



NAPCORE Mobility Data Days

Safety Related Traffic Information

9 November 2023

Timo Hoffmann

NAPCORE General Secretary



Co-funded by
the European Union

SRTI Session - Agenda

Timo Hofmann (BASt)	Welcome
Joost Vantomme (ERTICO)	DFRS – Overview
Mohanad Ismail (WSP)	DFRS Tech Group
Nicolas Vivarelli (Post Luxembourg)	Demonstration of live DFRS data using an interactive map
Gottfried Allmer (ASFINAG)	Using DFRS to make traffic safer – how Austria is using DFRS in traffic management and operations
Bard de Vries (NDW) and Matthias Unbehaun (TISA)	Looking at SRTI data harmonization across domains/standards
	Questions from the audience, discussion

DFRS Overview

**Joost Vantomme – GA Chair
CEO - ERTICO**



Introduction



- All European Transport Ministers, the European Commission and current industry partners established the Data for Road Safety during the High-Level Meeting on Connected and Automated Driving on 15 February 2017 in Amsterdam.
- The mission of the European Data for Road Safety is to improve road safety by maximizing the reach of safety-related traffic information powered by safety data generated by vehicles and infrastructure.
- The DFRS ecosystem supports the implementation of existing EU laws on access to safety data. By prioritising access to safety data and enabling collaboration between vehicle manufacturers and countries, the DFRS ecosystem aims to enhance traffic safety for all road users.



Key Principles

The DFRS is based of the following Key principles:

Free of charge...

Data is exchanged within the SRTI Ecosystem for the sole purpose of road safety, without any financial compensation between the parties and within the agreed data privacy policy.

...on the basis of reciprocity...

The reciprocity principle simply means that if you get something - you give something. Each role brings a value to the Ecosystem.

...for road safety

Data received through the SRTI Ecosystem can only be used to create Safety Related Traffic Information. It is strictly prohibited to use the data in the SRTI Ecosystem for any other purpose, as the members consider other usage to be commercial use cases.

These principles and other agreements are part of the Multi Party Agreement signed by the partners, and are valid within the SRTI Ecosystem. Joining the SRTI Ecosystem by signing the Multi Party Agreement alters however in no way any rights and obligations parties have, including the European Delegated Regulation on the exchange of Safety Related Traffic Information.



Focus on SRTI

- European Commission delegated Regulation of 15 May 2013 on sharing of safety related traffic information
- Principle: information on 8 events free of charge to end-users (drivers)
 - **Unprotected accident area**
 - **Animal, people, obstacles, debris on the road**
 - **Temporary slippery road**
 - **Reduced visibility**
 - **Exceptional weather conditions**
 - **Short-term road works**
 - **Wrong-way driver**
 - **Unmanaged blockage of a road**
- Cooperative approach : no free riders in the system



About DFRS



Facilitate the use of in-vehicle data for the creation of Safety Related Traffic Information as defined in the [Delegated Regulation \(EU\) 886/2013](#) (ITS Directive)

Multi-Party Agreement: legal and organisational framework of cooperation

Definition and common understanding of data levels (L2, L2', L3)

Decentralized ecosystem with defined roles and responsibilities as defined within [the Technical Documentation](#)

Proven potential to improve road safety

Focus on road safety events and conditions categorised in the [Delegated Regulation \(EU\) 886/2013](#)

Open to new members: www.dataforroadsafety.eu

Our Value!



DFRS Partners



DFRS is made up of 22 partners



DFRS SETUP



Joost Vantomme
GA Chair



Joost Vantomme



Manfred Harrer

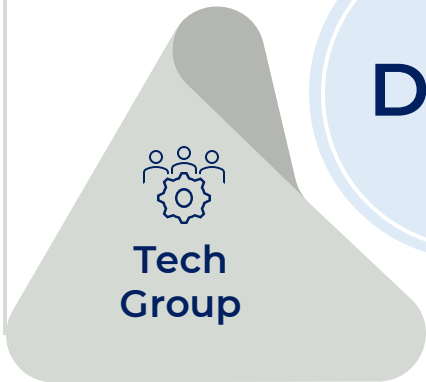


Jorge Ordas



Peter Geffers

Mohanad Ismail
Tech Group Chair



Julia Rodriguez Ravego



Mohanad Ismail



Ministry of Infrastructure and Water Management

Erik Vrijens



DFRS Tech Group

Mohanad Ismail – Tech Group Chair
Associate - WSP





Types of Data





L1 Data

- Raw sensor data
- Doesn't leave vehicle



L2 Data **L2' Data**

- Mass data from individual vehicles
- Various data types depending on OEM/fleet:
 - Accident / Broken Down Vehicle / Vehicle In Difficulty
 - ABS / Dangerous Slow Down
 - ESP Actuation / Traction Control / Traction Loss / Hydroplaning / Slippery Road
 - Reduced Visibility / Rear Fog Light Activation / Windshield Wiper Operation

