



COOPERS

Project Presentation

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comEsafety - WG COMM

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Topics

- Vision
- Objectives
- Work program
- Areas of work in Coopers
 - Roadside data acquisition
 - Traffic control center – TCC applications
 - Road side transmitter
 - On board unit
 - Information services
- Test and demonstration sites
- Partners
- Contact information



COOPERS

Project facts:

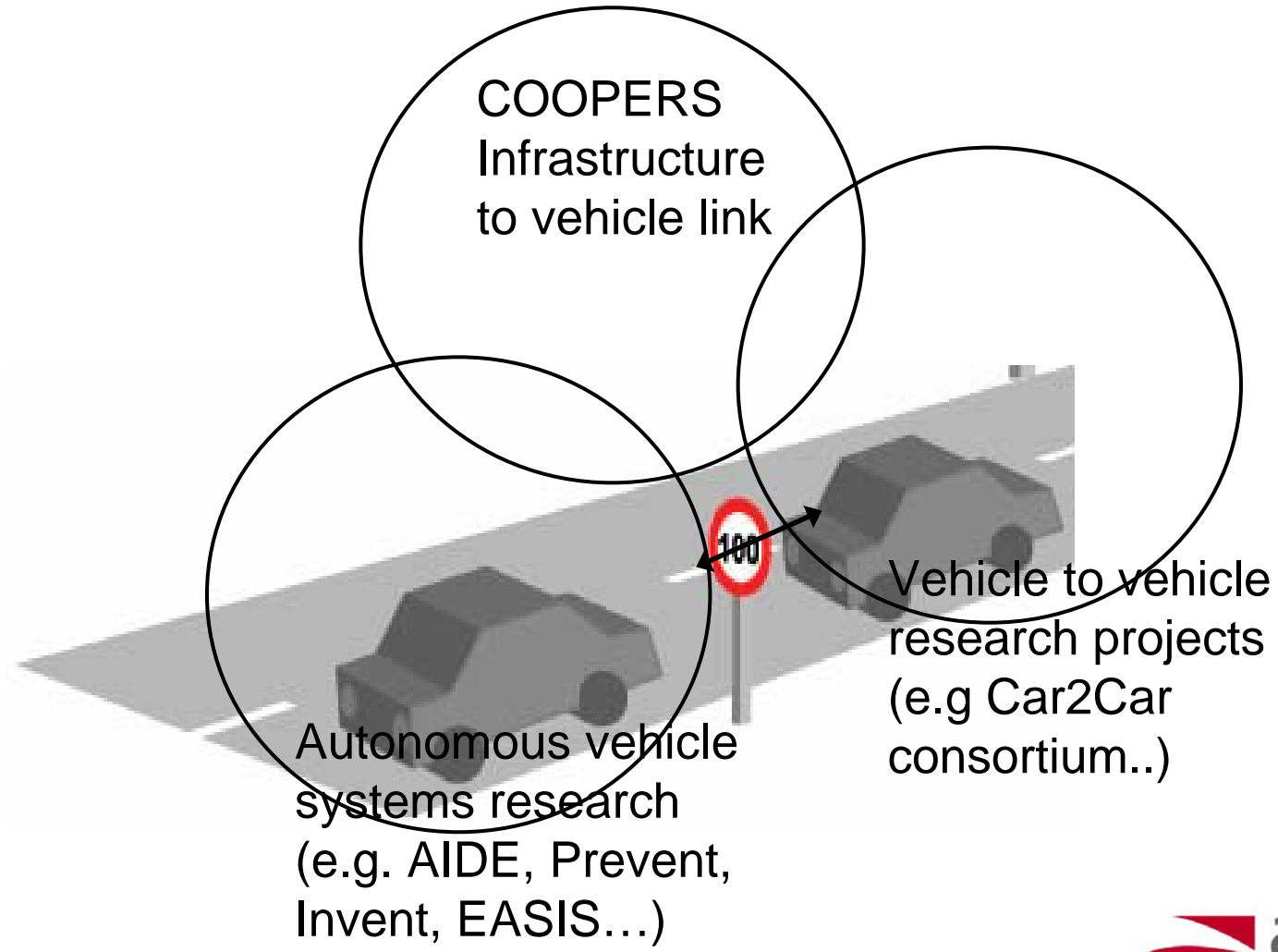
Coopers – Co-operative Systems for Intelligent Road Safety

- Integrated Project of the 4. IST Call, FP6
- Project with 39 partners, coordinated by AustriaTech
- Project Budget 16,8 Mio EURO, 9.8 Mio EURO EU - Contribution
- Start on 1. February 2006
- Duration of 4 years

