



# eCall and beyond

Current developments within the  
Data Task Force „Data for Road Safety“

October 15, 2020

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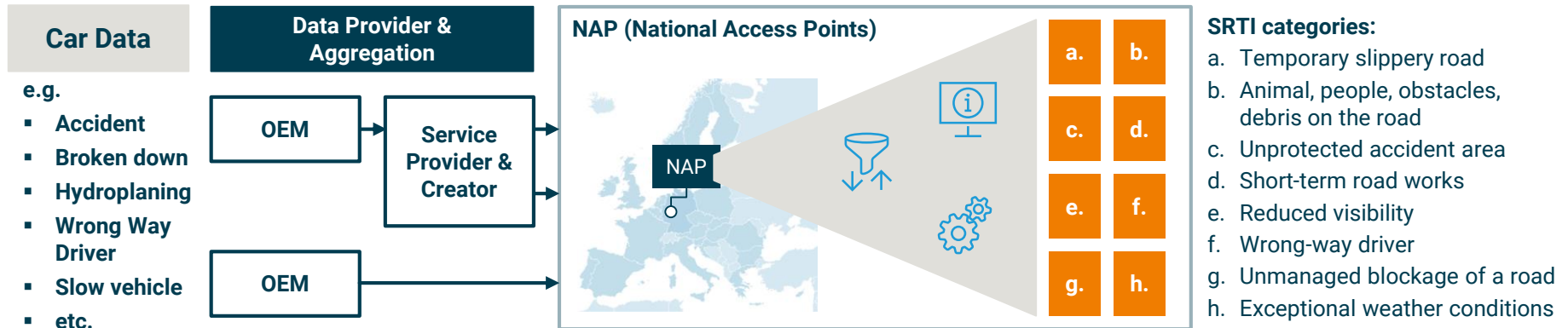
# Probe vehicle data: A new vehicle data source in addition to FCD and eCall data

Vehicle manufacturers (OEMs) will make vehicle-generated data available in order to support the generation of safety-related traffic information (SRTI).



## Big picture

on the provision of probe vehicle data in order to produce **road safety-related traffic information (SRTI)** based on the **Delegated Regulation (EU) No. 886/2013**



## Aims of the DTF

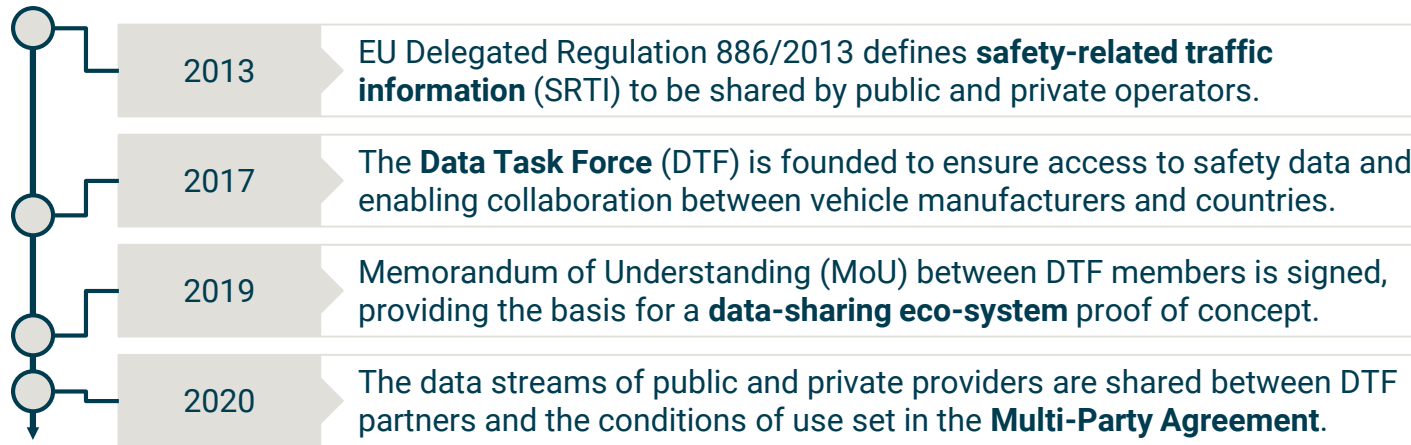
- Bring together relevant **stakeholders** (OEMs, service providers, EU member states)
- Agree on data provision of data and formulate a **multi-party agreement**
- Define extensions of **data standards** (DATEXII ver 3)
- Gain first insights into **data quality**
- Develop and test safety-related **use cases**



# The Data Task Force has created an eco-system for public and private partners to collaborate on data standards, interfaces, and strategic goals

The Data Task Force was established in 2017 to increase road safety by sharing vehicle-generated data between countries and manufacturers.

