49th ASECAP DAYS

Decarbonizing Road Infrastructure : Challenges, Perspectives and Actions in Tough Economy

ASECAP DAYS
BRUSSELS 2022

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Infrastructure services evolve slowly: Case study Time-delay Display

Bernd Datler, CIO

ASFINAG Maut Service GmbH

ASFINAG

ASFINAG IN FIGURES

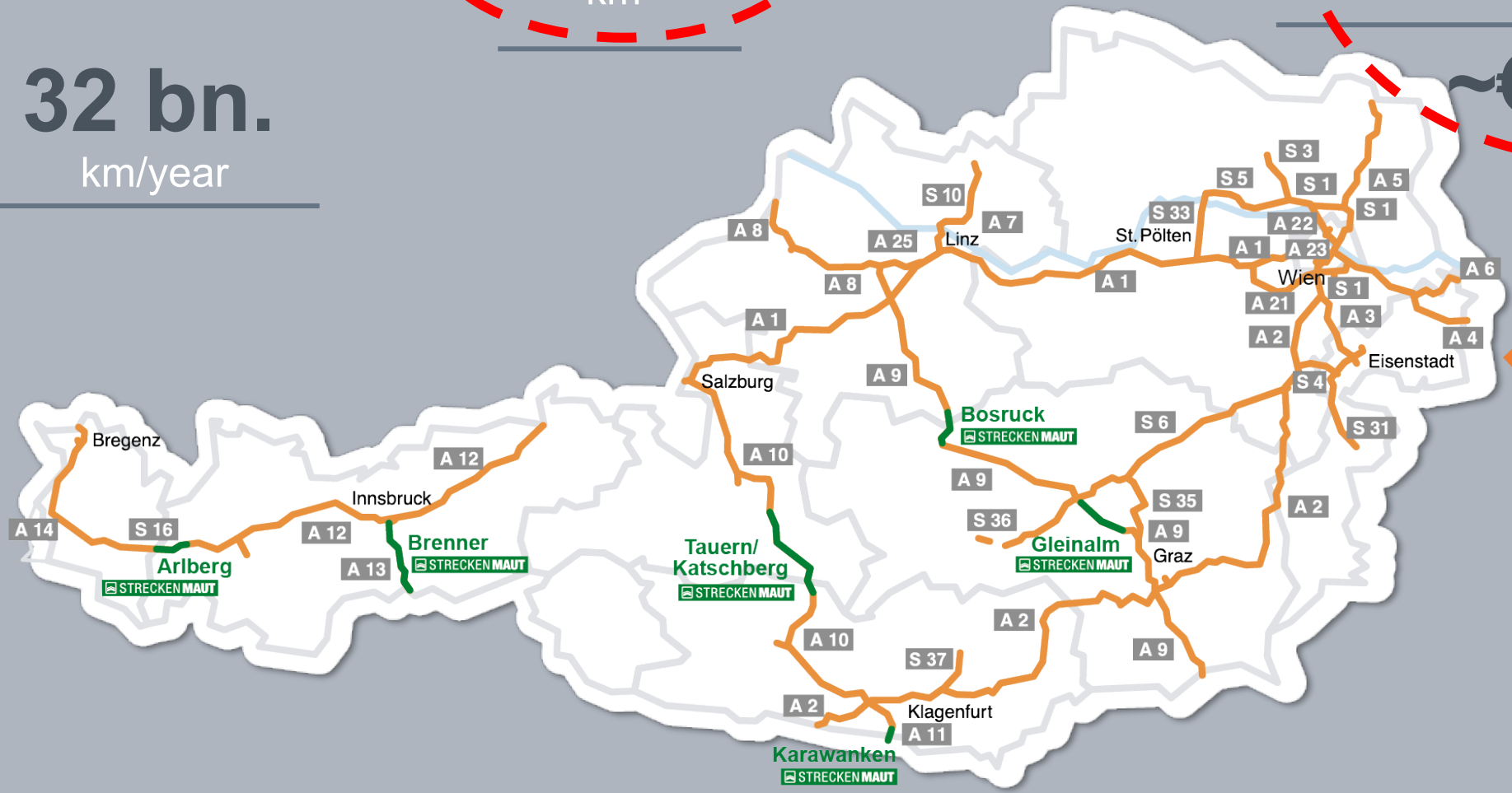
2.233
km

~2.900
employees

purely financed by tolling

~€2.2 bn

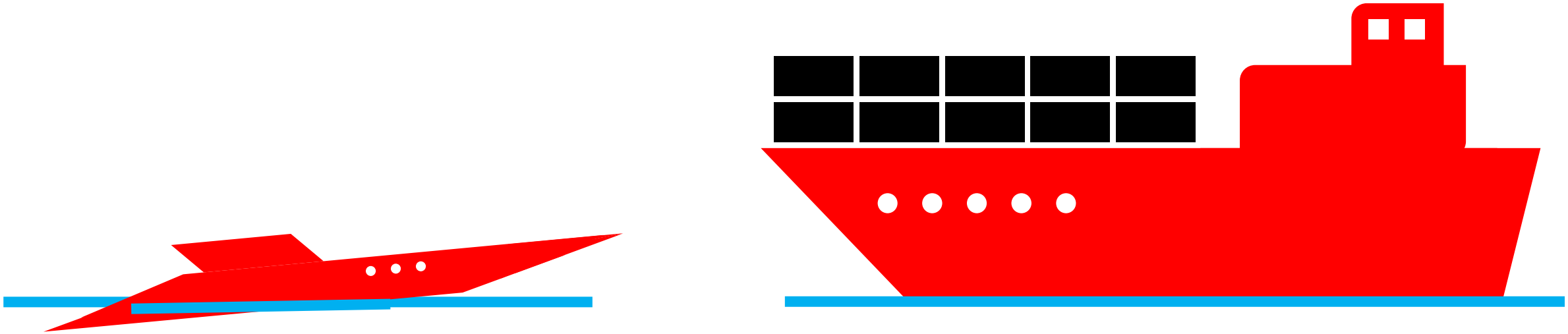
32 bn.
km/year



stock company,
stock owned by the state

3

Startups vs. corporates – speed vs. stamina



startup

corporate

Both worlds have their advantages/disadvantages for innovation/digitalization