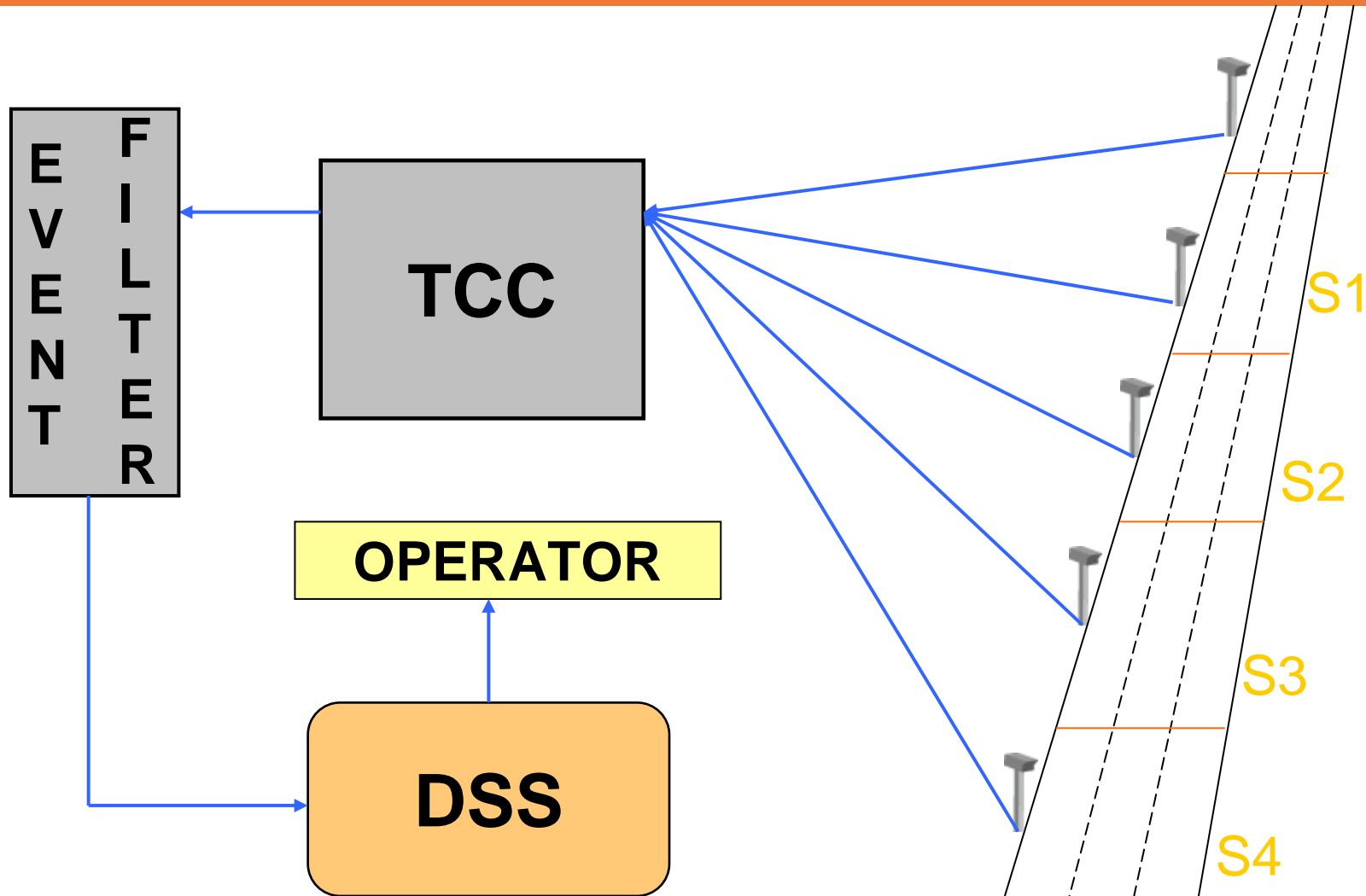
VISION

Vehicles are connected via continuous wireless communication with the road infrastructure on motorways, exchange data and information relevant for the specific road segment to increase overall road safety and enable co-operative traffic management.