## Timeline



## Selected DTF results

- Technical specification of DATEX II v3
- Data processing role and responsibility model
- Multi-Party-Agreement
- Analysis of data quality and use cases

## Increasing road safety

- Potential for increasing road safety through technological innovation is immense
- SRTI based on DATEX II v3 will be the data standard for all traffic-related channels

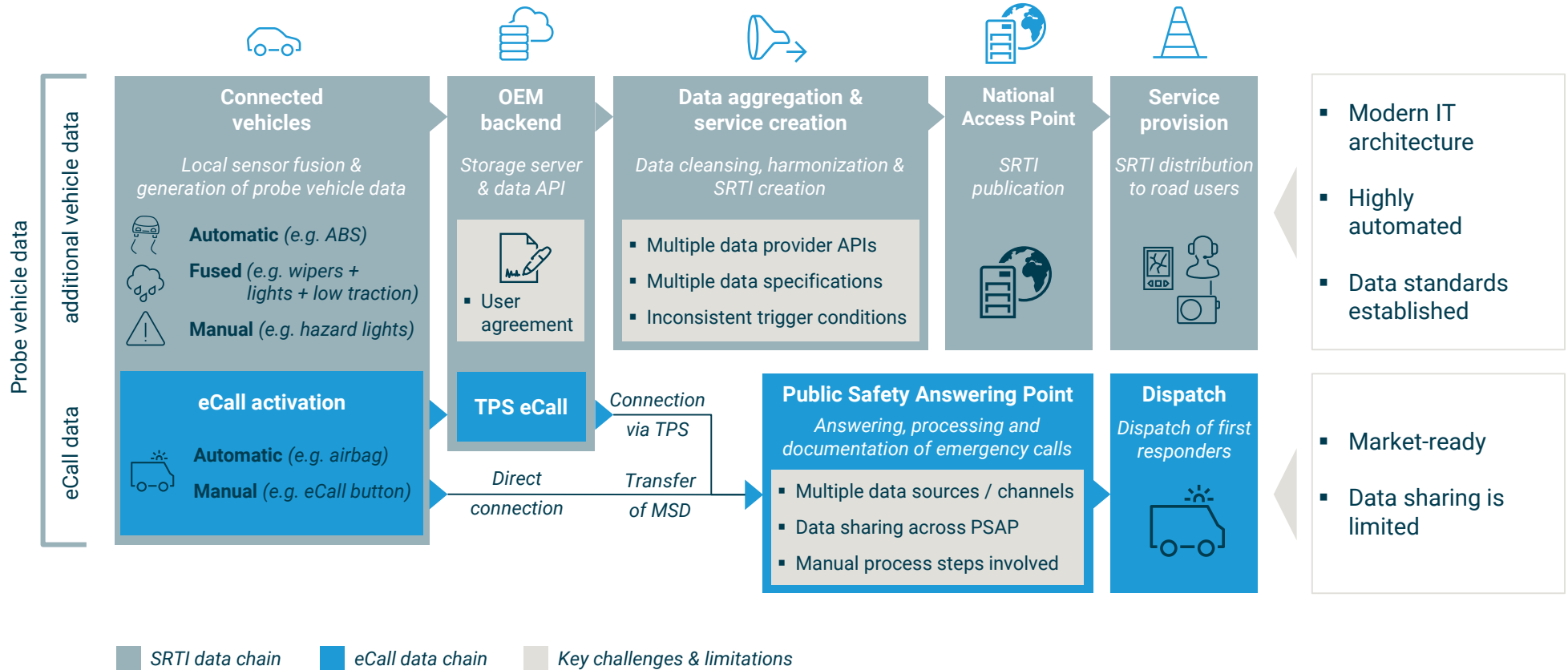
## Preparing for innovation

- EU legislation will make sharing of safety-related data mandatory for all OEMs
- Early involvement allows testing with probe vehicle data and provides experience gain

In 2020, the eco-system of the Data Task Force has matured into a key source for traffic safety data. Providers, authorities and end users should therefore develop fitting data strategies and innovations to take full advantage.

# The information regarding incidents and safety warnings are generated in the vehicle and will be processed across several entities

The processing chain of probe vehicle data shares elements with the eCall system and faces similar challenges with regards to data integration.



The SRTI processing chain is based on a modern IT architecture with a high degree of automation.

# Facts, potentials & limitations – What quality of information can be expected from vehicle-generated data

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## Characteristics and data quality



Vehicle data is provided in the **SENSORIS** or **SDII** formats.  
Aggregated data feeds are provided in **DATEX II**.



Data points are created by individual vehicles in **safety-relevant events or conditions** and are therefore not providing continuous coverage like typical Floating Car Data (FCD).