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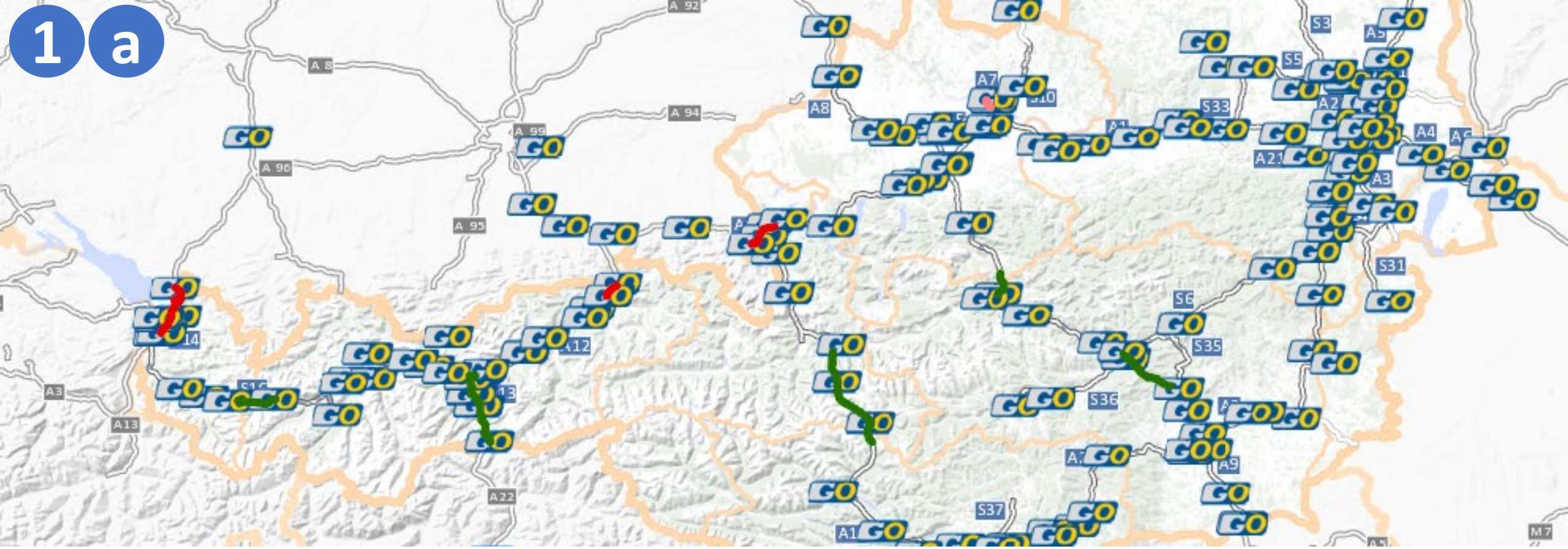
Case study:
Time Delay Service

Time Delay Display – the starting point

Building blocks come from different areas

detect and calculate	distribute information
cleanse and calculate	data interfaces
transmit and collect: IP network (fibre),	specific time delay display 2
sensors: Tolling data, C-ITS, bluetooth, WiFi 1	variable message signs

Building blocks need to be combined for a new service: Integration challenges, SLAs, complicated incident management



Truck tolling stations cover the whole motorway network
~700 million transaction per year, quite low latency