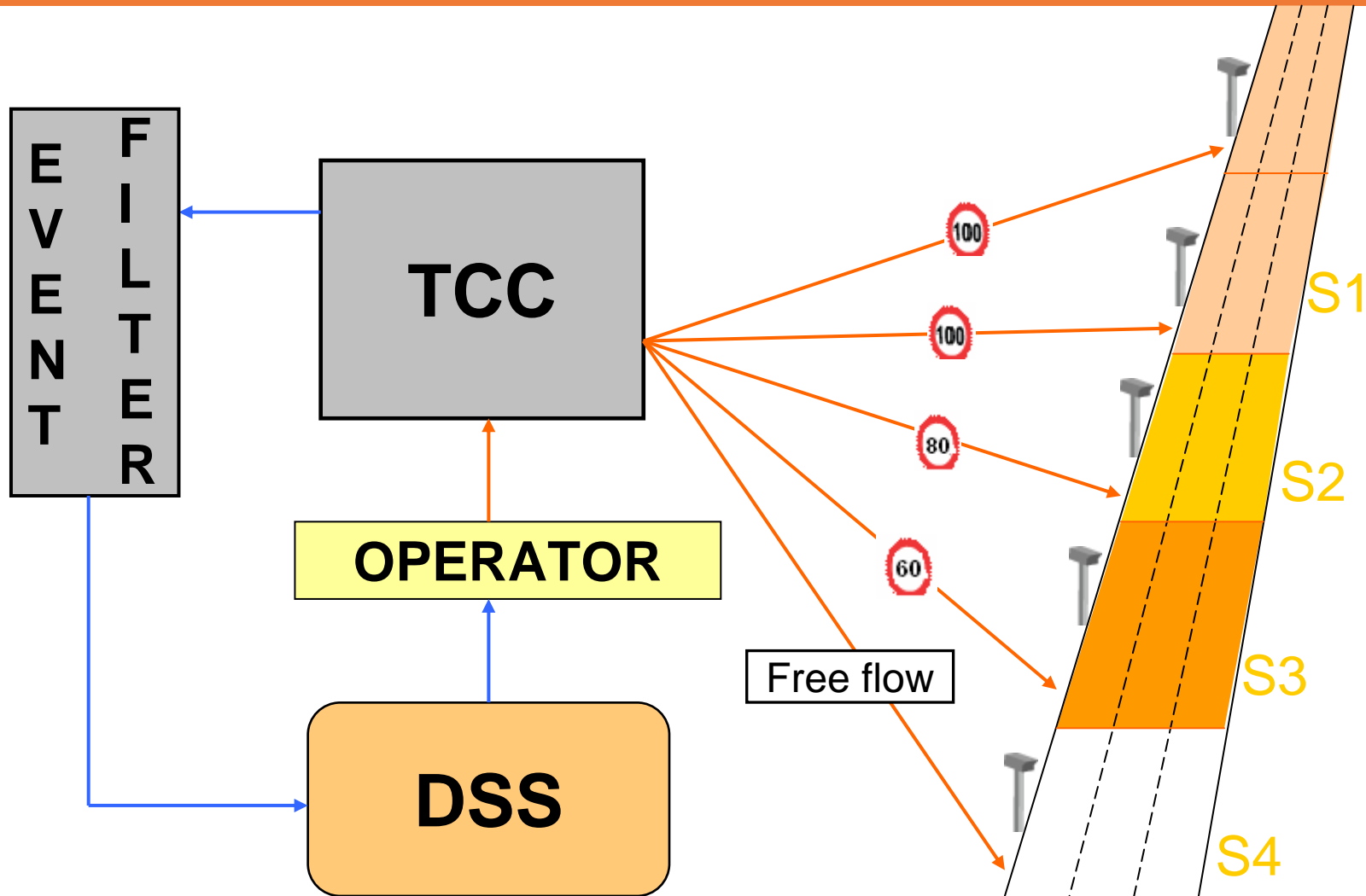
Why is the infrastructure-vehicle communication link important?



Communication Chain



Communication Chain





Information Services - scope

I2V Information:

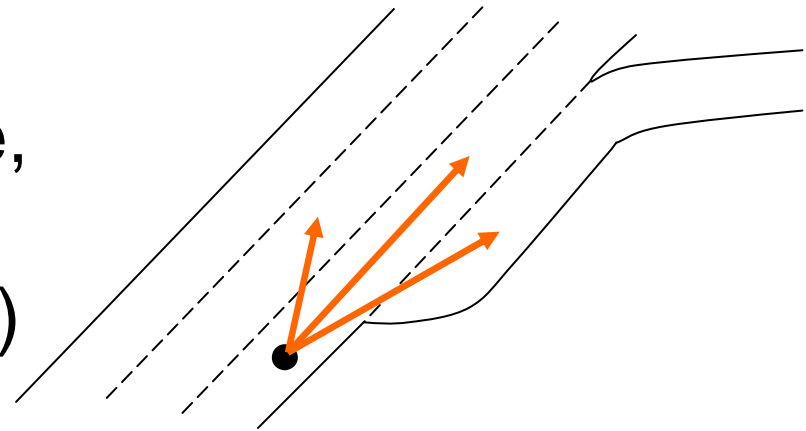
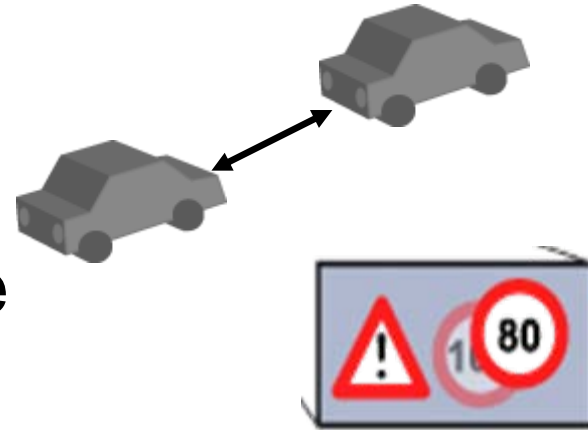
If we define services,

Which reaction of the Driver is expected?