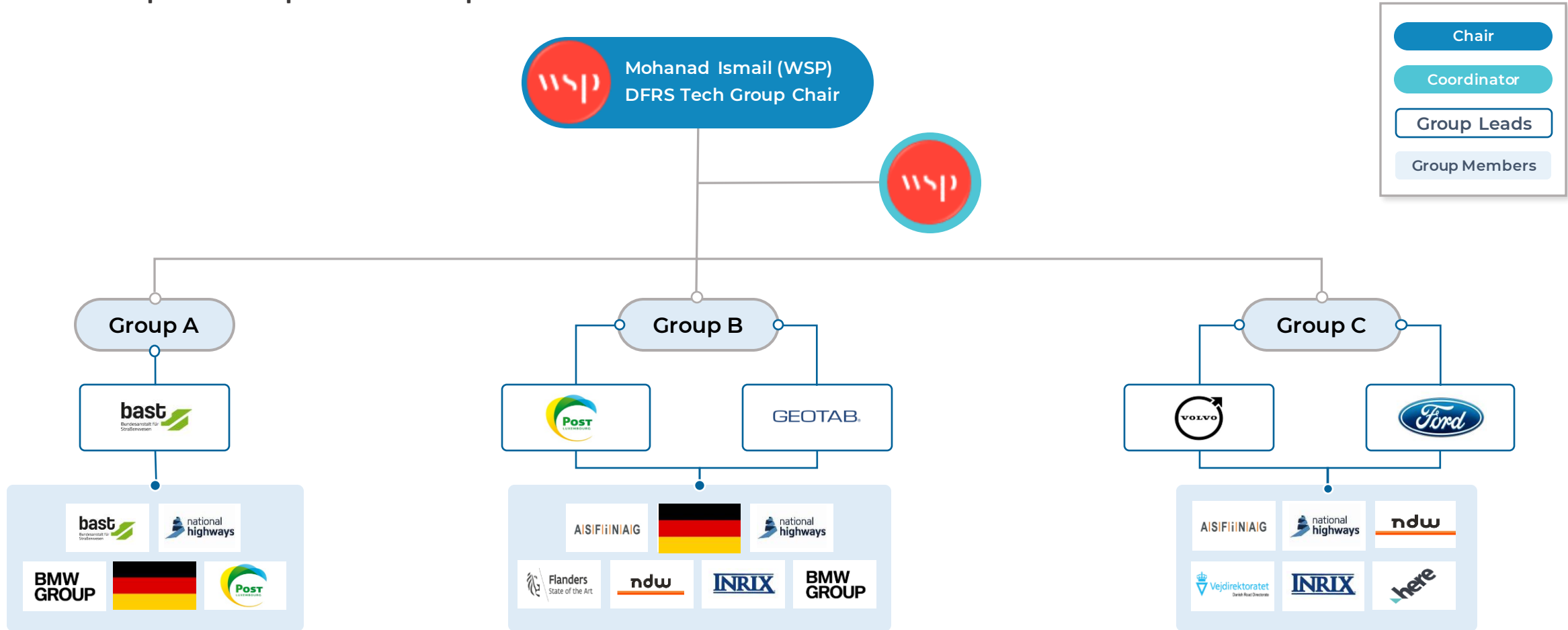


L3 Data **Service**

- Intelligently clustered & combined (Possibly) validated with other data
- SRTI warning message suitable to warn drivers
- Eight SRTI categories defined in Delegated Regulation 886/2013
- Inform end users via various services and channels

Tech Group Structure

The Tech Group is made up of three Groups



Tech Group Scopes



The Group Scopes are as follows:

Group A

Data spaces

- Information Gathering (review documents on how various data spaces work)
-
- Vision and options of DFRS SRTI operating in Dataspaces

Group B

Agile way of working (Github)

- Private GitHub with access to all DFRS members
 - Sharing of Code snippets
 - Potential expansion to wider communities outside DFRS
 - Setup a toolkit where members can contribute code that leverage the data use in DFRS
-

Prove value of DFRS ecosystem

- Development of a data playground
 - Creating publicly accessible dashboards
 - Are there any reports that can be shared between parties to show value and promote
-

Data Aggregation and Retention

- Define the rules for data aggregation and define the threshold to trigger L3 data (include Group C on discussion)
- Define rules for data retention, how long do we keep accident data etc.? Consider DFRS User Needs.
- To understand the problem space of the DFRS user and then define the need based on the problem

Group C

L3 Data Usage

- Provide visibility on the end users of L3 data and what services can benefit from the eco-system.
-

Validation of OEM data

- Triggering Conditions-Establish a 'Triggering Conditions' document to use as a basis for determining the confidence level and triggering criteria for different types of events
-

Validation of Infrastructure data

- Validation Support Framework (NRAs)-Establish a Validation Support Framework to access the validation process required for data exchange between NRAs and OEMs. National Highways and Austria are to work with Ford and Volvo to define the Validation Support Framework.