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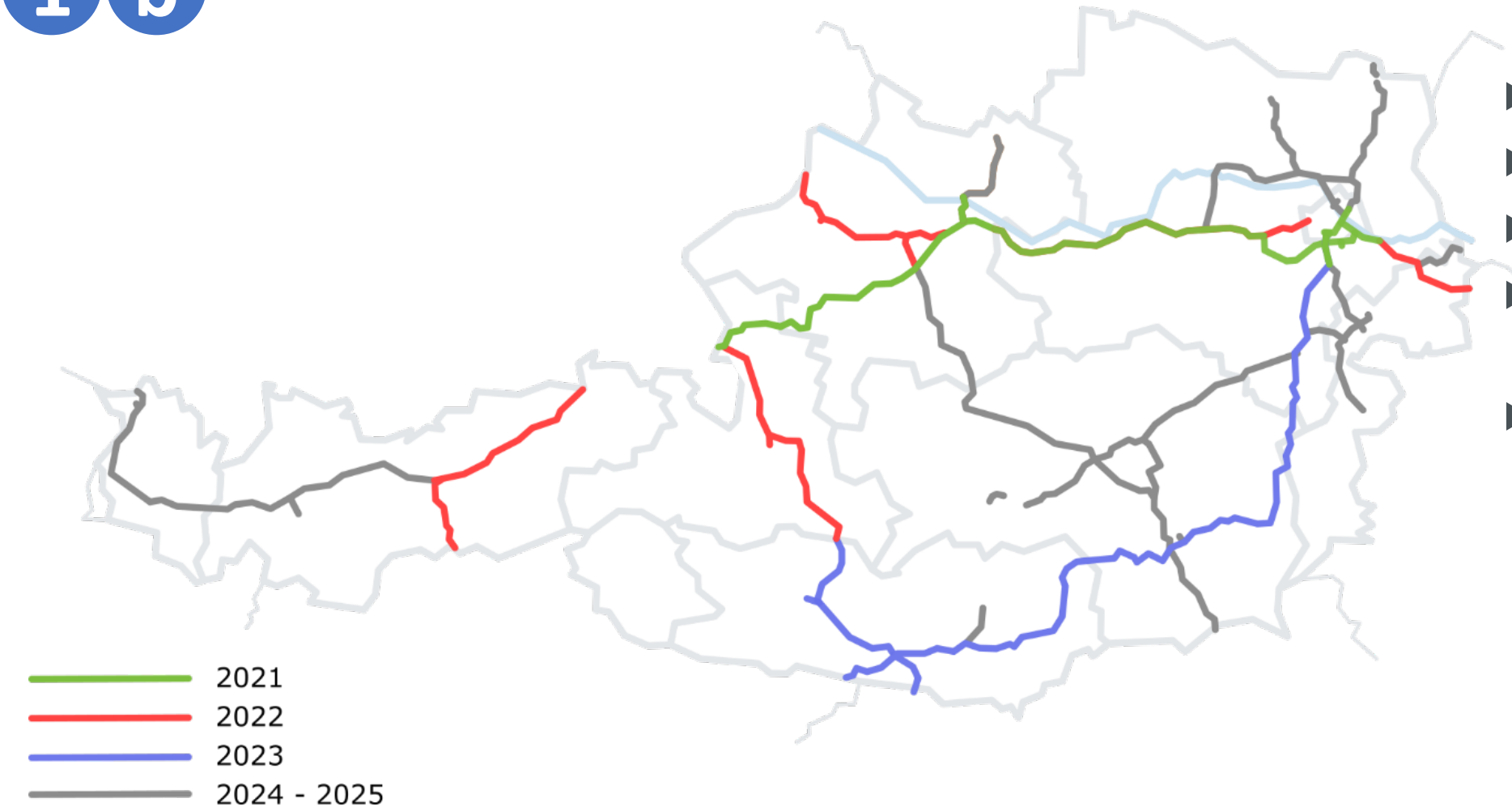
Roadside units: 525 units until 2025

