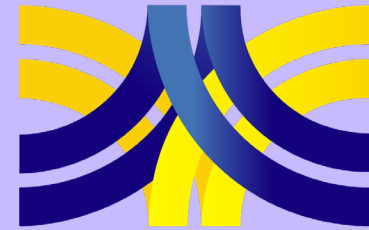


# 49<sup>th</sup> ASECAP DAYS

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

**ASECAP DAYS**

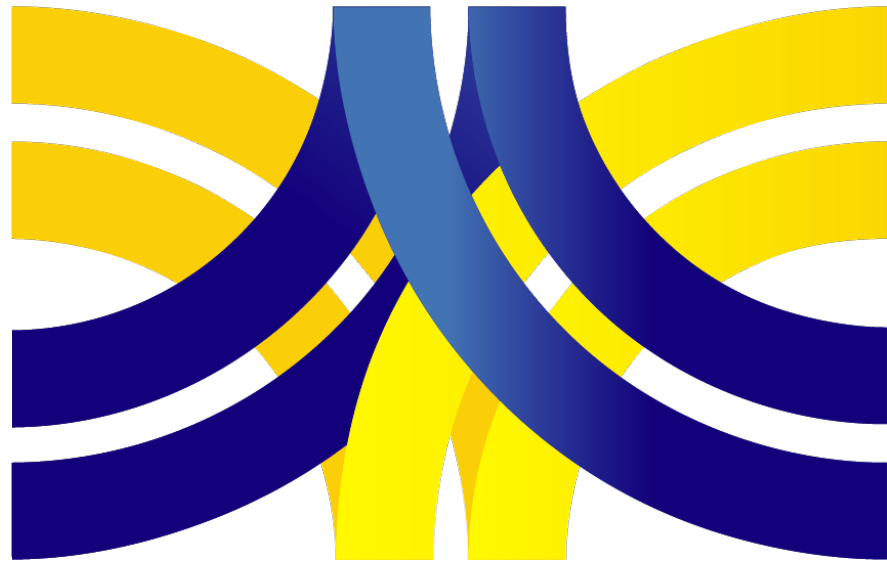


**BRUSSELS 2022**



Hotel Marriott Grand Place, Brussels  
24 – 25 November 2022

***ASECAP DAYS***



**BRUSSELS 2022**

Infrastructure services  
evolve slowly:  
Case study  
Time-delay Display

Bernd Datler, CIO

ASFINAG Maut Service GmbH

**A | S | F | i | N | A | G**

# ASFINAG IN FIGURES

2.233

km

~2.900  
employees

purely  
financed by  
tolling

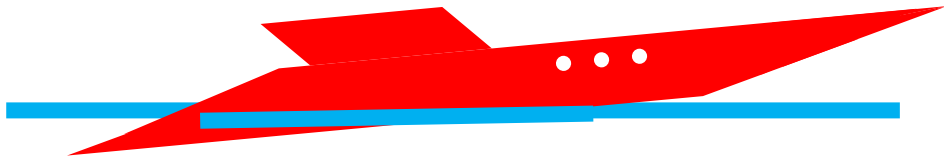
~€2.2 bn

32 bn.  
km/year

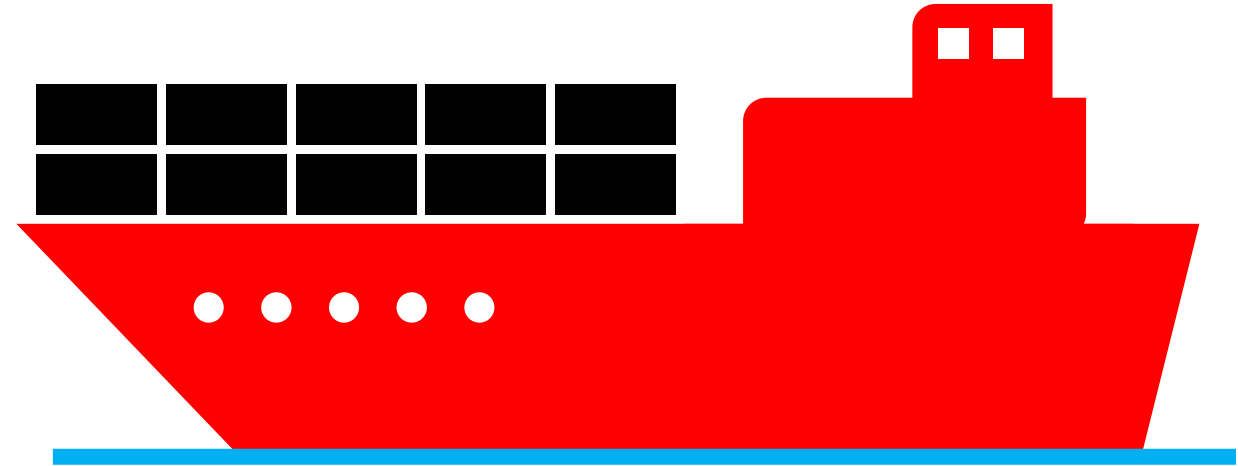


stock company,  
stock owned by the state

# Startups vs. corporates – speed vs. stamina



startup



corporate

Both worlds have their advantages/disadvantages for innovation/digitalization