DFRS Tech Group Achievements to date



- 22+ active partners contributing to the ecosystem growth through data provision and expertise.
- 2 of 8 Self Declarations Published in line with the 8 safety categories of the delegated regulation 886/2013:
 - Self-Declaration for Short Term Road Works Warning
 - Self-Declaration for Unprotected Accident Area Warning Data
- Internal governance & agreed ways of working between partners.
- Publication of a paper at the ITS World Congress in 2021
- Inauguration of the “DFRS Live Map”



DFRS Interactive Map

2023 & Beyond...

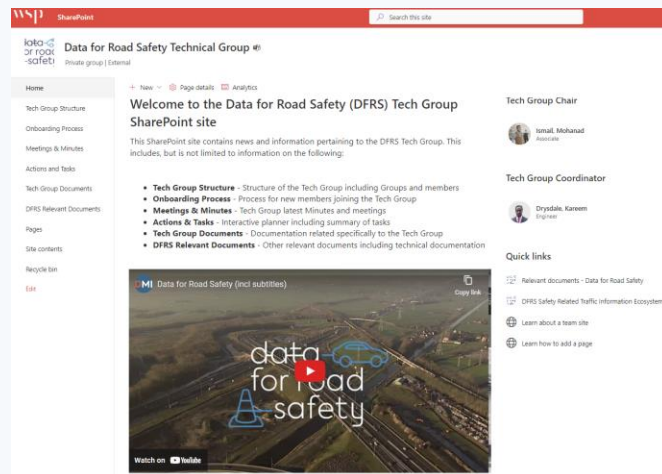


- Continued development of the remaining Self Declarations.
- Enhance our live data feed with additional OEM & non-OEM data

Tech Group Community Platforms

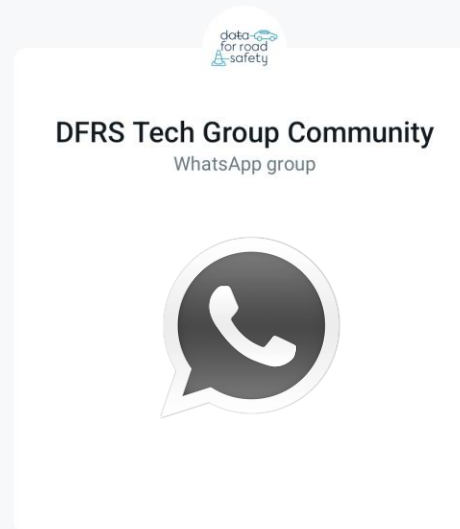
SharePoint

SharePoint Site containing news and information pertaining to the DFRS Tech Group.



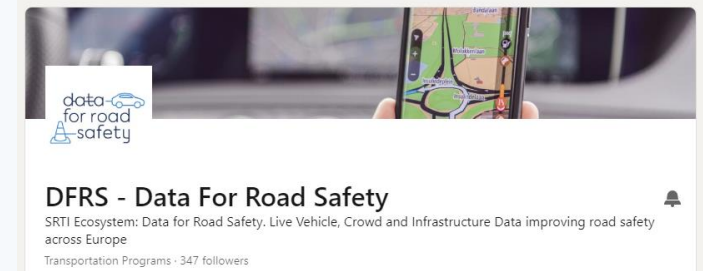
WhatsApp

WhatsApp Group offer a space for the DFRS Tech Group to discuss any informal topics around the subject of DFRS



LinkedIn

Bringing together vehicle manufacturers, traffic information service providers, automotive suppliers and public authorities to significantly improve road safety across Europe.



<https://www.linkedin.com/company/dfrs-data-for-road-safety/>

Note: Access to the DFRS SharePoint and WhatsApp Community platform is reserved for official members of the DFRS consortium.

Key Documents & Links



[Multi Party Agreement for the SRTI Ecosystem](#)



[Technical Documentation](#)



[Evaluation of the PoC Data for Road Safety](#)



[Instructive Video](#)



[Dedicated DFRS Website](#)