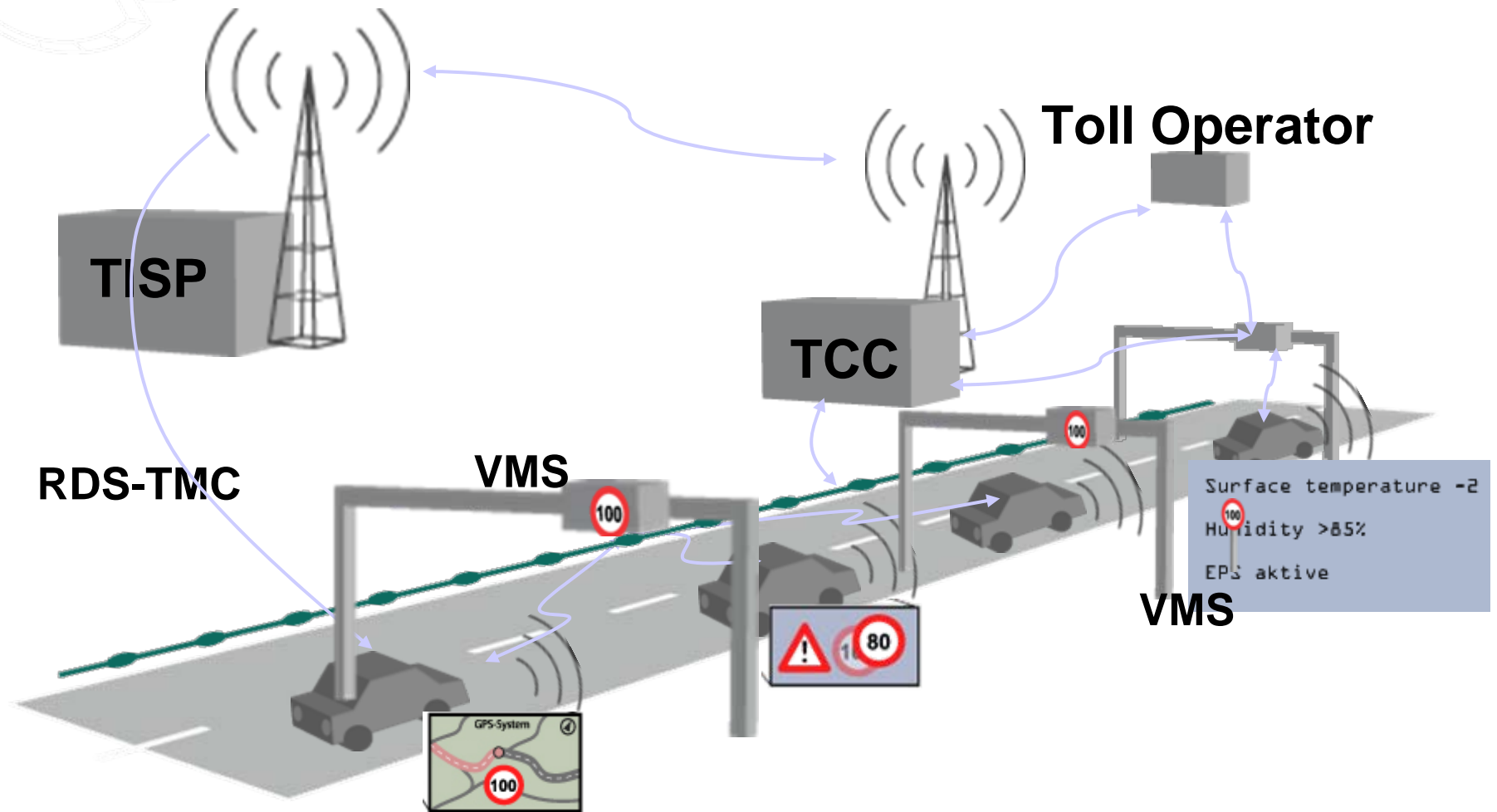
**Change from vague recommendations to
clear and binding instructions**

Information Services

- Change of **Speed**
- Change of **Distance** to the car in front
- Change of **Driving-Direction** (change lane, take exit, use hard shoulder, no passing...)