Photo by [Marcin Skally](#) on [Unsplash](#)



Photo by [黒木混株 cdd20](#) on [Unsplash](#)



Photo by [Nick Fewings](#) on [Unsplash](#)

# Case study: Time Delay Service

# Time Delay Display – the starting point



*no matter which lane you take in a traffic jam, it was always the worse choice ... until now!*

Well informed drivers are more satisfied & capable



# Building blocks come from different areas

detect and calculate

cleanse and calculate

transmit and collect:  
IP network (fibre),

sensors:  
Tolling data, C-ITS, bluetooth, WiFi

1

distribute information

data interfaces

specific time delay display

2

variable message signs

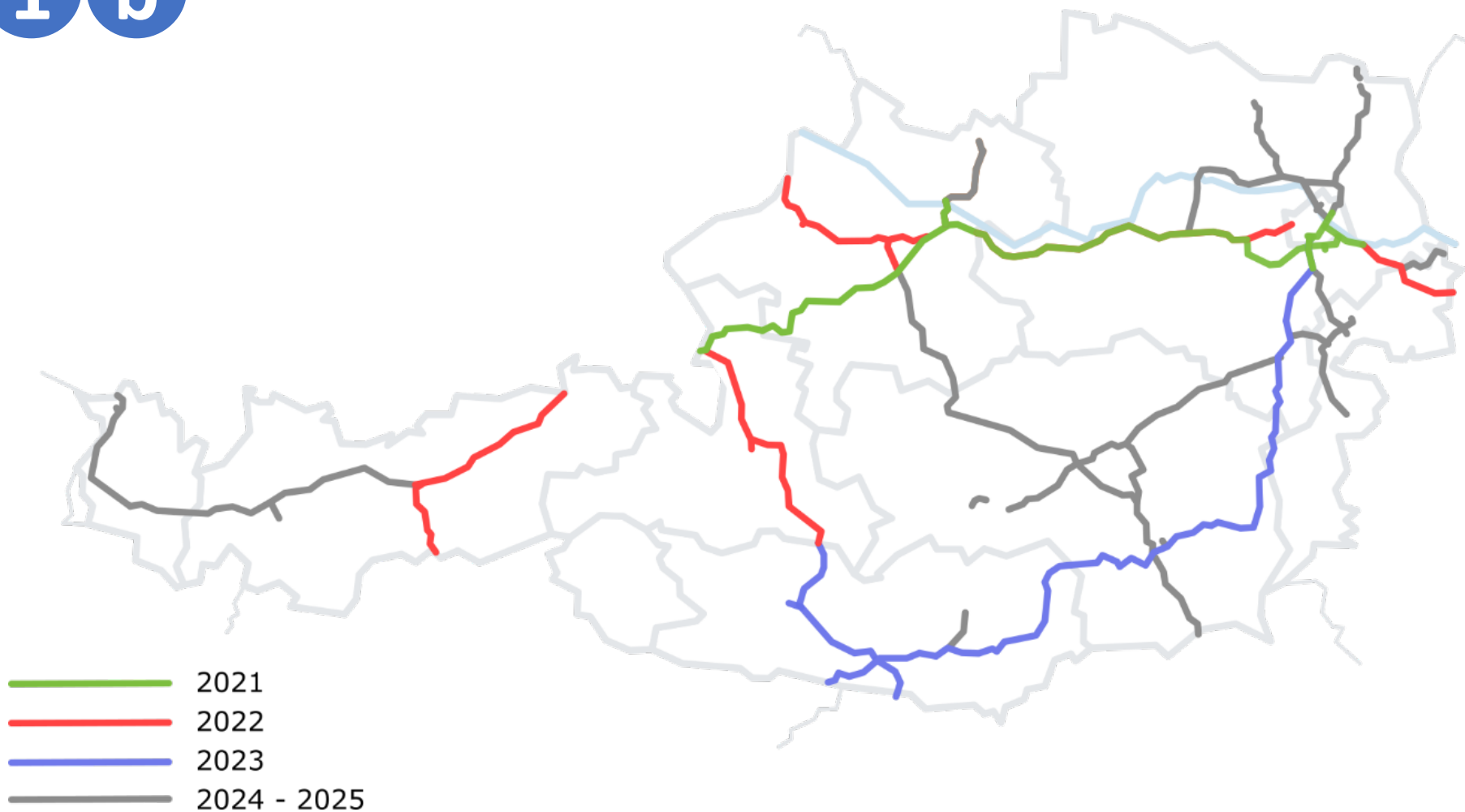
Building blocks need to be combined for a new service: Integration challenges, SLAs, complicated incident management