DFRS Member

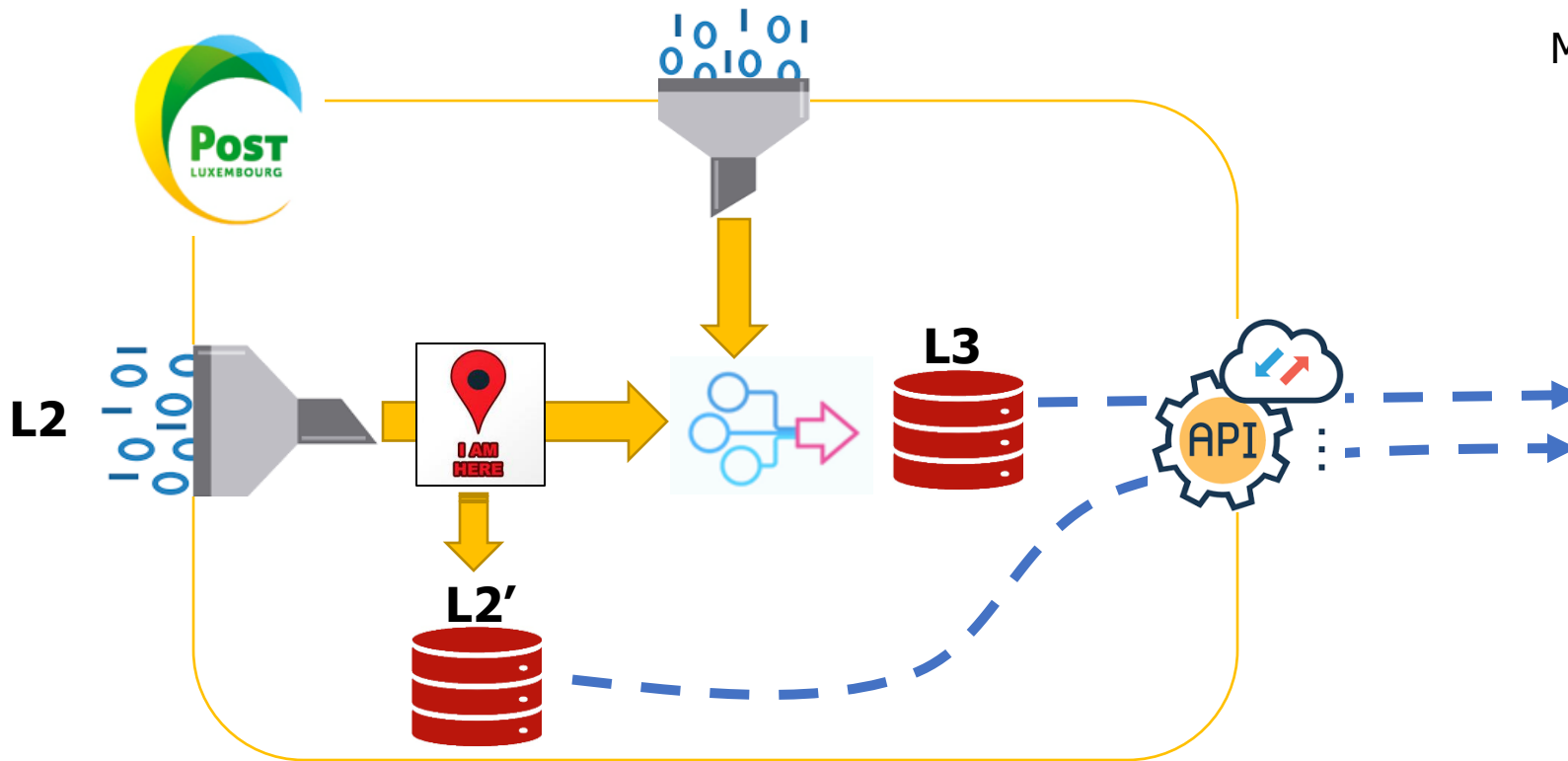
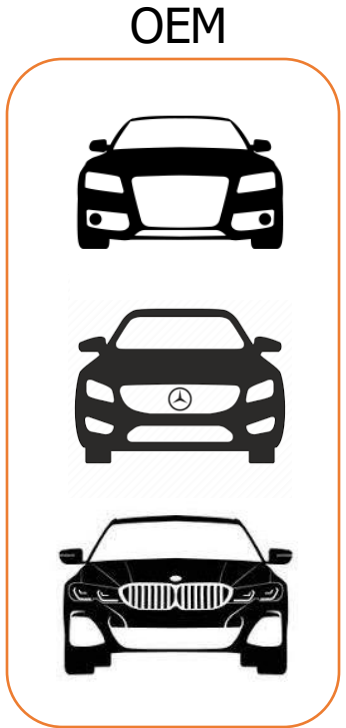
**Nicolas Vivarelli – Group B Co-Chair
Head of Data Intelligence – Post Luxembourg**