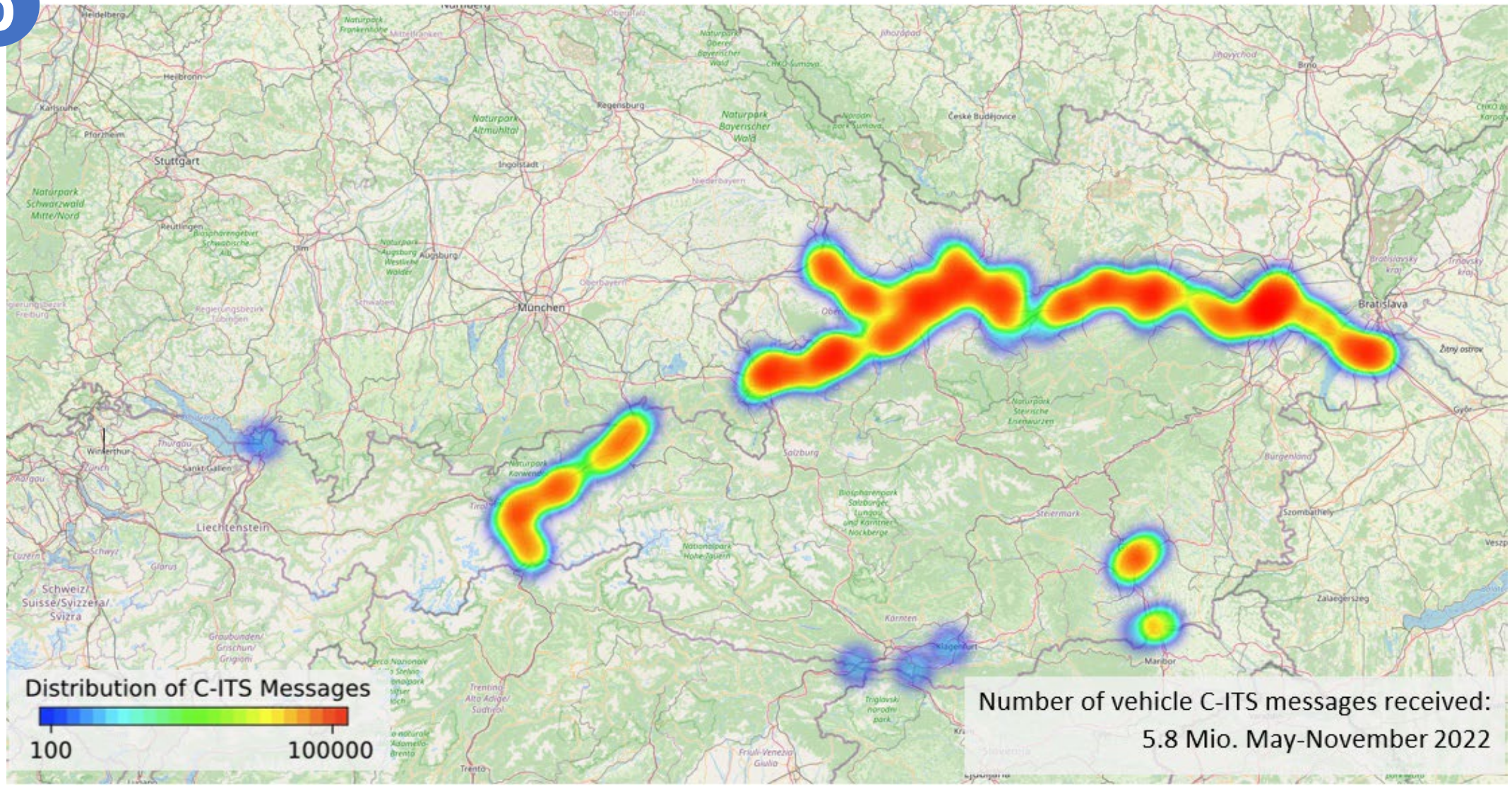
1b



- 525 C-ITS units, ~2.250 km
- Average 1 unit per 4 km
- 150 deployed in 2021
- plus 100 units each in 2022, 2023 and 2024
- 75 units in 2025