# Roadside units: 525 units until 2025

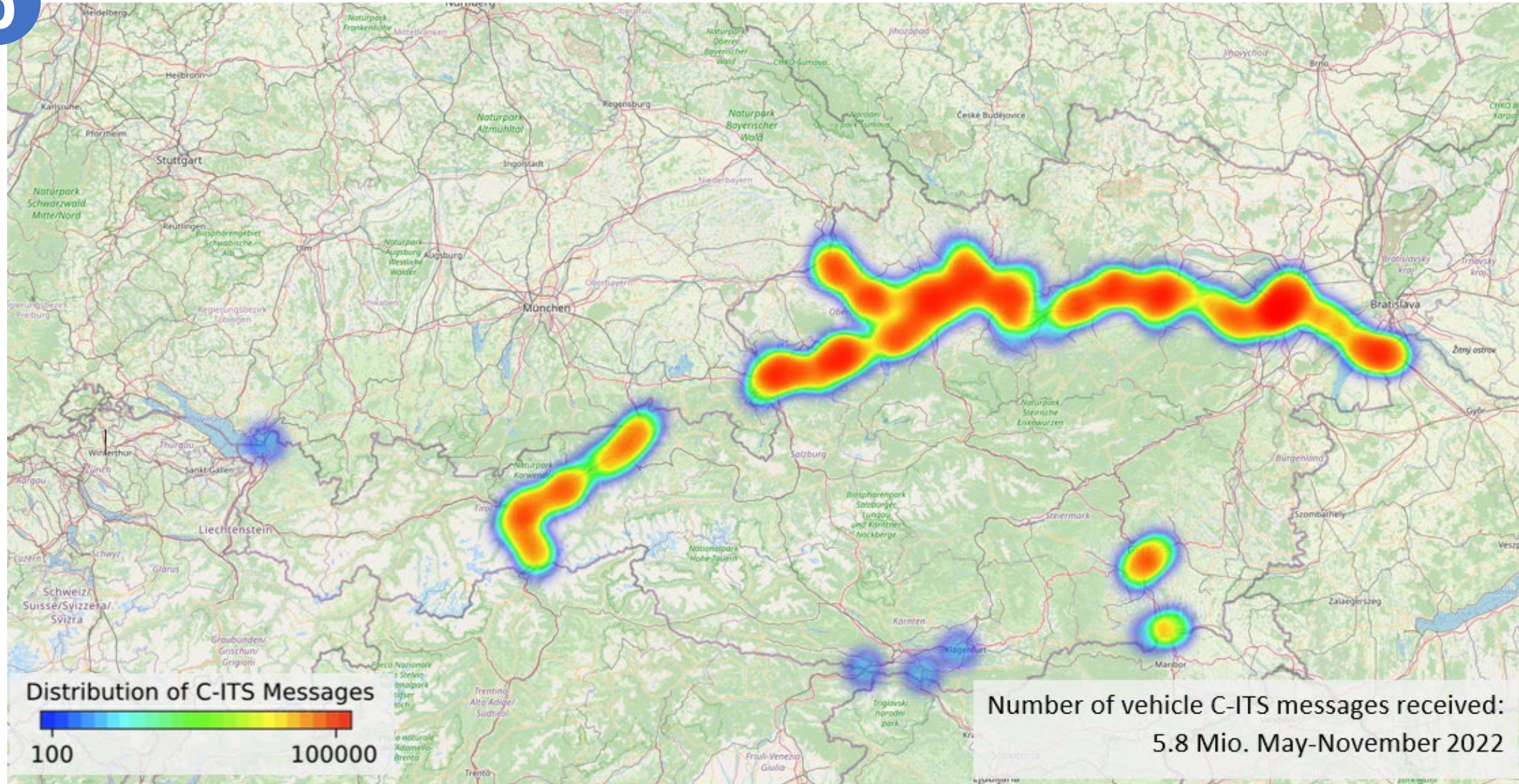
1 b



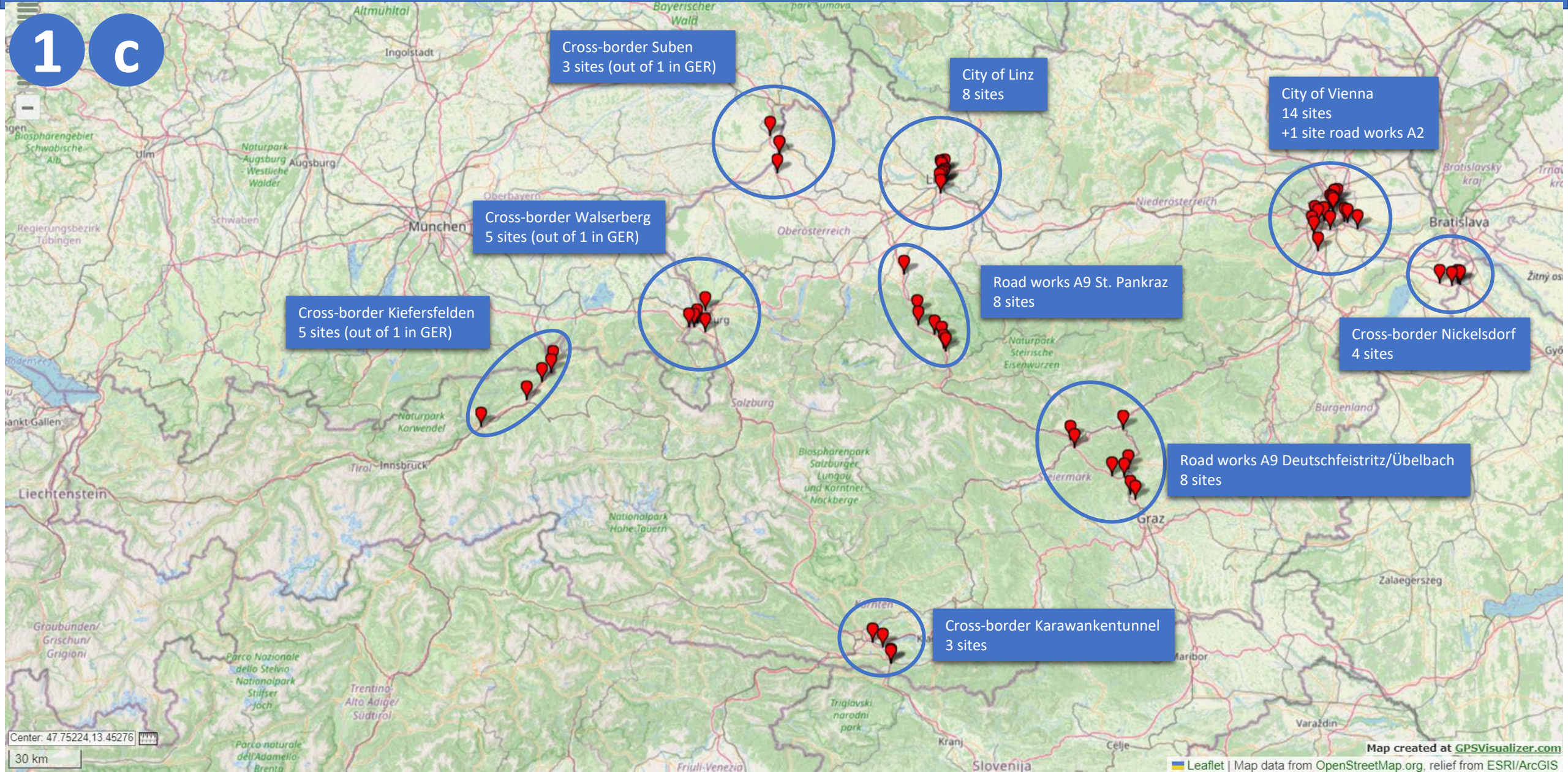
- ▶ 525 C-ITS units, ~2.250 km
- ▶ Average 1 unit per 4 km
- ▶ 150 deployed in 2021
- ▶ plus 100 units each in 2022, 2023 and 2024
- ▶ 75 units in 2025