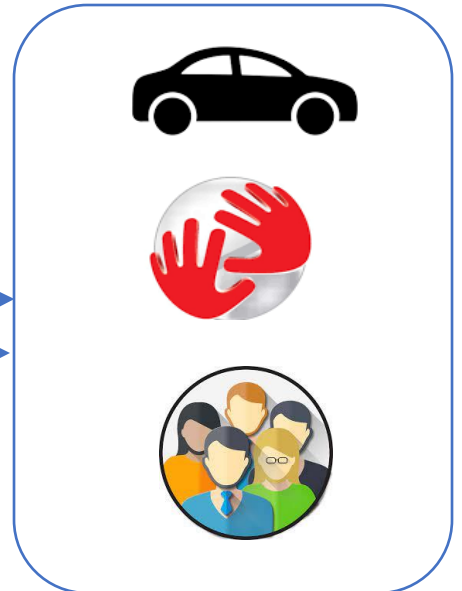
Data flow overview



Traffic authorities



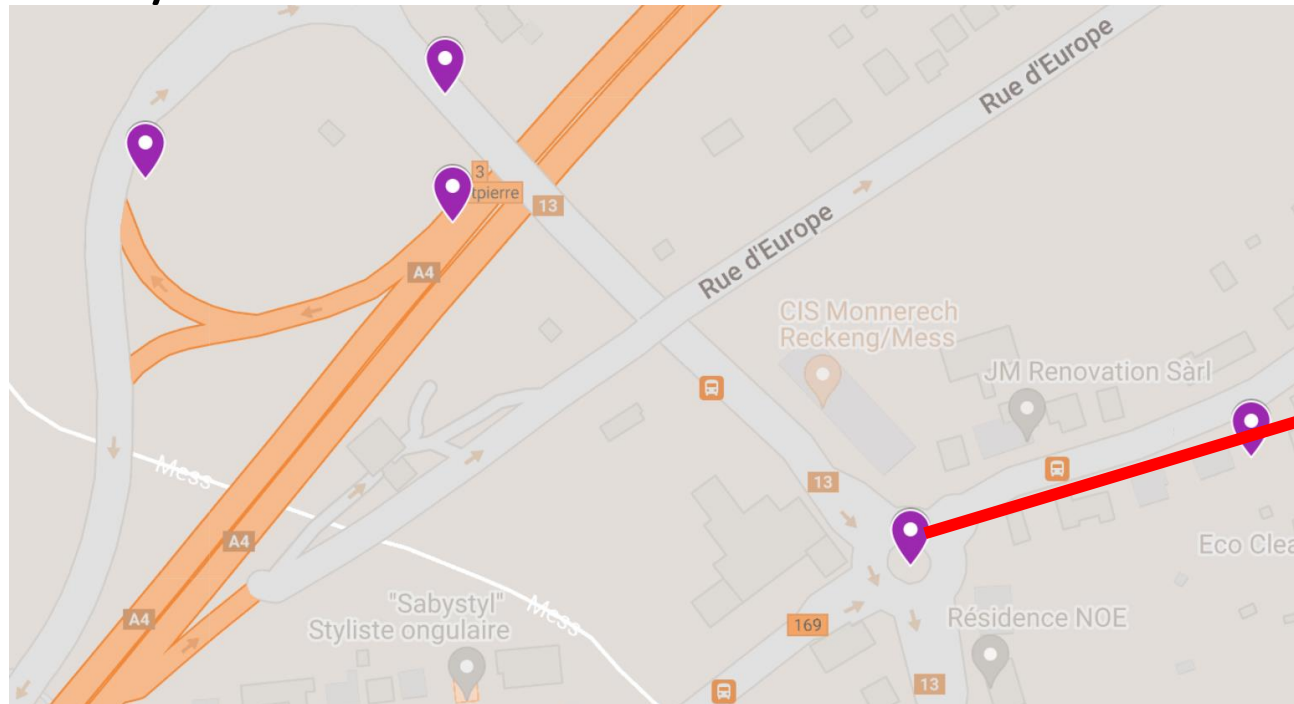
Members of the consortium



Map matching thanks to Open Data



- #1/ Put back all the



- 2/ Get information about the road for the event

hgv	yes
highway	secondary
lanes	1
lit	yes
maxspeed	50
name	Rue de Luxembourg
oneway	yes
ref	CR 169
surface	asphalt

Output



Share the insights (information):

- L3 Data available through simple APIs.
- Open format (DATEX2 + OpenLR) for better integration into customer products/databases.
- Limited to the consortium only.

Objective:

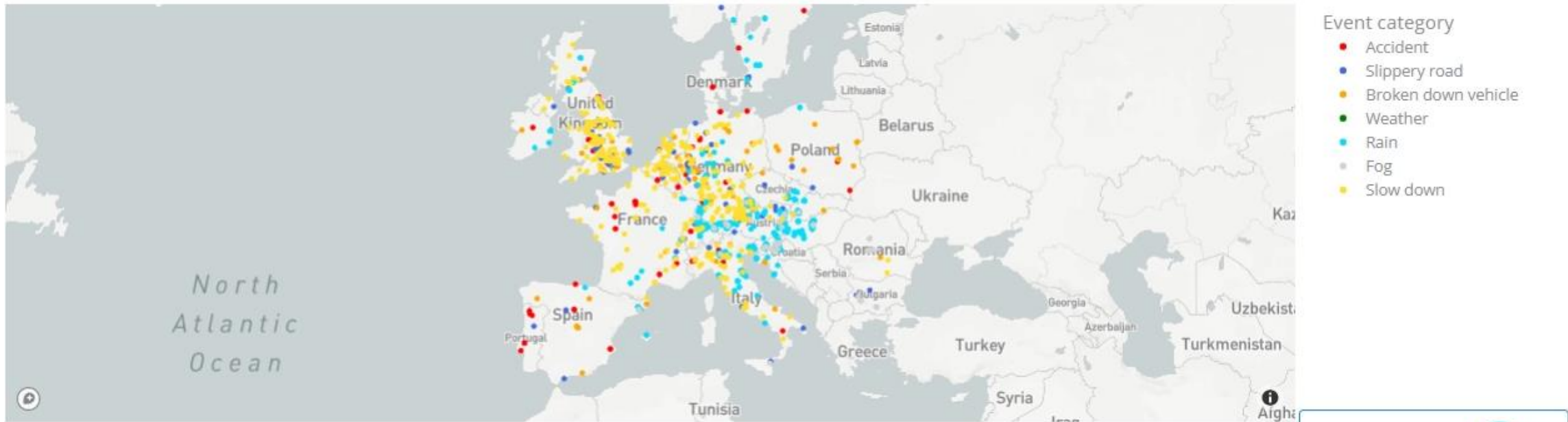
Warn drivers of events ahead in a near-real time manner and save lives on the roads.

```
"results": {
  "8f081080aad84d8-W": {
    "Events:WeatherEvent": [
      {
        "type": "EXCEPTIONAL_CONDITION_LOW_VISIBILITY",
        "status": "N/A"
      },
      1685091052393
    ],
    "Events:category": [
      "Weather",
      1685091052393
    ],
    "Events:openlr": [
      "CyywVwgFRAAXaf/9AKUAFwH//gCiABc=",
      1685091052393
    ]
  },
  "8f08108e4523ab6-SSW": {
    "Events:WeatherEvent": [
      {
        "type": "EXCEPTIONAL_CONDITION_LOW_VISIBILITY",
        "status": "N/A"
      },
      1685091184611
    ],
    "Events:category": [
      "Weather",
      1685091184611
    ],
    "Events:openlr": [
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      1685091184611
    ]
  }
}
```