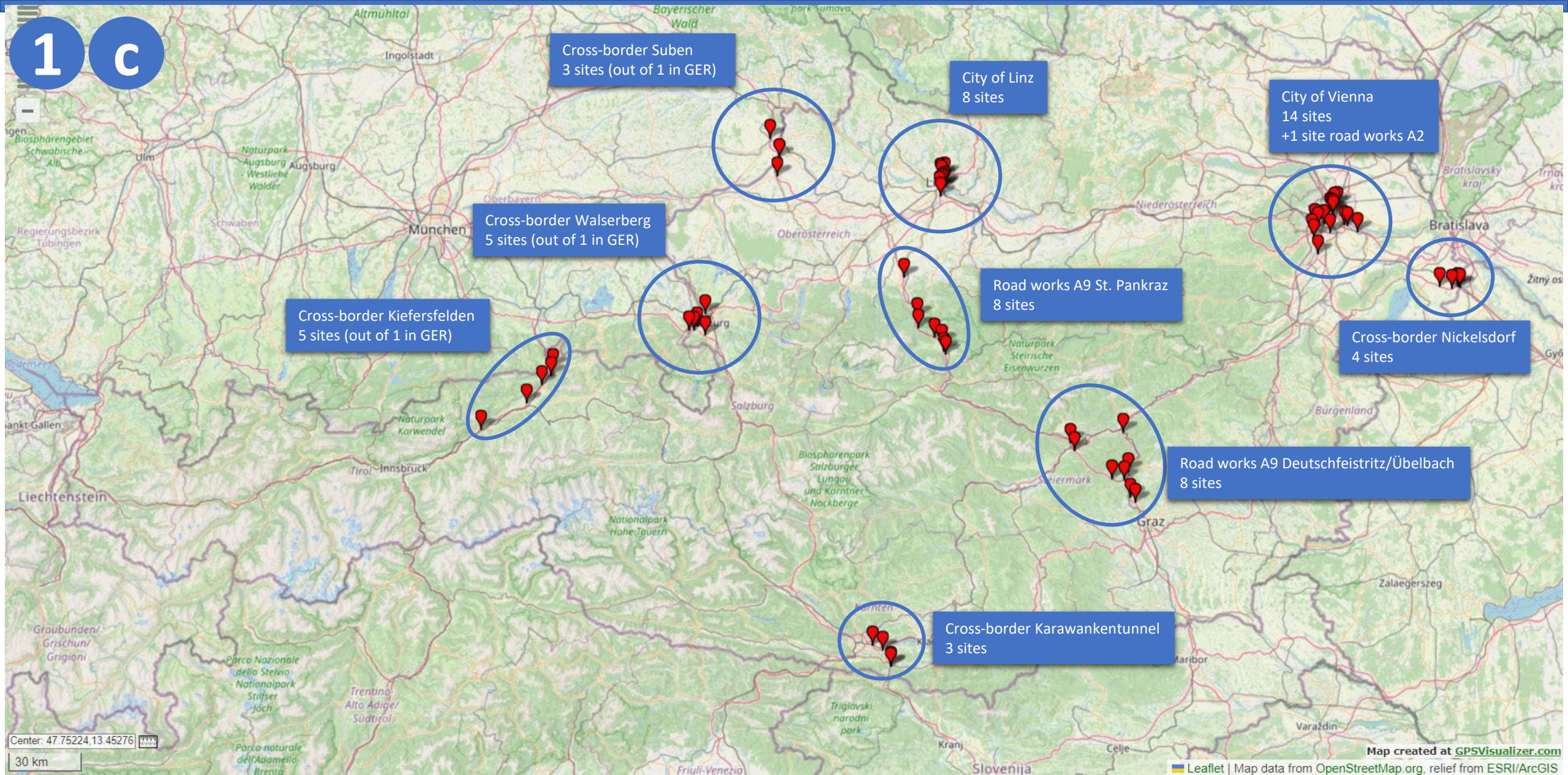
200+ C-ITS Roadside Units w/ Bluetooth

1 b

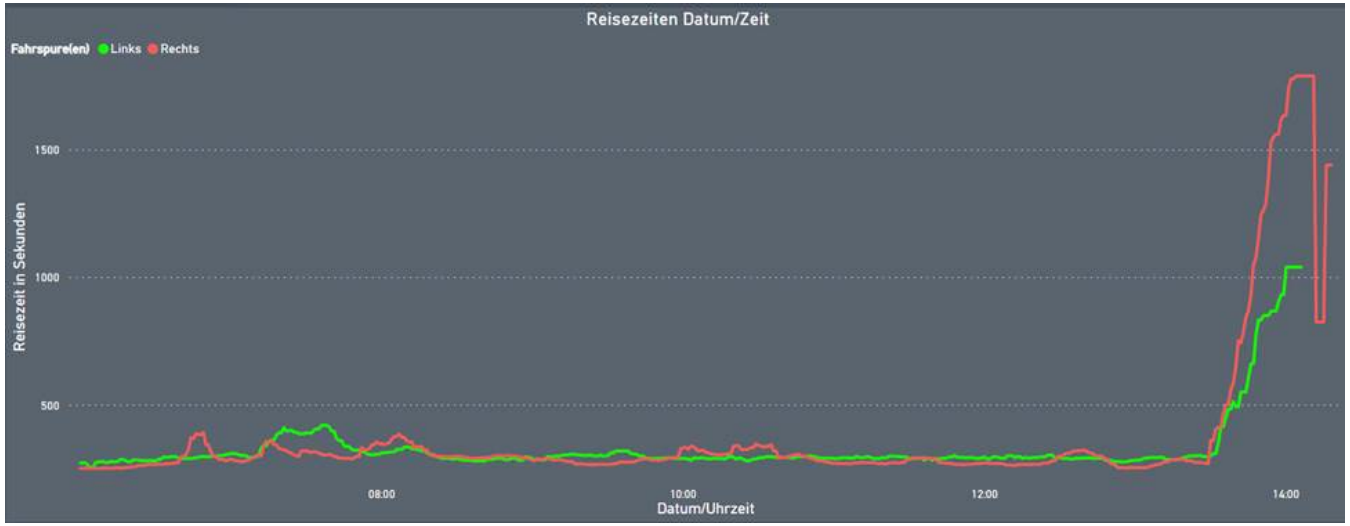


Additional, dedicated travel time detectors

1 c



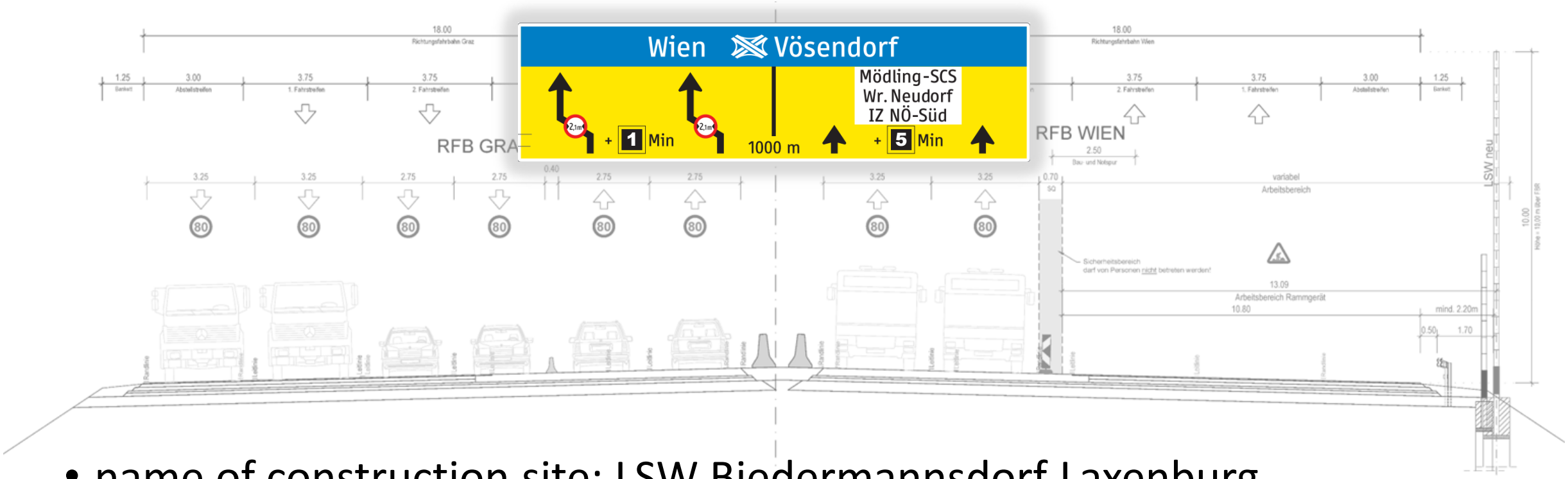
Incidents are subject to long delays



- Serious car accident in construction site on right lanes (total closure)
- Congestion and later also total closure on left lanes