# 200+ C-ITS Roadside Units w/ Bluetooth

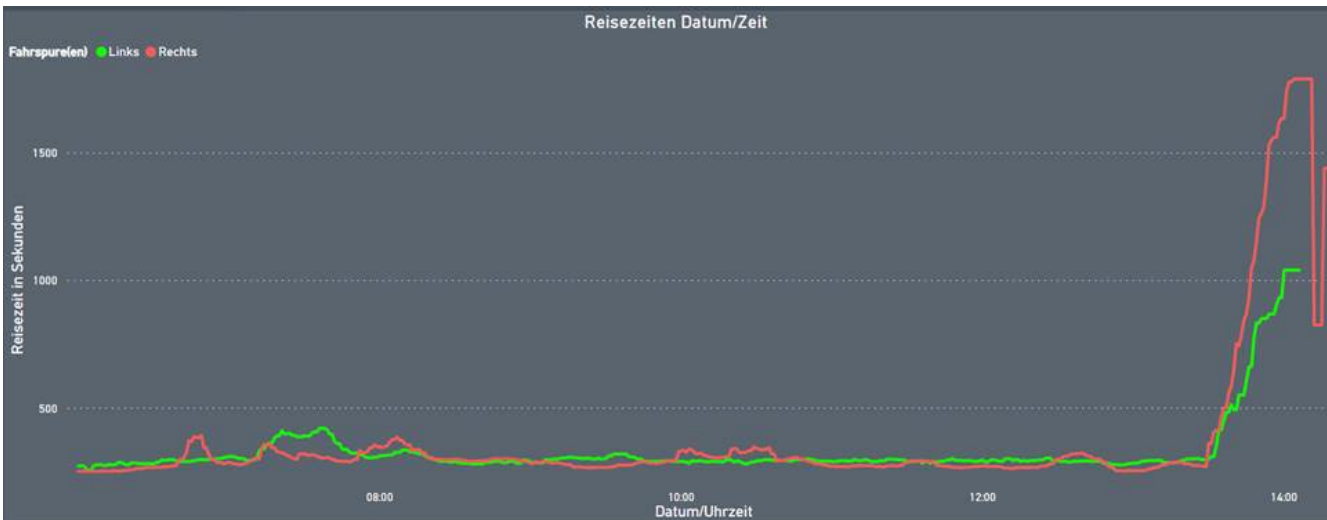
1 b



# Additional, dedicated travel time detectors



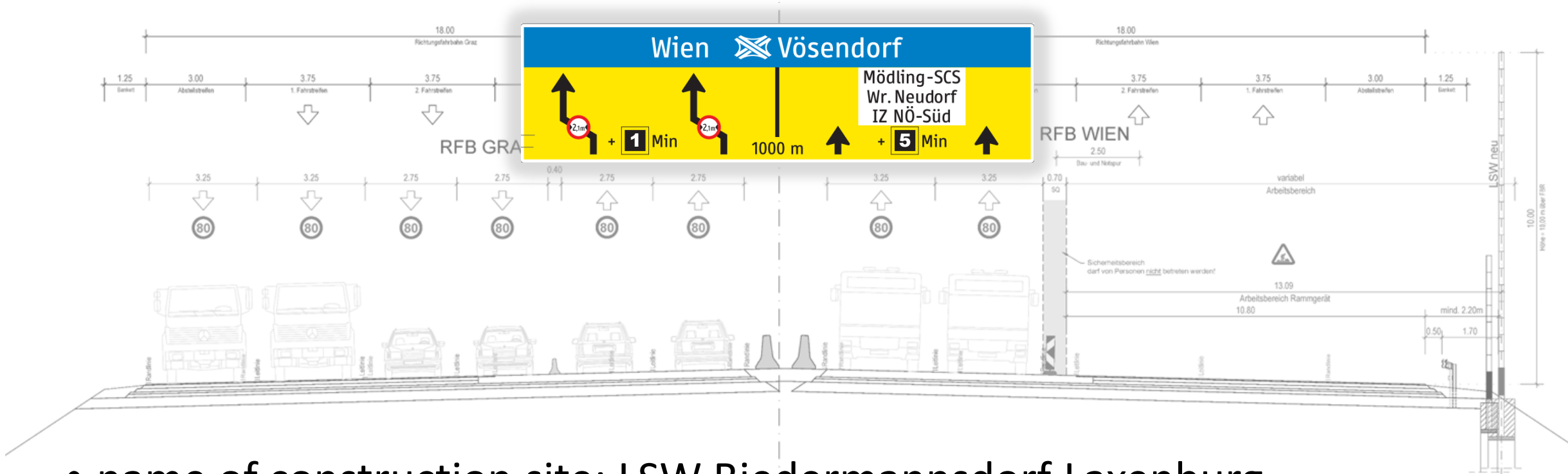
# Incidents are subject to long delays



- 