DFRS Live Map



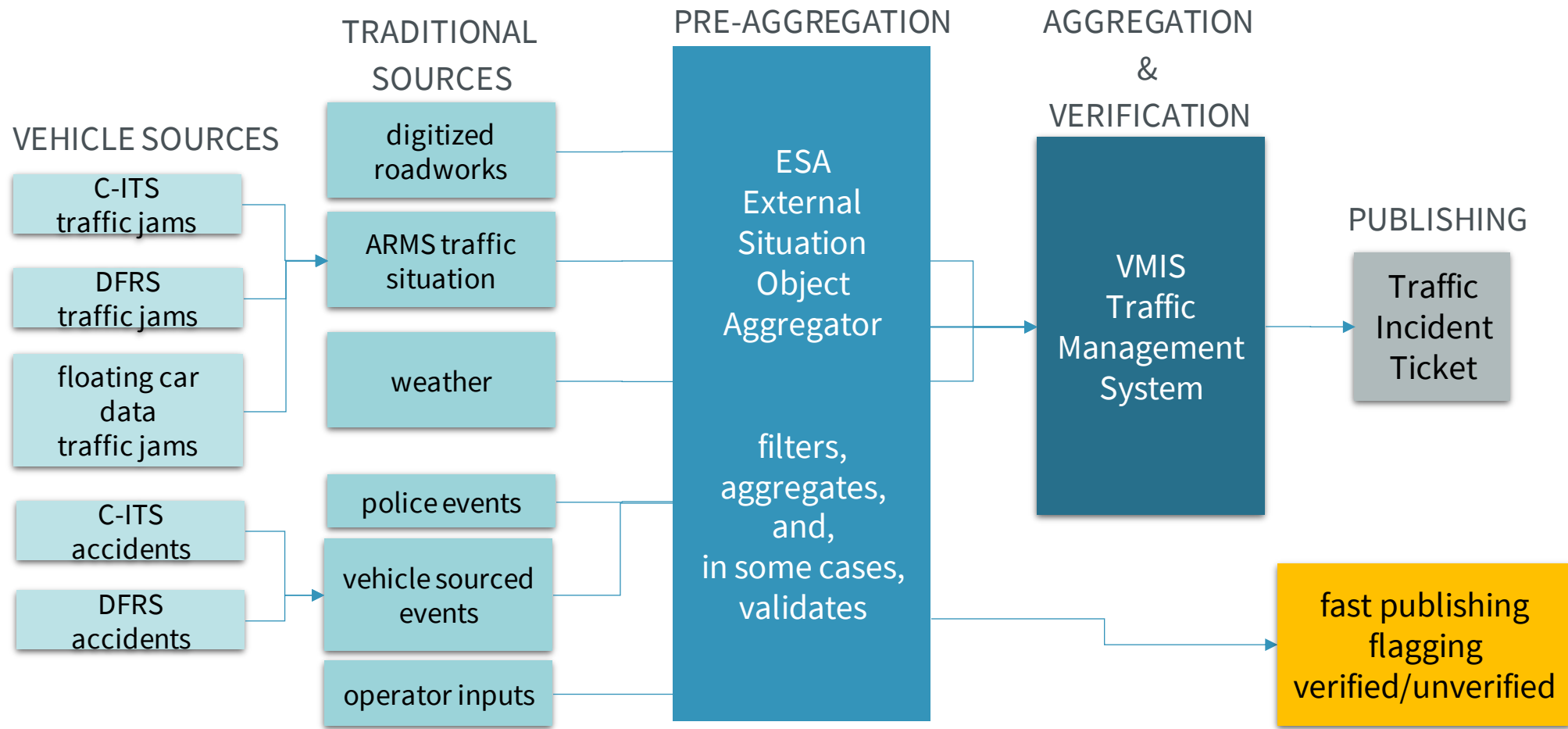
The DFRS live map is a tool that provides a holistic view of safety-related events occurring in the past 48 hours. The dashboard features an interactive map displaying several incidents.