Project long term vision



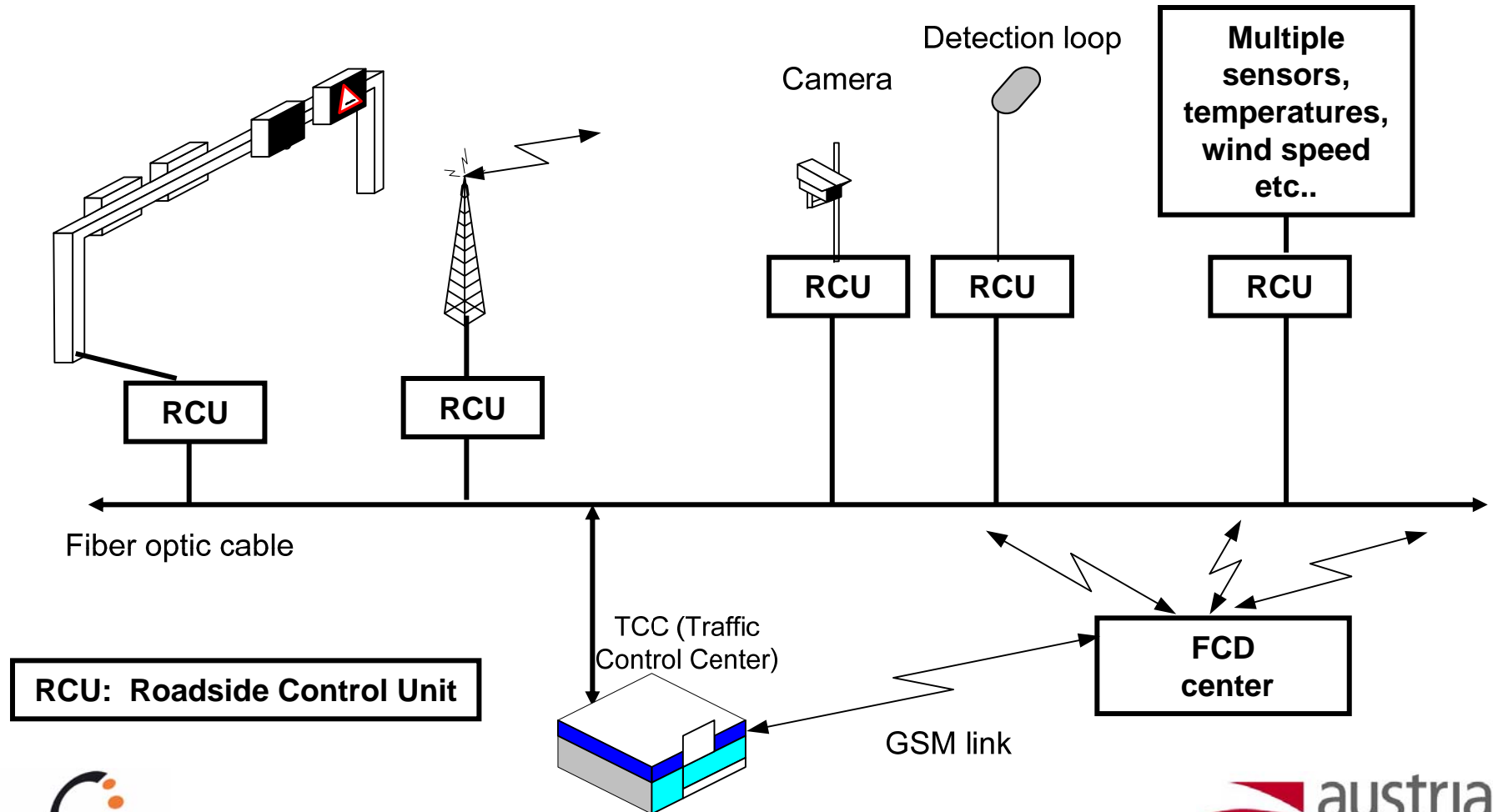
TCC – Traffic Control Center
TISP – Traffic Information Service Provider



