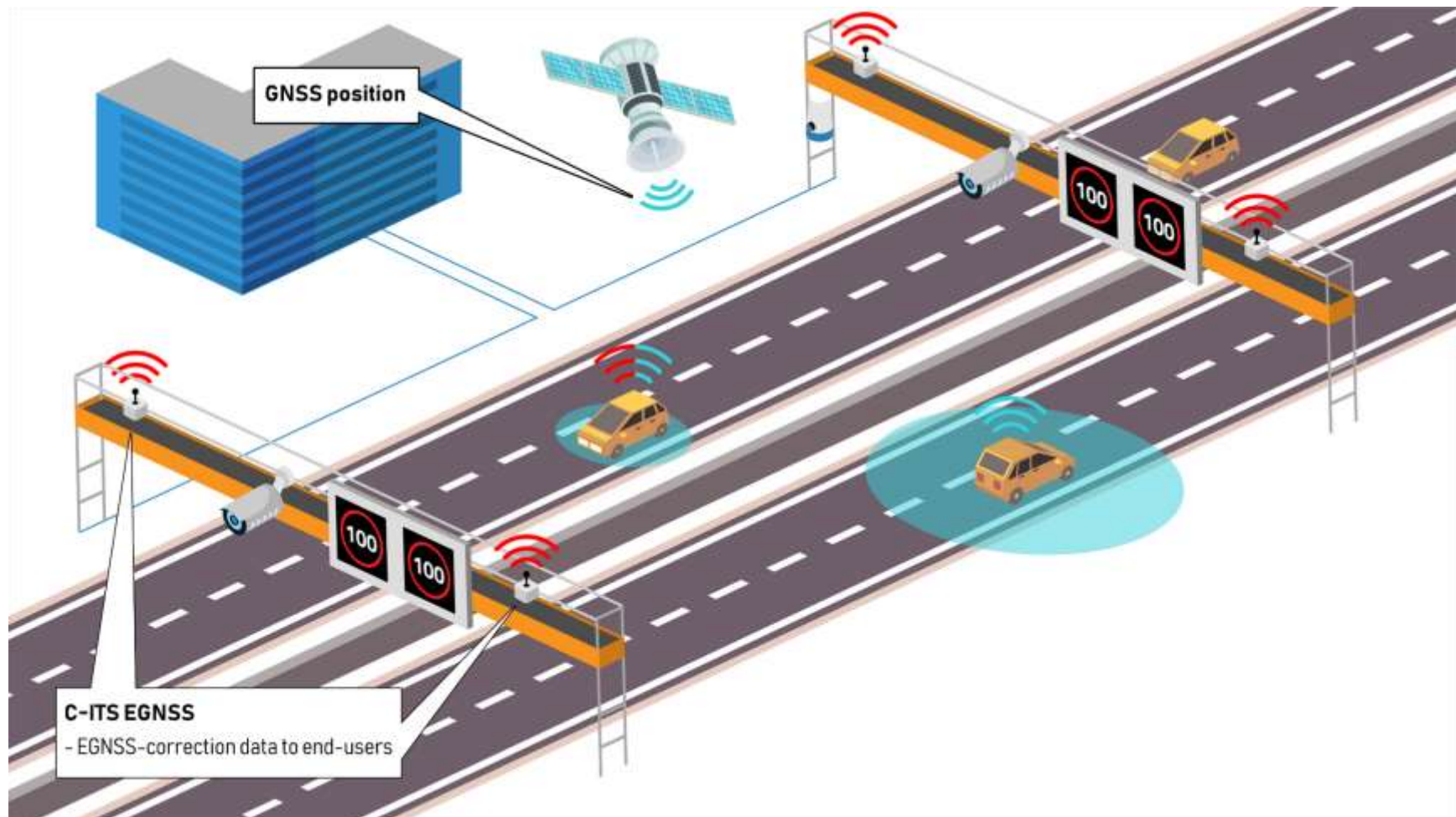


# Routing recommendations provided via C-ITS messages

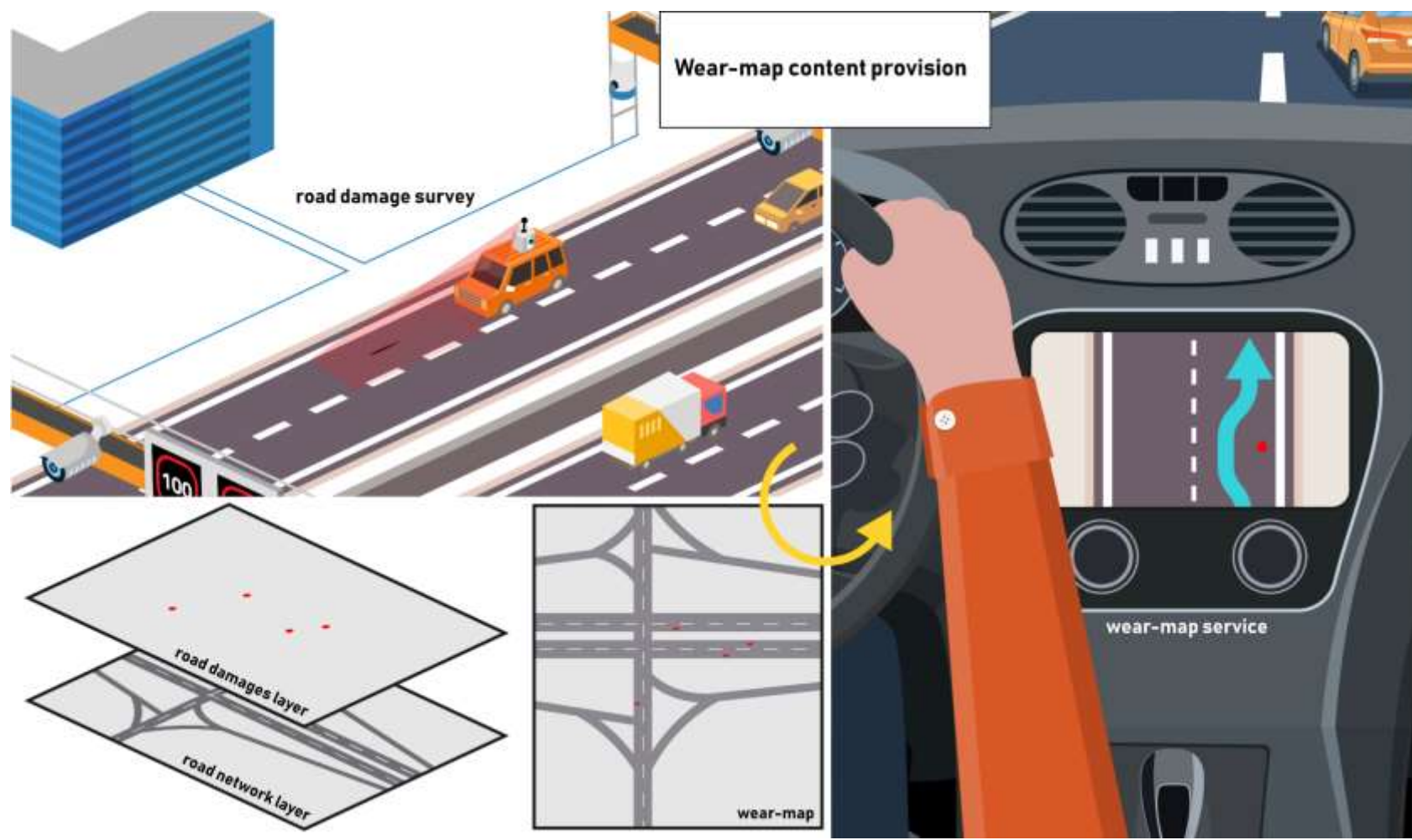




## 'GNSS-correction data' provision via C-ITS



# Wear-map content provision





14/09/2021

# Thank you!

Matthias Rüter





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