*The DFRS live map is not contractually binding real-time data (delayed by 48 hours for presentation purposes).
Join DFRS for live data streams*

Live Map is available from the DFRS website: <https://data-intelligence.post.lu/dfrs/>

Envisaged Incident Publishing



Dashboard

DFRS - Data for Road Safety - Direct Query

insert_timestamp	ecall	event_type	asfinag_roadcode	asfinag_direction	asfinag_meter	id	event_type_value	original_event_type	submitter_id
02.11.2023 23:33:13		WeatherCategory	A07	1	8670	9552931	LowHeavyRain		BMW AG
02.11.2023 23:34:00		WeatherCategory	A07	1	9690	9552935	LowHeavyRain		BMW AG
02.11.2023 23:34:50	E-Call (automatisch)	Hazard	A09	1	78200	9552939	Accident		BMW AG
02.11.2023 23:35:32	E-Call (automatisch)	Hazard	A09	1	78200	9552944	Accident		BMW AG
02.11.2023 23:30:42		WeatherCategory	A10	2	182470	9552923	LowHeavyRain		BMW AG
02.11.2023 23:30:58		WeatherCategory	A10	1	54910	9552924	LowHeavyRain		BMW AG

Event Type Value

LowHeavyRain	4247
SlipperyRoad	407
LowFog	108
Obstruction	20
Accident	16
BrokenDown	8
Unknown	6
Roadworks	3
WrongWay	3
SlowVehicle	1

... 10 1
Anzahl von eve...

A01	A022	A04	A05	A07	A09	A101	A11	A122	A131	A141	A22	A23	S01	S03	S06	S16	S33	S36
A02	A03	A041	A06	A08	A10	A102	A12	A13	A14	A21	A221	A25	S02	S05	S10	S31	S35	S37

1,00%
98,86%

- BMW AG
- ASFINAG | Aut...
- TomTom Inter...

Datum

02.11.2023 02.11.2023

E-Call

(Leer)

E-Call (automatisch)

Dashboard

DFRS - Data for Road Safety - Direct Query

insert_timestamp	ecall	event_type	asfinag_roadcode	asfinag_direction	asfinag_meter	id	event_type_value	original_event_type	submitter_id
02.11.2023 23:33:13		WeatherCategory	A07	1	8670	95...			
02.11.2023 23:34:00		WeatherCategory	A07	1	9690	95...			
02.11.2023 23:34:50	E-Call (automatisch)	Hazard	A09	1	78200	95...			
02.11.2023 23:35:32	E-Call (automatisch)	Hazard	A09	1	78200	95...			
02.11.2023 23:30:42		WeatherCategory	A10	2	182470	95...			
02.11.2023 23:30:58		WeatherCategory	A10	1	54910	95...			

Event Type Value

LowHeav...	4247
Slippery...	407
LowFog	108
Obstructi...	20
Accident	16
BrokenD...	8
Unknow...	6
Roadworks	3
WrongW...	3
SlowVehi...	1

A01	A022	A04	A05	A07	A09	A101	A11	A122
A02	A03	A041	A06	A08	A10	A102	A12	A13

Frühestes Datum: insert_timestamp_utc	11/2/2023 9:32:34 PM
Erstes Datum: source	DFRS_Pooled_SRTI_L2
Erstes Datum: event_type	WeatherCategory
Erstes Datum: event_type_value	LowHeavyRain
Erstes Datum: ecall	null
id	9552696
Frühestes Datum: envelop_utc_timestamp	11/2/2023 9:30:00 PM
Frühestes Datum: insert_timestamp_utc	11/2/2023 10:34:50 PM
Erstes Datum: source	DFRS_Pooled_SRTI_L2
Erstes Datum: event_type	Hazard
Erstes Datum: event_type_value	Accident
Erstes Datum: ecall	E-Call (automatisch)
id	9552939
Frühestes Datum: envelop_utc_timestamp	11/2/2023 10:30:00 PM
Frühestes Datum: insert_timestamp_utc	11/2/2023 10:35:32 PM
Erstes Datum: source	DFRS_Pooled_SRTI_L2
Erstes Datum: event_type	Hazard
Erstes Datum: event_type_value	Accident
Erstes Datum: ecall	E-Call (automatisch)
id	9552944
Frühestes Datum: envelop_utc_timestamp	11/2/2023 10:30:00 PM