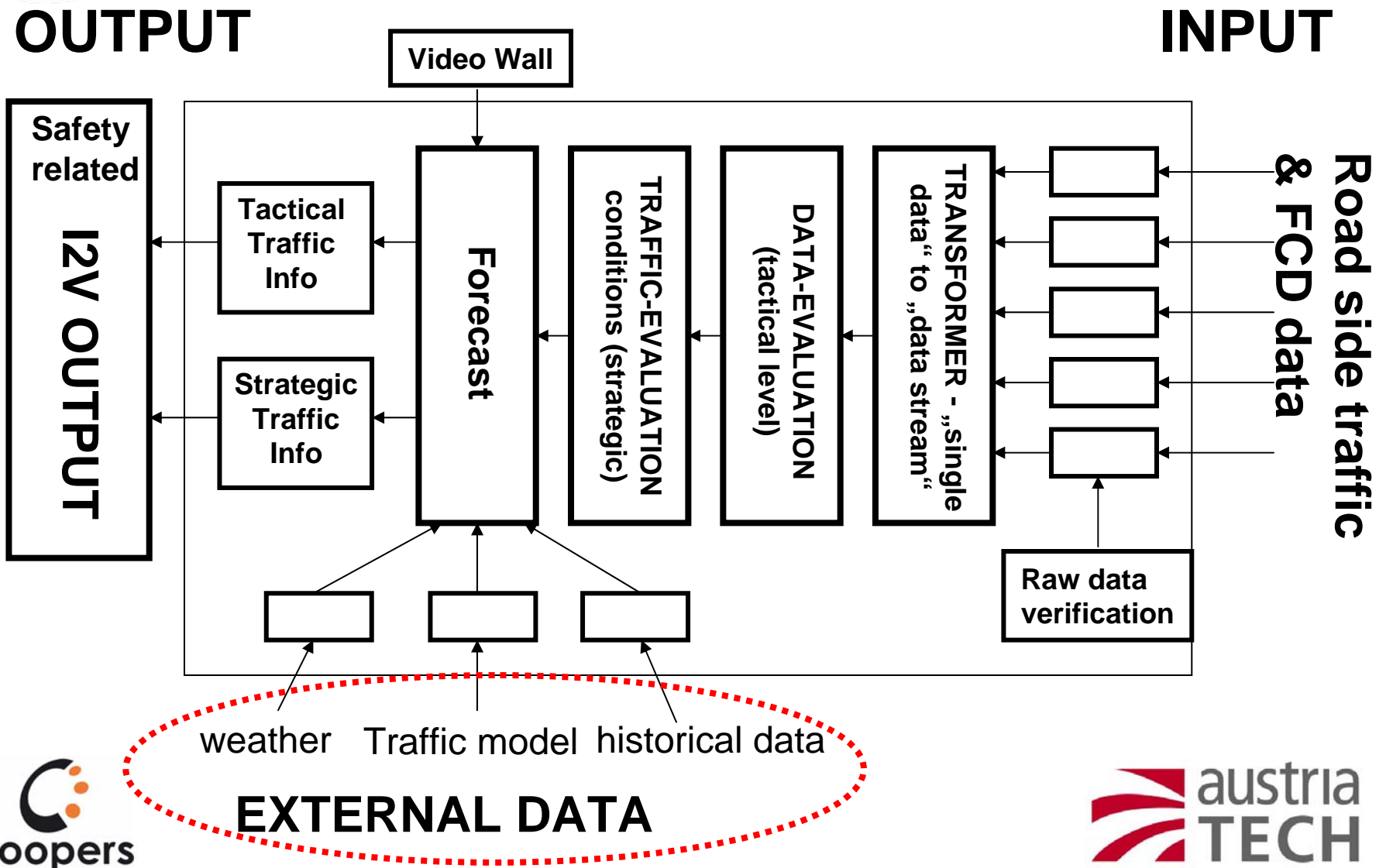
Areas of work in COOPERS

- Roadside data acquisition
- Traffic control center – TCC applications
- Road side transmitter
- On board unit
- Information services