Description of the roadwork & -sign

2

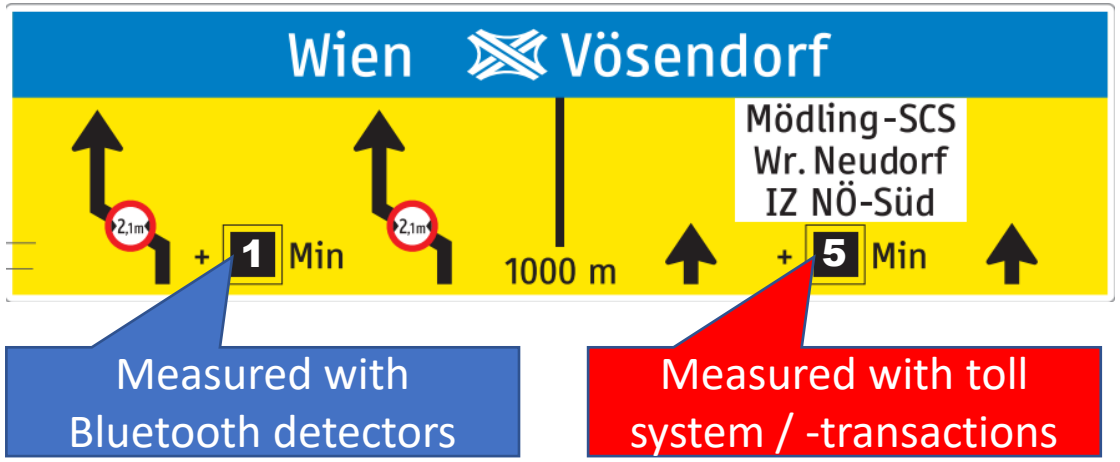


- name of construction site: LSW Biedermannsdorf Laxenburg
- period: April - Dezember 2022
- traffic routing: 6+2; 5.5km length

Approach

2

- The challenge
  - Separate travel time measurement of the lanes (2+2)
  - Use of existing sensors
- Traffic restrictions
  - Trucks must drive on the right lane
  - Vehicles that use an exit must drive to the right
  - All other vehicles can use the two left lanes
  - There are many more Bluetooth devices in (faster) cars than in trucks
- Our solution
  - Travel time measurement of the two right lanes with toll system
  - Travel time measurement of the two left lanes with Bluetooth detectors
  - Innovative analysis service to filter & calculate reliable travel times



