



52nd ASECAP DAYS

Challenges of Future
Mobility | The Role of Road
Infrastructure



Traffic Management with New Technologies

Ulrich Zorin
DARS d.d.

Big Data is Changing the Role of Traffic Managers

Big Data Is Changing the Role of Traffic Managers

Big data related to traffic is coming from various sources:

- ITS sensors
- Traffic systems
- Other systems
- C-ITS
- International TMPs
- ...



Different Traffic Data Sources

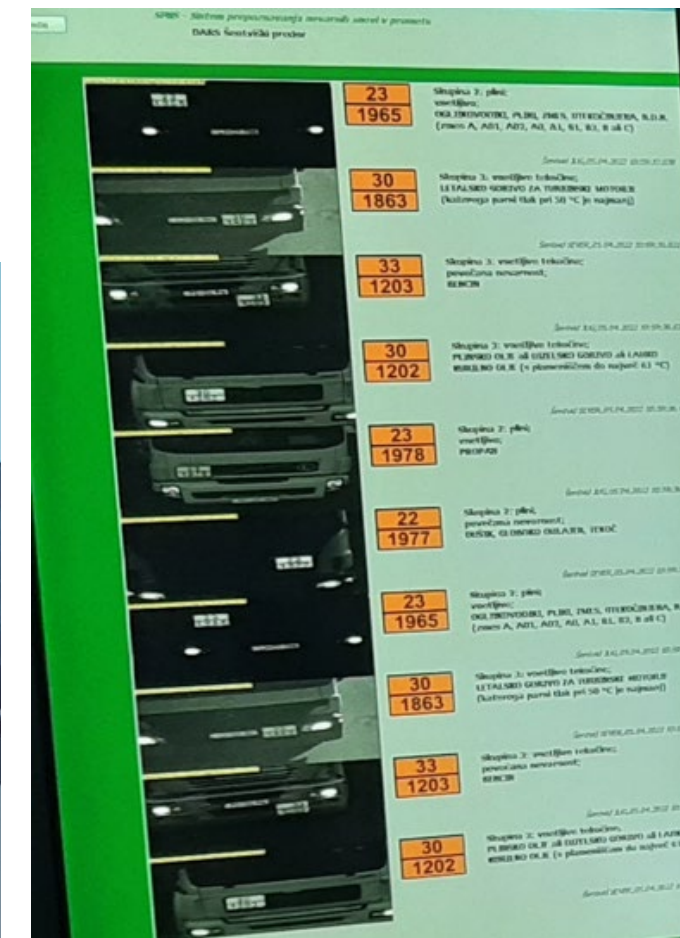
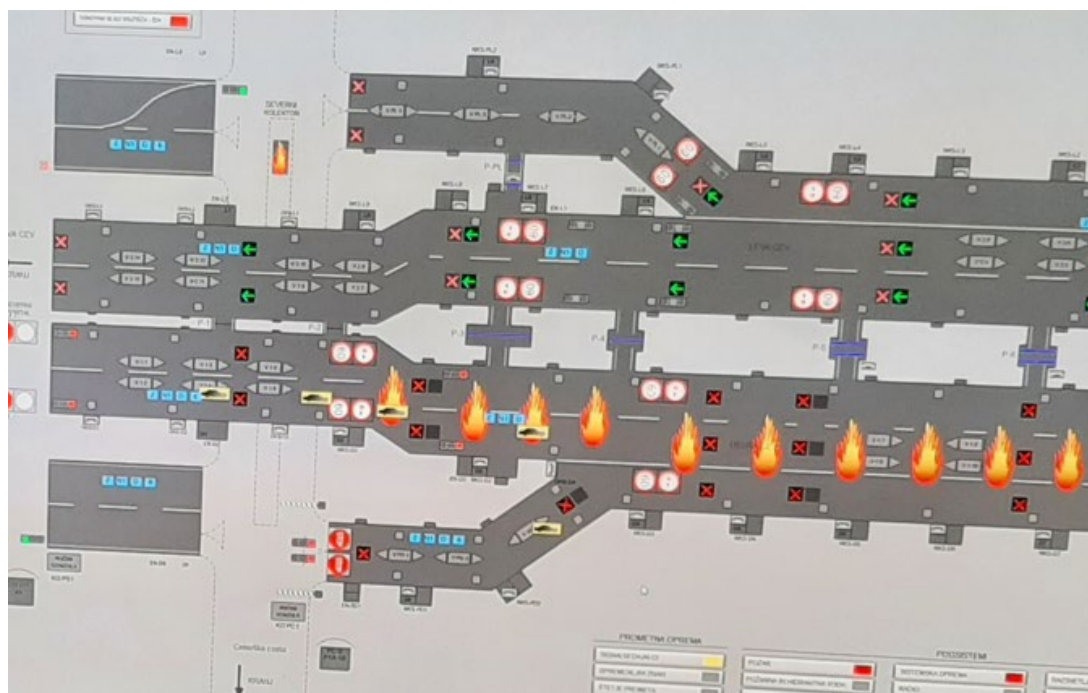
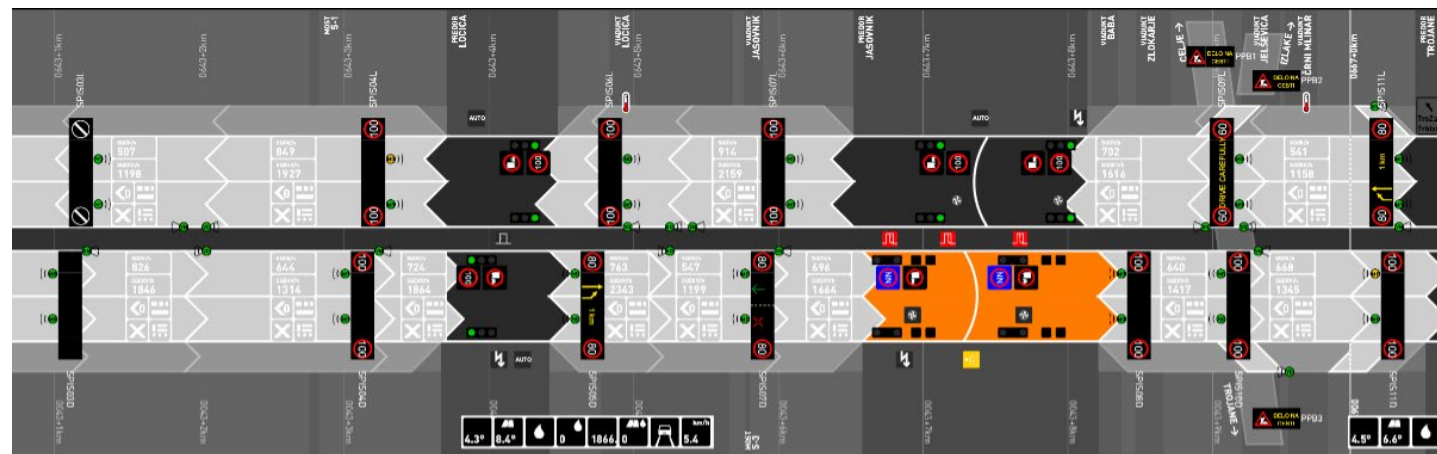
- Traffic Data
 - FCD
 - Traffic counters (loops, microwave detectors)
- Weather Data
 - Weather Detectors (various alarms)
 - Slovenian Environment Agency (weather portal)
- Video Cameras



Different Traffic Data Sources

Tunnel Detectors

- Monitoring the transport of hazardous substances
- Weighing trucks in free-flow traffic
- Tunnel systems (hundreds of different alarms)



Different traffic data sources

Radio Systems

Emergency call (users)

Internal radio (Maintenance, Toll Control, Police, Fire Brigade,...)