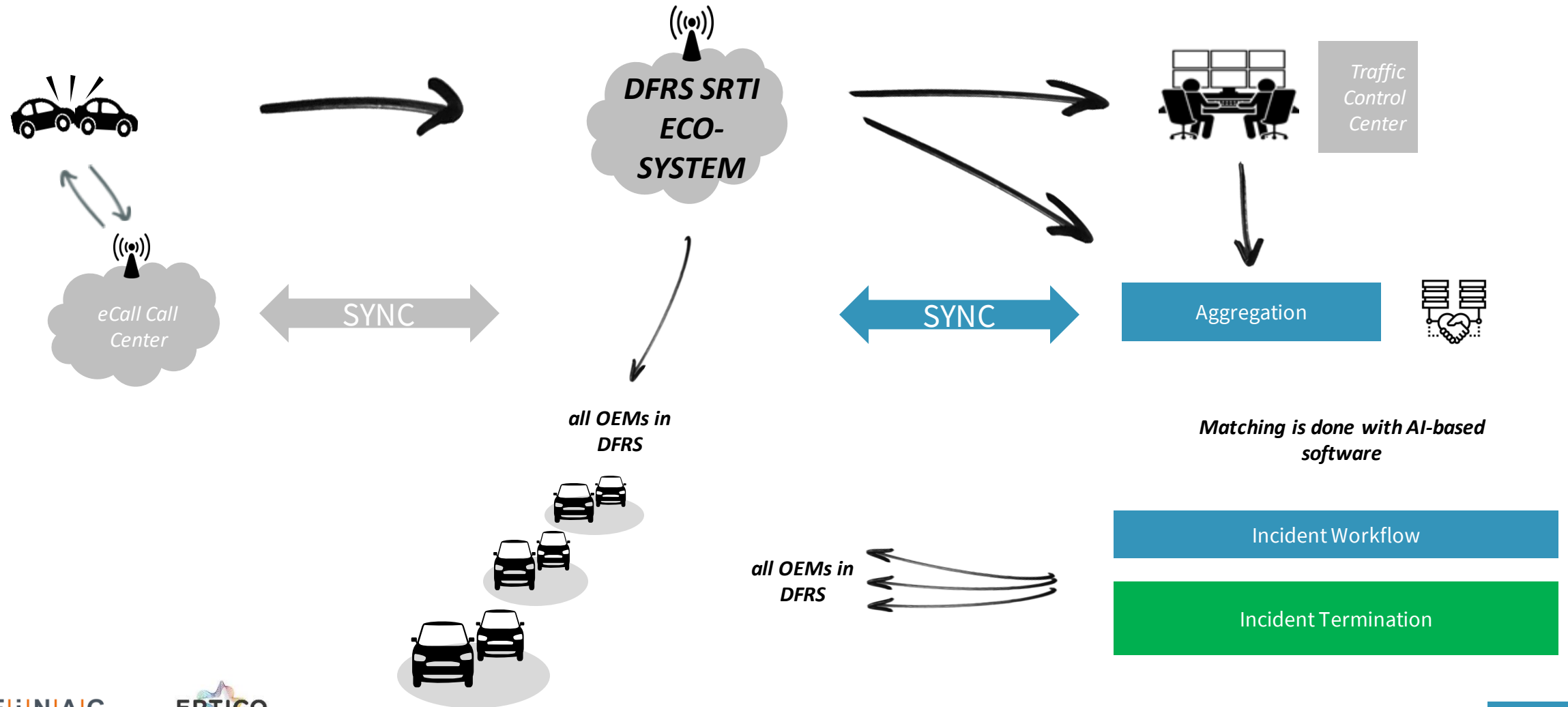
Datum: 02.11.2023 02.11.2023

E-Call

(Leer)

E-Call (automatisch)

Validation Support Framework



Validation Support Framework



Match	DFRS id	DFRS timestamp	accuracy gain in	AUTHORITY	INCIDENT	AUTHORITY	UP	PRIORITY	accident	traffic jam	AUTHORITY	label	AUTHORITY	project	DFRS ecall
True	9124800	2023-07-04 17:08:67	8.67	A02 Süd Autobahn, Wien Richtung Graz, zwischen Knoten Vösendorf (km 4) und IZ N											E-Call (automatisch)
					DFRS Notification	17:20:00									
					Creation Content	17:28:40									
					1	17:29:03	9.200			LL			19:29:03		
					2	18:08:45			4.400				20:08:45		
					3	18:54:11							20:54:11		
					End Time	20:54:11	resolved	resolved	resolved	resolved	resolved	resolved			

Validation Support Framework



Match	DFRS id	DFRS timestamp	priority gain in	AUTHORITY	AUTHORITY incident	AUTHORITY up	PRIORITY acci	TY traffic ja	AUTHORITY la	RITY proje	DFRS ecall
True	9124800	2023-07-04 17:08:67			A02 Süd Autobahn, Wien Richtung Graz, zwischen Knoten Vösendorf (km 4) und IZ N E-Call (automatisch)						
					DFRS Notification	17:20:00					
					Creation Content	17:28:40					
					1	17:29:03	9.200		LL	19:29:03	
					2	18:08:45		4.400		20:08:45	
					3	18:54:11				20:54:11	
					End Time	20:54:11	resolved	resolved	resolved	resolved	

Traffic Management Center

Contact



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manfred.harrer@asfinag.at



WSP has been acting as Tech Group Chair and coordinator for DFRS at the time of authoring this publication, as such WSP has provided the template for this publication.