Setup

2

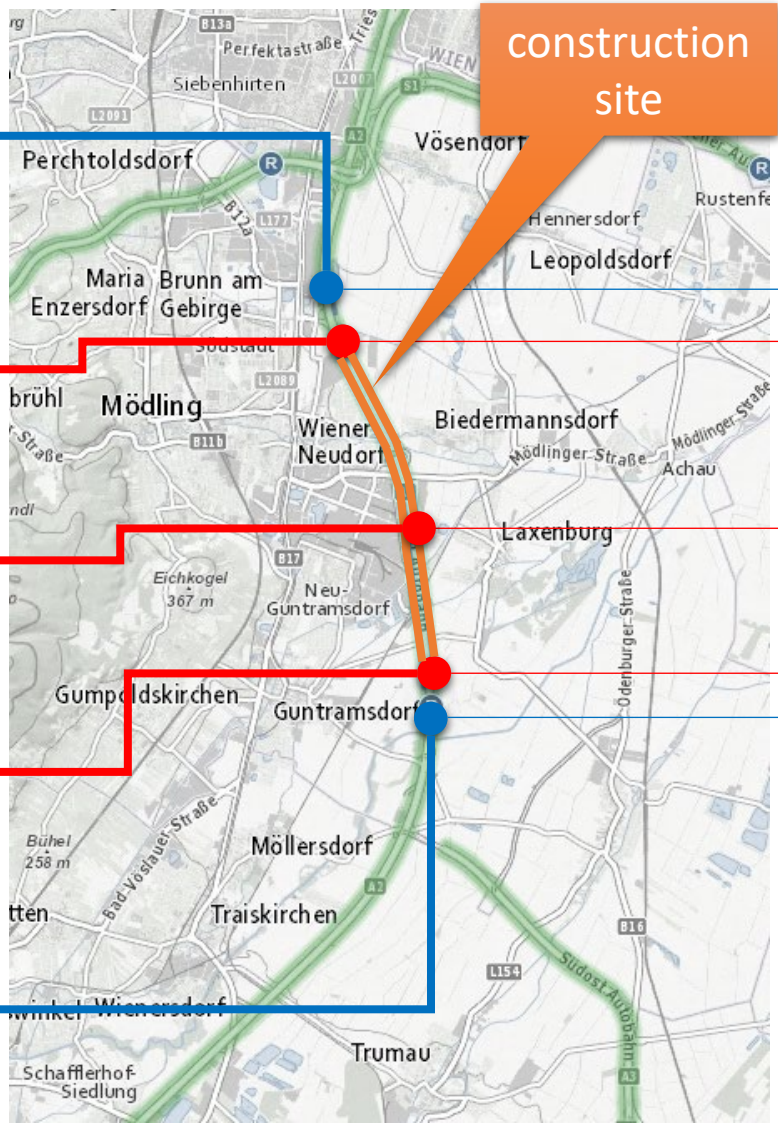
Bluetooth sensor

tollgantry

tollgantry

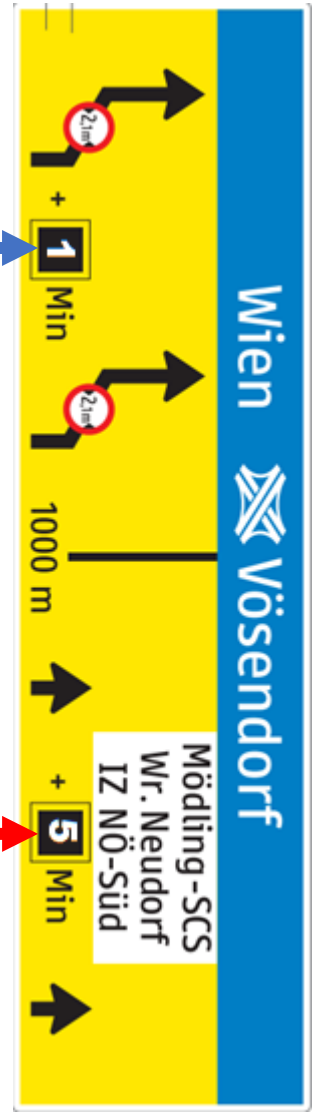
tollgantry

Bluetooth sensor



toll traveltime

bluetooth traveltime



Impressions

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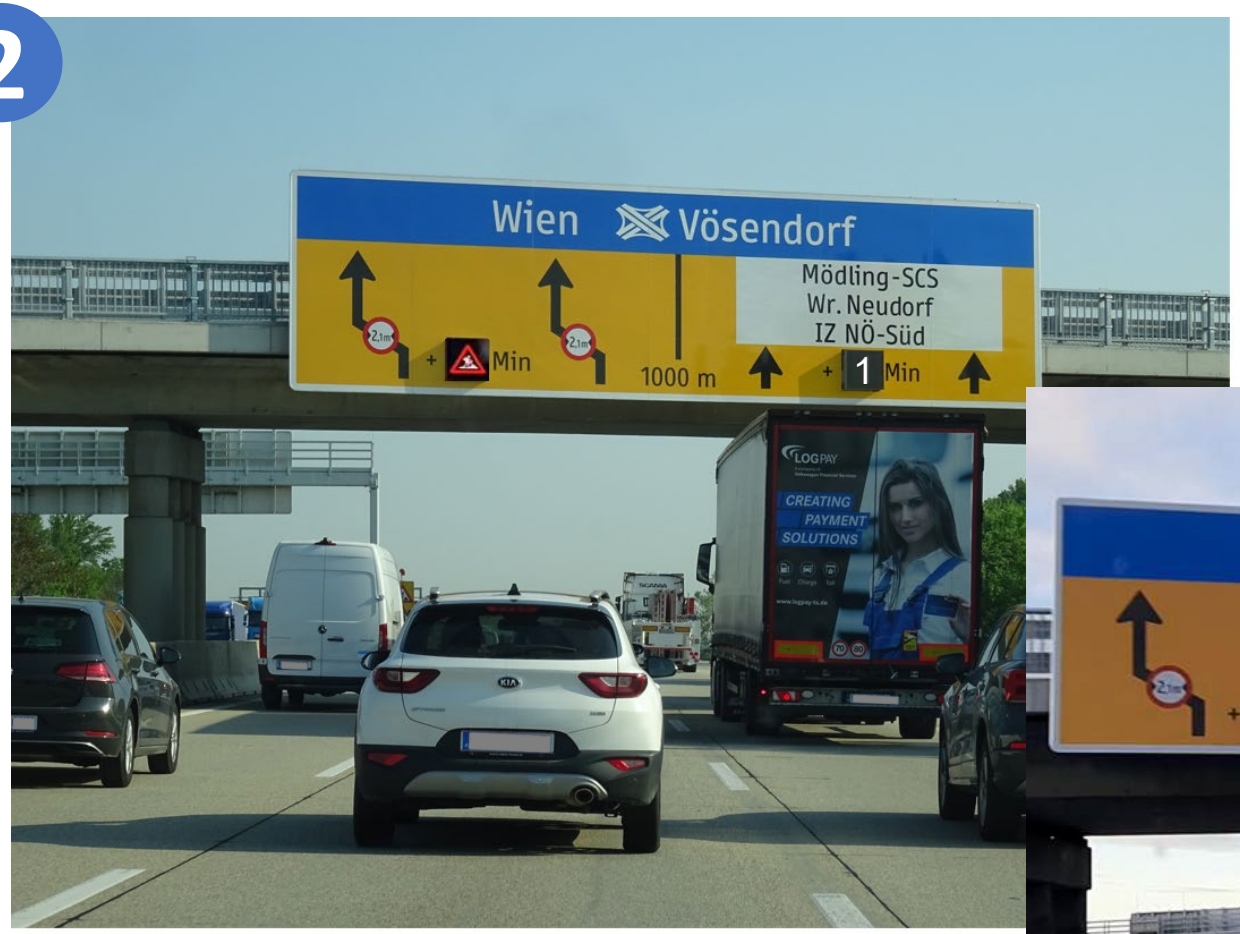
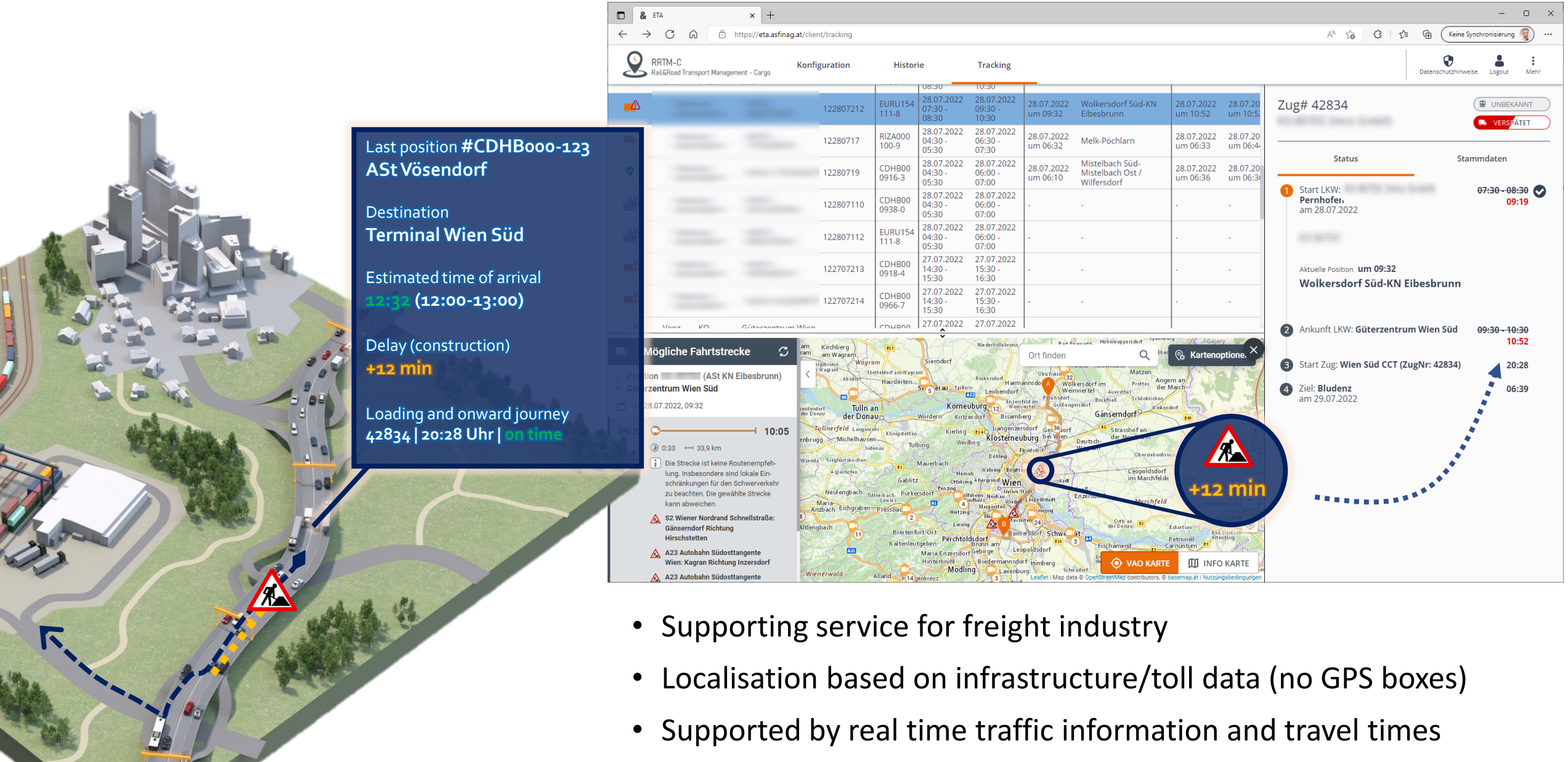


Photo by Pietro Jeng on Unsplash

Next level: ETA-monitor using real-time traffic prognosis



- Supporting service for freight industry
- Localisation based on infrastructure/toll data (no GPS boxes)
- Supported by real time traffic information and travel times

Conclusion

Road operators already have

- a large amount of mobility data
- can leverage data
- create new customer-oriented services

The combination of different technologies into different end-customer services expands the portfolio of a road operator

Data quality, accessibility and trust ability are key enablers for digital road operators

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THANK YOU FOR YOUR ATTENTION

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CIO / CDO ASFINAG Maut Service GmbH

- "The best way to predict the future is to invent it. The best way to predict travel times is to measure them correctly. ASFINAG took both approaches and reinvented the display and measurement of lost travel times in the construction site. The result is a rethought implementation that helps motorists decide which lane is best. Because admittedly, who hasn't experienced it: no matter which lane you take in a traffic jam, it will always have been the worse choice ... until now!
- A novel traffic guidance system was developed that uses Bluetooth/WLAN detectors as well as the infrastructure of our truck tolling system to determine the best lane choice. The innovative display panel is also a first in Austria. ASFINAG gained a lot of experience during the entire realization, which will be of great help especially to our customers - but also to us in upcoming projects.“

Impressions