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

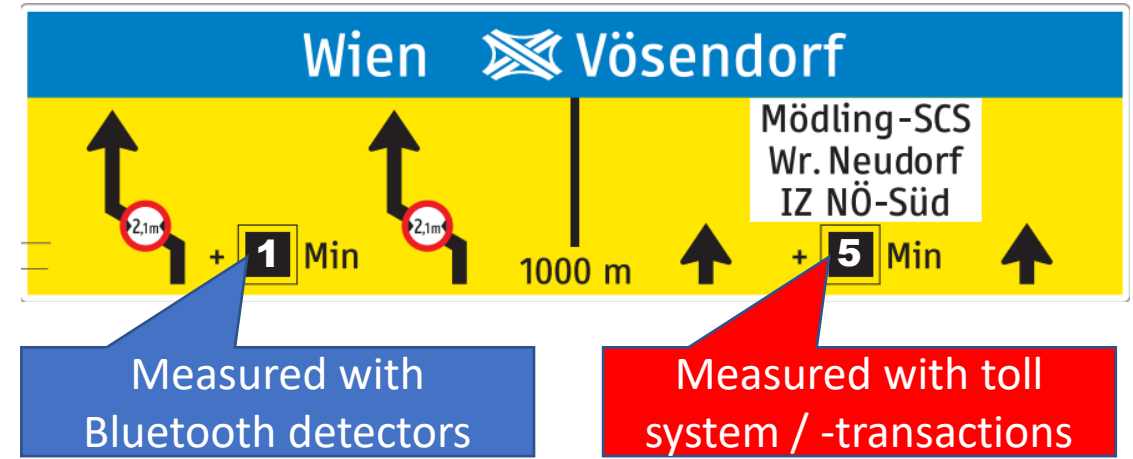


- name of construction site: LSW Biedermannsdorf Laxenburg
- period: April - Dezember 2022
- traffic routing: 6+2; 5.5km length