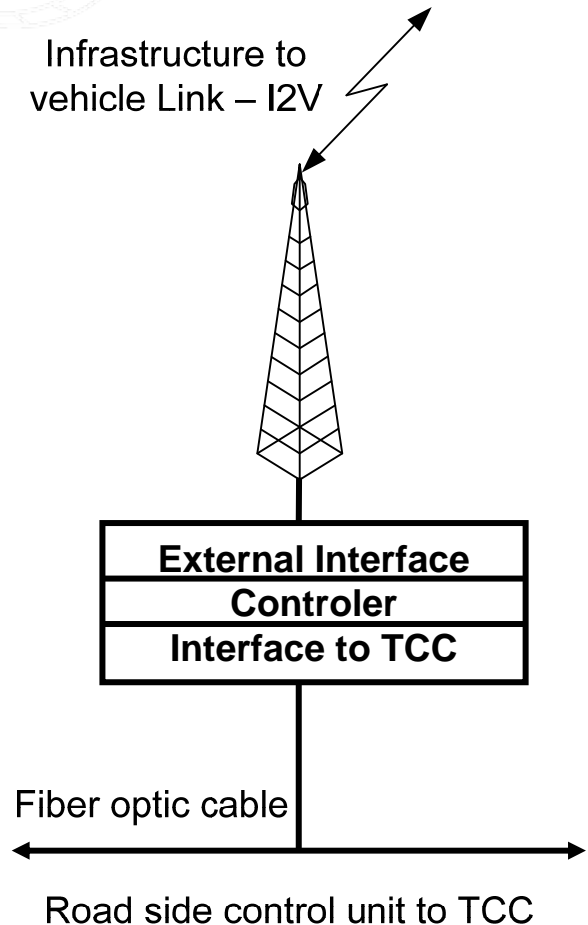
Road side data acquisition



TCC applications



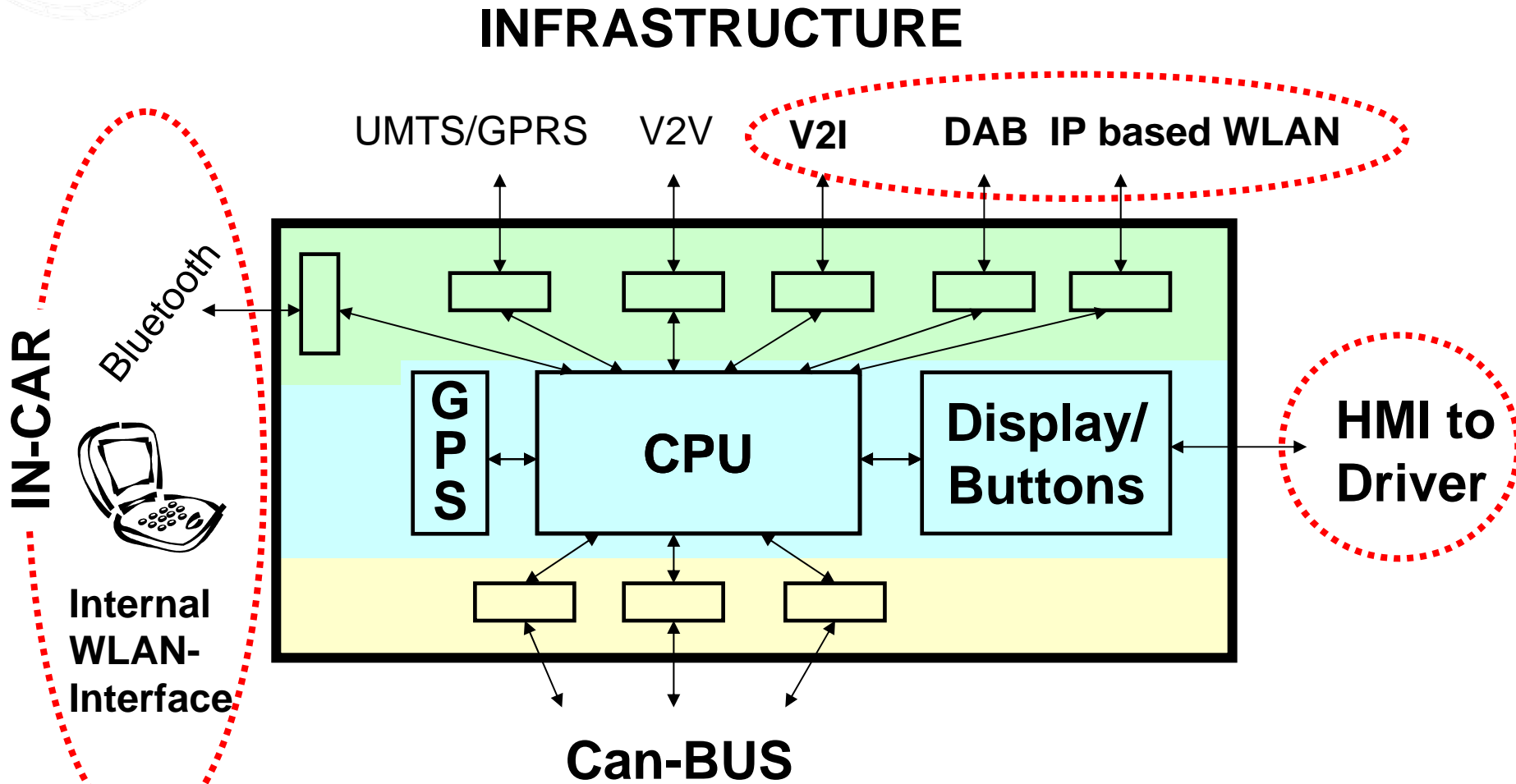
Road side transmitter, I2V



I2V Link:

- Network Protocol
- Standards and integration
- Bandwith
- Frequency spectrum
- Data security
- Failure rates
- Encryption
- Robustness
- Antennas
- Maximum distance for communication

On board unit





Information services - 01

- S1. Accident/incident warning
- S2. Weather condition warning
- S3. Roadworks information
- S4. Lane utilization information
- S5. In-vehicle variable speed
limit information
- S6. Traffic congestion warning