Internal Phones

National & international data

TMP

NAP

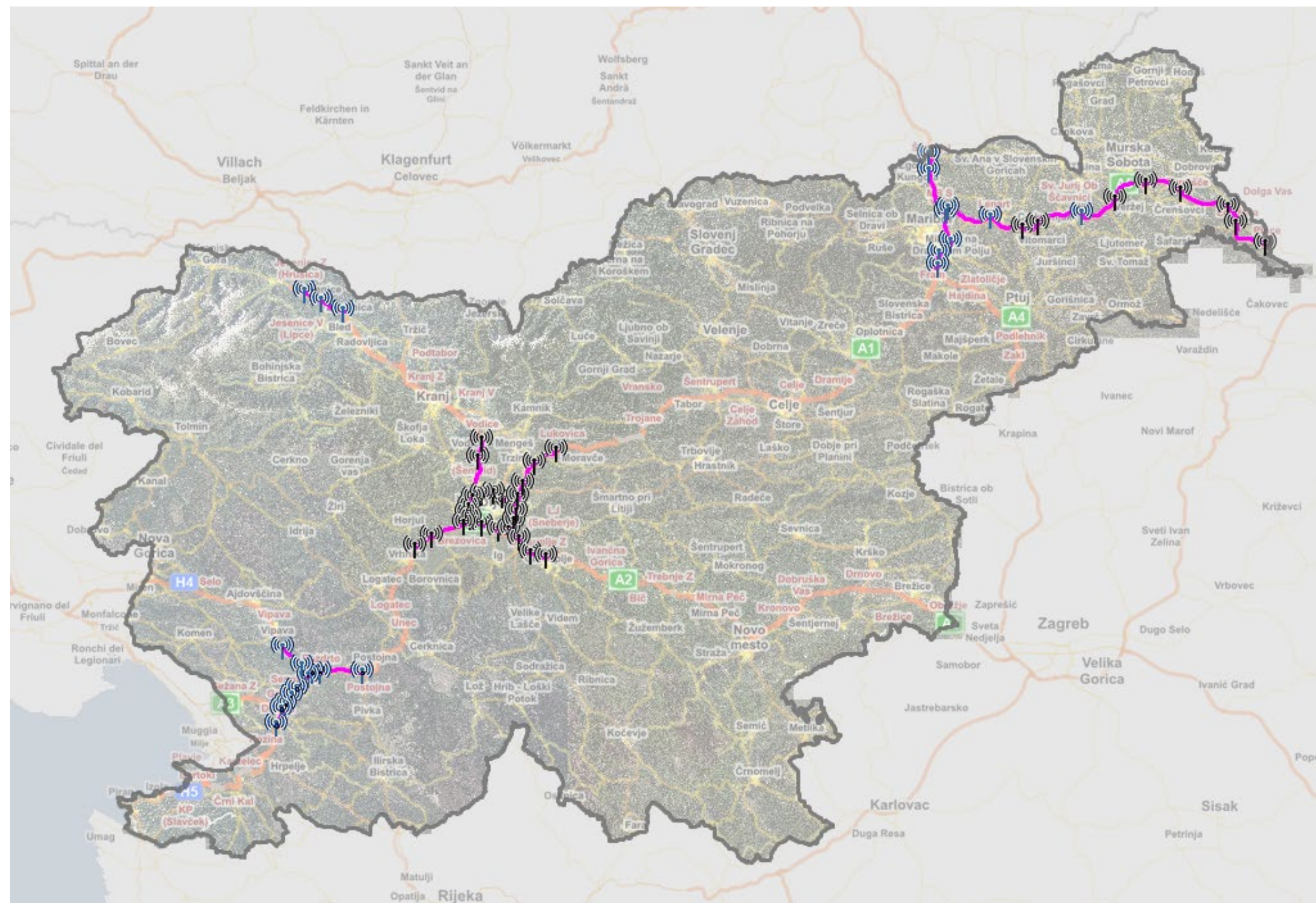
APP



New Data Sources for Traffic Management

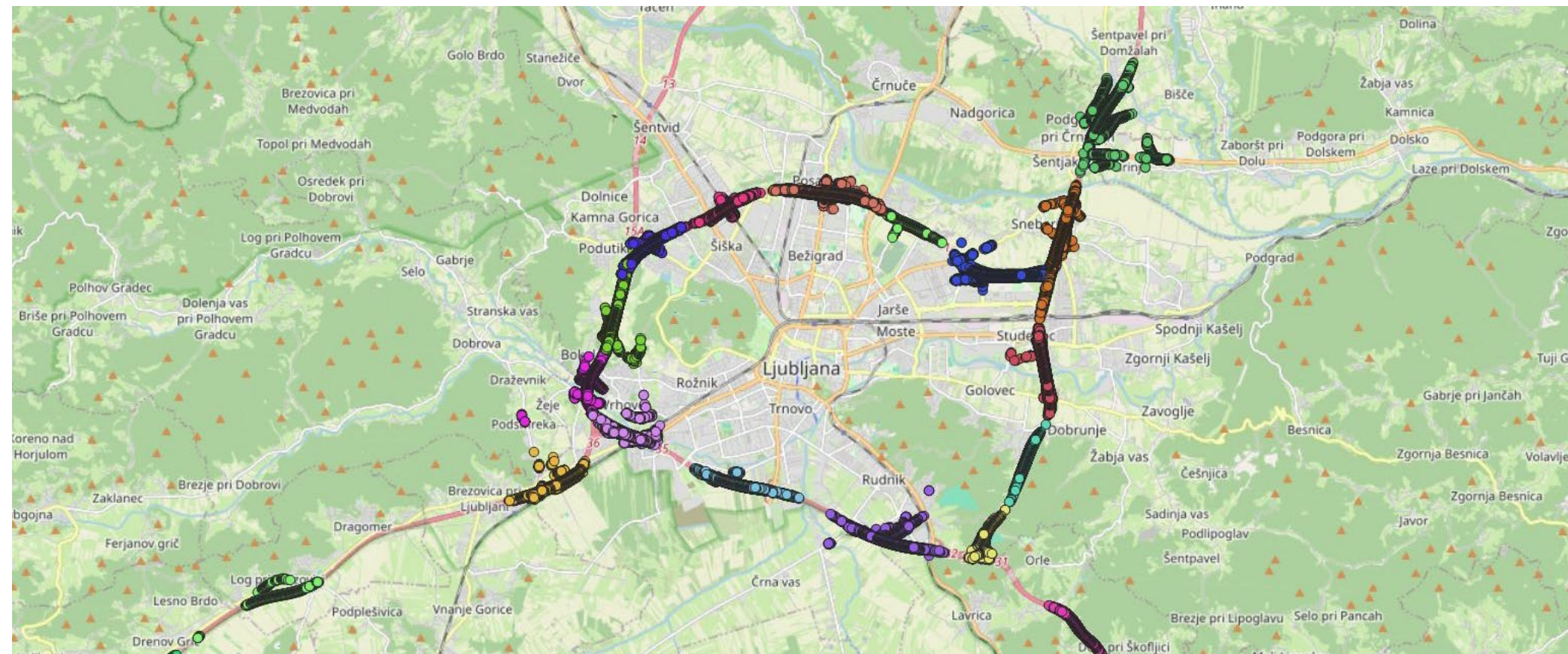


C- ITS Data



Big Data Sources Provide Input for Traffic Management:

- Information about the OBU from the vehicle that submitted the CAM message
- Information about the RSU that received the CAM message
- Time of message receipt
- Vehicle location (latitude, longitude)
- Vehicle speed (m/s, km/h)
- Acceleration (m/s^2)
- Direction of travel (wrong way)
- Vehicle orientation
- Vehicle function (VehicleRole)