# Approach

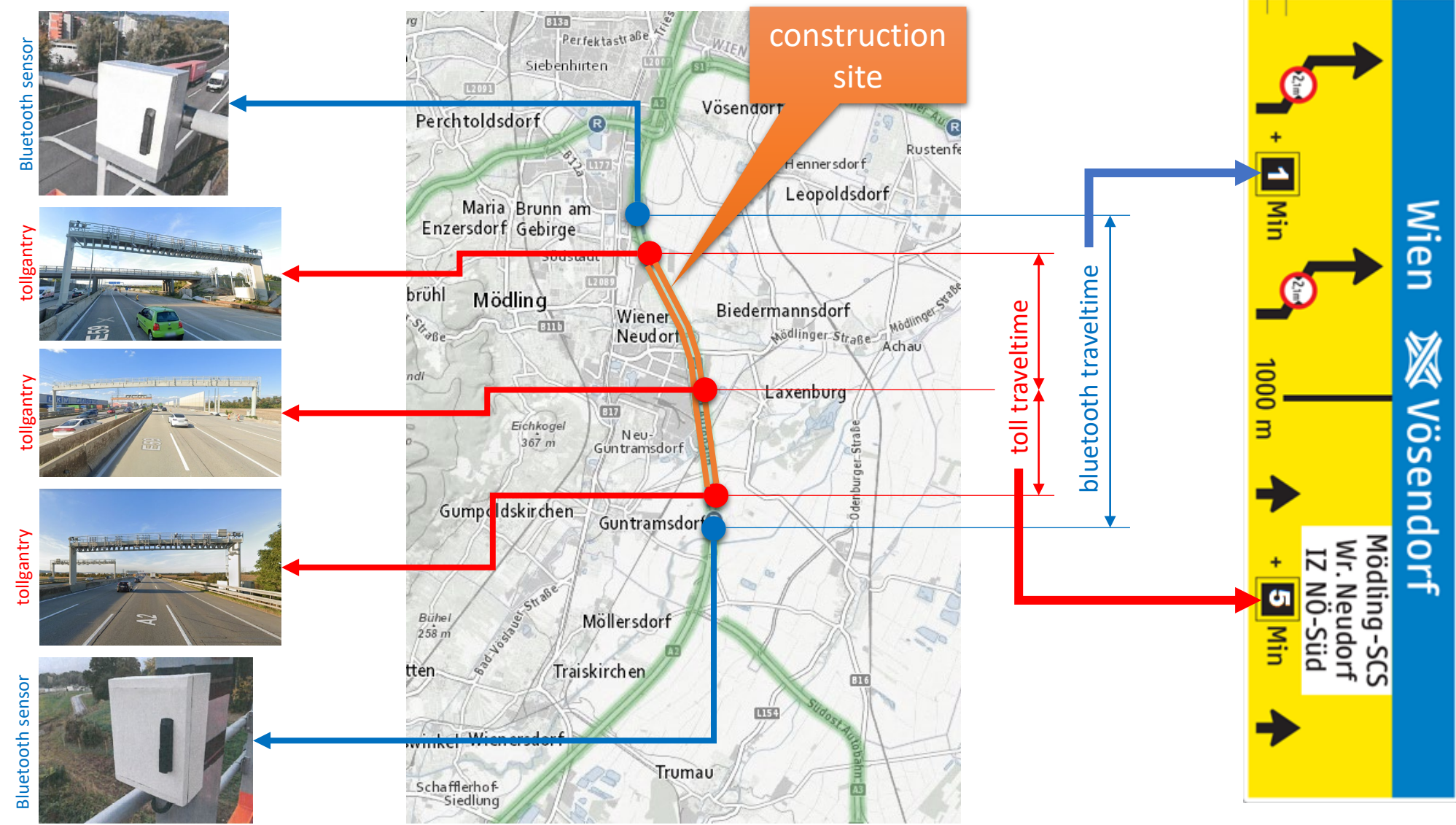
2

- 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



# Impressions

2



Photo by [Pietro Jeng](#) on [Unsplash](#)



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



Last position #CDHB000-123  
**ASt Vösendorf**

Destination  
**Terminal Wien Süd**

Estimated time of arrival  
**12:32 (12:00-13:00)**

Delay (construction)  
**+12 min**

Loading and onward journey  
**42834 | 20:28 Uhr | on time**

RRTM-C  
Rail&Road Transport Management - Cargo

Konfiguration	Historie	Tracking
122807212	EURU154 111-8	28.07.2022 07:30 - 08:30
12280717	RIZA000 100-9	28.07.2022 04:30 - 05:30
12280719	CDHB00 0916-3	28.07.2022 04:30 - 05:30
122807110	CDHB00 0938-0	28.07.2022 04:30 - 05:30
122807112	EURU154 111-8	28.07.2022 04:30 - 05:30
122707213	CDHB00 0918-4	27.07.2022 14:30 - 15:30
122707214	CDHB00 0966-7	27.07.2022 14:30 - 15:30

Zug# 42834

Status: **UNBEKANT** **VERSÄTET**

Stammdaten

- Start LKW: **Pernhofer**, am 28.07.2022 **07:30 - 08:30** **09:19**
- Ankunft LKW: Güterzentrum Wien Süd **09:30 - 10:30** **10:52**
- Start Zug: Wien Süd CCT (ZugNr: 42834) **20:28**
- Ziel: **Bludenz** am 29.07.2022 **06:39**