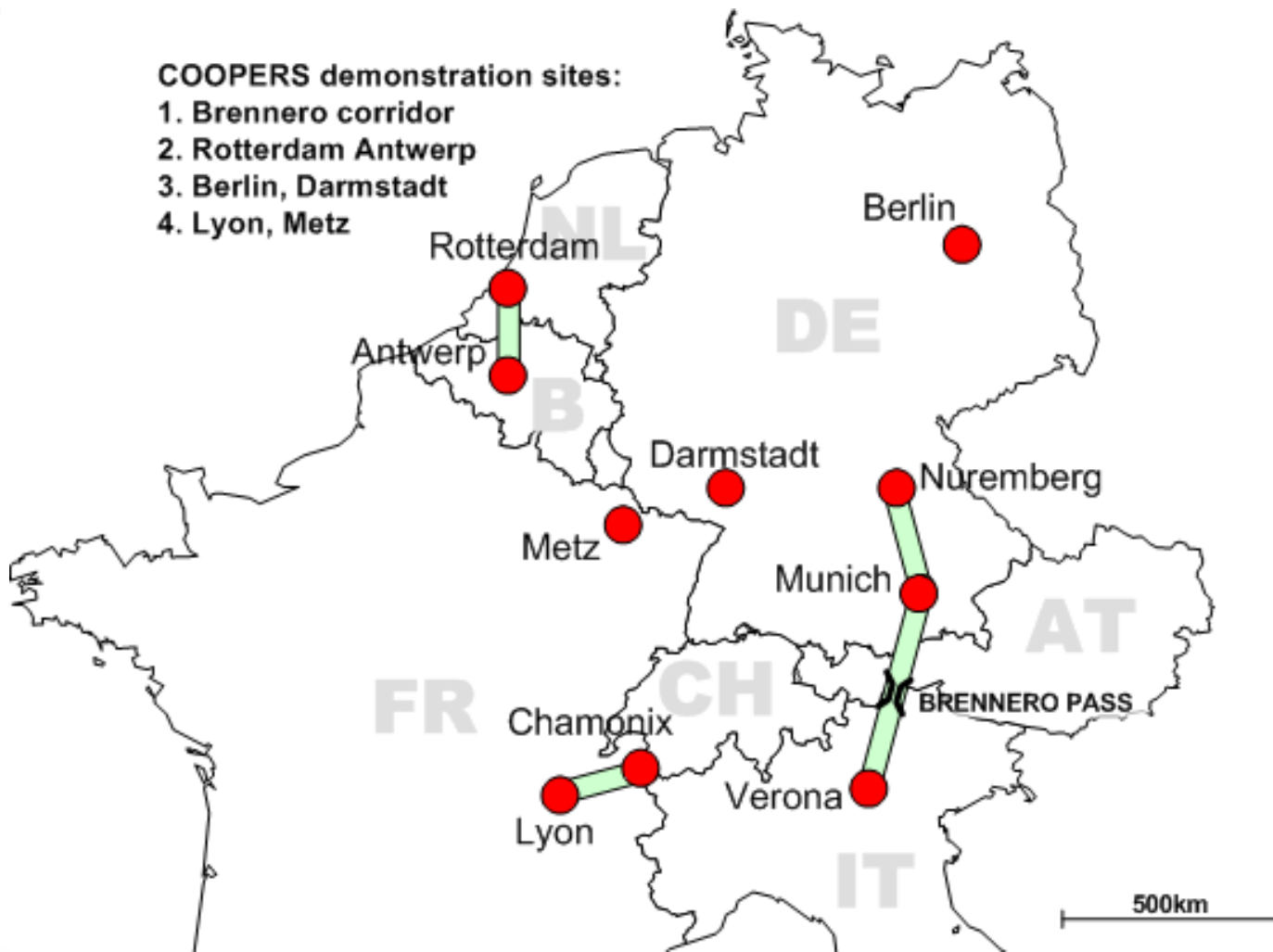
Information services - 02

- S7. ISA with links to infrastructure**
- S8. International service handover (or continuity)**
- S9. Road charging to influence demand**
- 10. Route navigation – estimating journey time**
- 11. Route navigation – recommending next link**
- 12. Route navigation - automatic road map update**

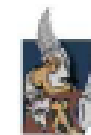
COOPERS - Test sites

COOPERS demonstration sites:

1. Brennero corridor
2. Rotterdam Antwerp
3. Berlin, Darmstadt
4. Lyon, Metz



COOPERS Partner list





Contact Information:

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www.coopers-ip.eu



COOPERS - FCData?

	Accident/incident warning including ghost driver information	Weather condition warning	Roadwork information including tunnels on motorways	Lane utilisation information on lane keeping, lane restriction, auxiliary lanes	In-vehicle variable speed limit information	Traffic congestion warning (including tunnels and motorways)
ESP, ABS	?	no				
Rain Detector	no	yes				
Wiper	no	yes				

Availability of Floating Car Data is the key issue for deployment of co-operative systems!