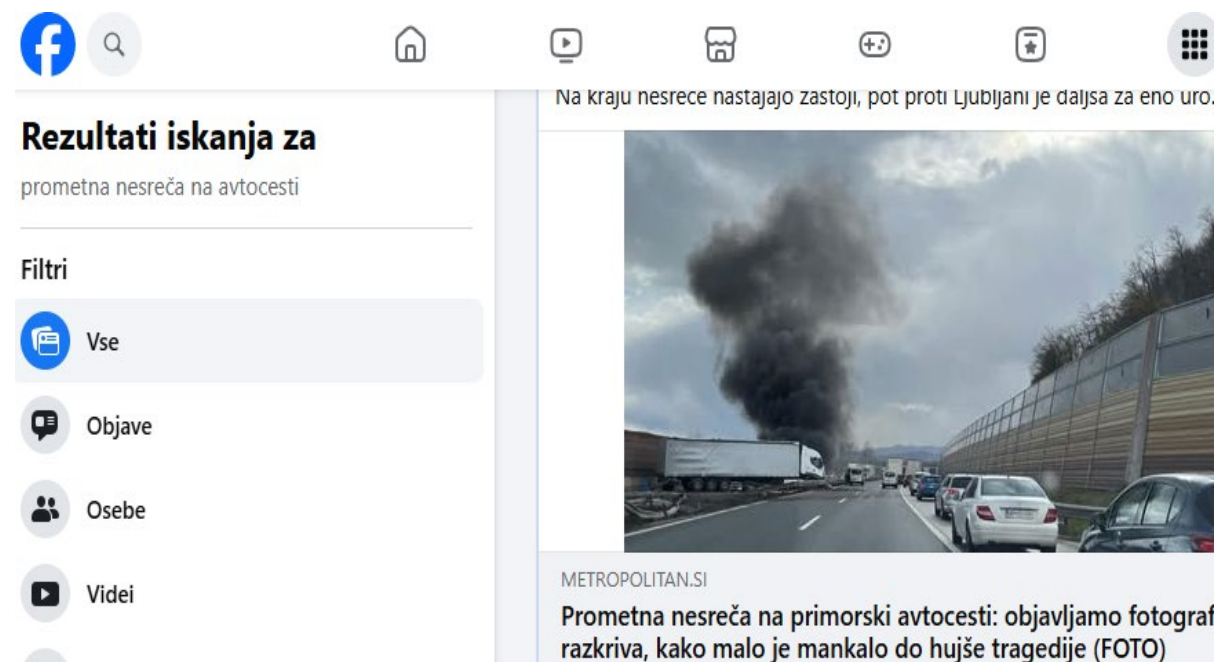


Vehicle Data in Real Time

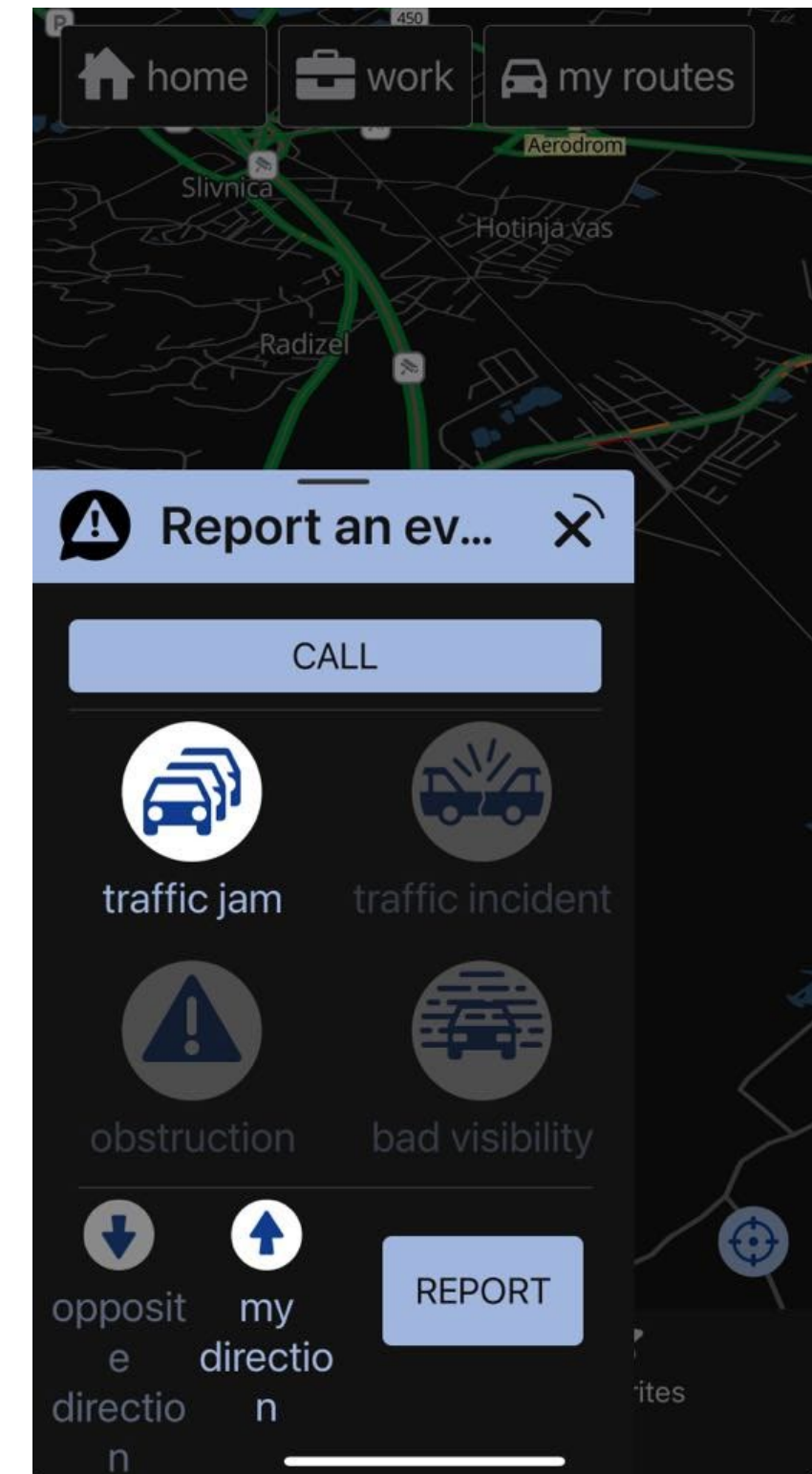
- Driver behavior
- Electronic control units
- Location
- Speed
- Radar
- Lidar
- Cameras
- Crash data
- Etc.



Social Media



DARS APP Traffic+



How to Manage All the Data with Traffic Managers in Real Time?



- Use of machine learning models for data collection , processing, and alarm generation (improved assistance, optimization , faster decision- making , fewer accidents and delays, reduced errors)
- Use of new technologies : AI processing data from social media , connected vehicles, and other systems (e.g., bus, taxi fleets)
- Reorganization of control centers: redesigned workplaces, integrated systems
- Gradual transition to full automation of measures – a multi - year process



Goals:

- Reduce congestion
- Minimize economic losses
- Decrease traffic accidents
- Enhance comfort on motorways

Key Priorities:

- Greater focus on teams in control centers
 - Event simulations (development and education center)
 - Mastery of new AI tools
 - Regular exercises
 - Increased staffing needs
 - Better salaries
 - Stronger collaboration with academic institutions to develop skilled personnel



ASECAP DAYS



MADRID 2025

Thank You

Contact Us



0038641799220



ulrich.zorin@dars.si



www.dars.si