Aktuelle Position **um 09:32**  
**Wolkersdorf Süd-KN Eibesbrunn**

Mögliche Fahrtstrecke

Ort finden

**+12 min**

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

# Conclusion

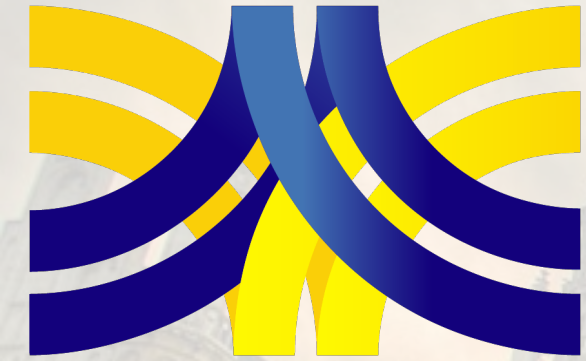
Road operators already have

- 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

**ASECAP DAYS**



**BRUSSELS 2022**

**THANK YOU FOR  
YOUR ATTENTION**

**Bernd Datler**

[bernd.datler@asfinag.at](mailto:bernd.datler@asfinag.at)

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

Anzeige Live | Reisezeit zeitlicher Verlauf | Beschaltung zeitlicher Verlauf

## BDM Live Anzeige

(autom. Aktualisierung erfolgt jede Minute)

# Wien

# Vösendorf

Mödling -  
Wr. Neudorf  
IZ NÖ-S

1000 m

+ 5 Min

Letzte Schaltung: 04.11.2022 06:00:01 | Letzte Schaltung: 04.11.2022 06:00:01

Anzeige Live | Reisezeit zeitlicher Verlauf | **Beschaltung zeitlicher Verlauf**

## BDM Schaltlogik-Historie (4 Tage)

(automatische Aktualisierung erfolgt alle 2 Minuten)

### Fahrstreifen LINKS

Pictogramm	Status	valid_from	valid_to
	ok	04.11.2022 06:00:01	
	ok	03.11.2022 21:00:00	04.11.2022 06:00:01
	ok	03.11.2022 06:00:00	03.11.2022 21:00:00
	ok	02.11.2022 21:00:00	03.11.2022 06:00:00
	ok	02.11.2022 19:15:00	02.11.2022 21:00:00
	ok	02.11.2022 19:00:01	02.11.2022 19:15:00
	ok	02.11.2022 12:01:01	02.11.2022 19:00:01
	ok	02.11.2022 12:00:02	02.11.2022 12:01:01
	ok	02.11.2022 11:45:00	02.11.2022 12:00:02
	ok	02.11.2022 11:43:01	02.11.2022 11:45:00
	ok	02.11.2022 11:29:01	02.11.2022 11:43:01
	ok	02.11.2022 11:21:02	02.11.2022 11:29:01
	ok	02.11.2022 11:19:00	02.11.2022 11:21:02
	ok	02.11.2022 11:18:01	02.11.2022 11:19:00

### Fahrstreifen RECHTS

Pictogramm	Status	valid_from	valid_to
	ok	04.11.2022 13:35:00	
	ok	04.11.2022 13:32:01	04.11.2022 13:35:00
	ok	04.11.2022 13:29:01	04.11.2022 13:32:01
	ok	04.11.2022 13:27:01	04.11.2022 13:29:01
	ok	04.11.2022 13:18:00	04.11.2022 13:27:01
	ok	04.11.2022 13:17:00	04.11.2022 13:18:00
	ok	04.11.2022 13:11:00	04.11.2022 13:17:00
	ok	04.11.2022 13:09:00	04.11.2022 13:11:00
	ok	04.11.2022 13:08:00	04.11.2022 13:09:00
	ok	04.11.2022 13:05:00	04.11.2022 13:08:00
	ok	04.11.2022 13:02:00	04.11.2022 13:05:00
	ok	04.11.2022 12:59:01	04.11.2022 13:02:00
	ok	04.11.2022 12:57:01	04.11.2022 12:59:01
	ok	04.11.2022 12:54:00	04.11.2022 12:57:01