Data feeds often contain **duplicate messages** (e.g. about accidents) that have to be filtered for **redundant information** (e.g. about rain) that has to be aggregated.



The event messages always contain **location, time and event type**.  
Some may also contain additional information like road type, vehicle speed or weather.



Vehicle messages from most providers have a **low latency** (<10 seconds) most of the time (~95%). Relatively few messages arrive more than a minute after the event.



**Raw sensor data** from the vehicle or **non-SRTI data** is not included in the feeds.

# Probe vehicle data address use cases that go beyond incident management

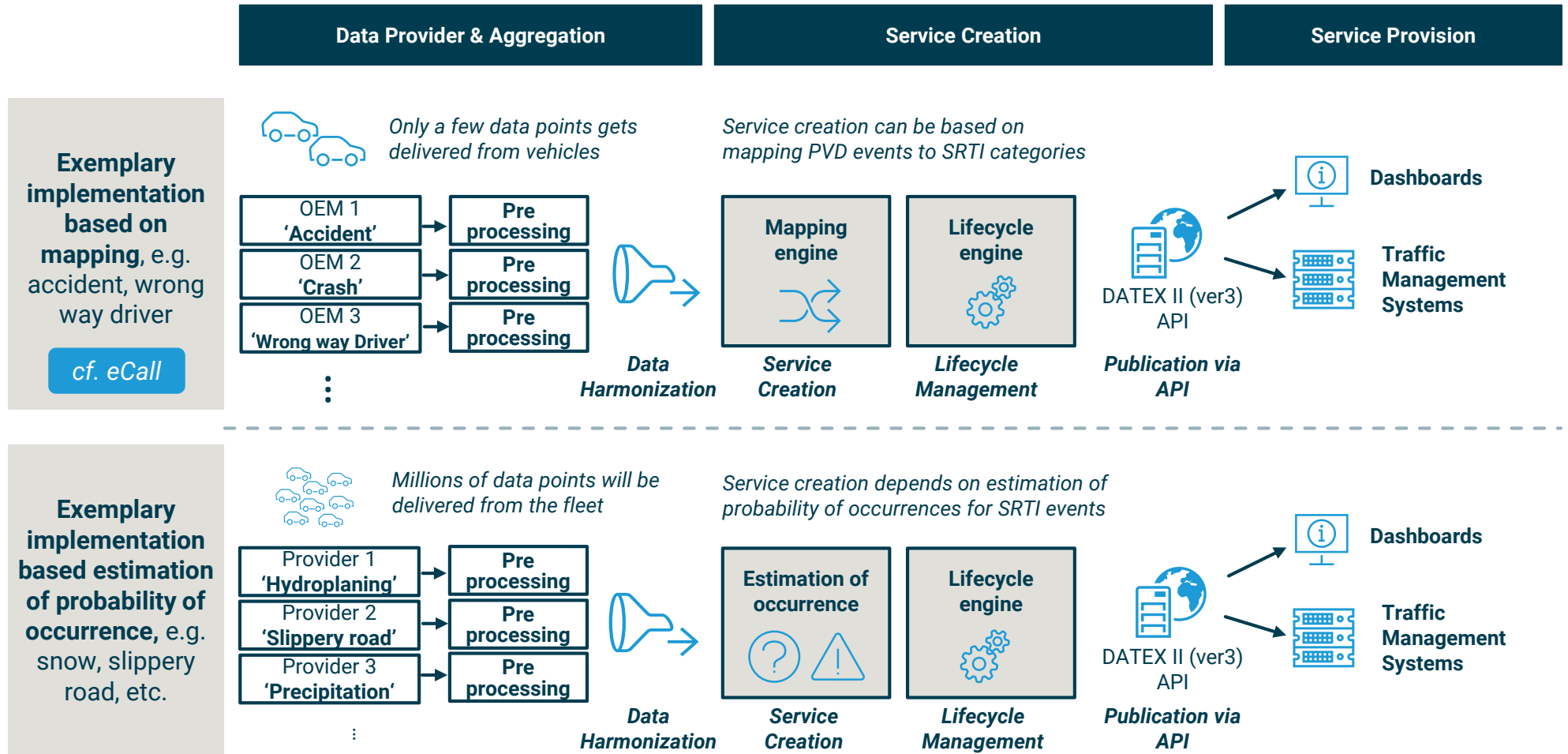
Overview and categorization of potential use cases based on the availability of data within the SRTI eco-system.

	Safety-related use case categories			Asset Maintenance
Data status	Traffic management	Incident management	Predictive safety	Surface information
Data available from OEMs		Accident / Incident <span style="background-color: #0070C0; color: white; padding: 2px;">eCall</span>		Slippery road management
		Broken down vehicle	Event hotspot identification	Extreme weather (rain)
Data expected from OEMs	Start of road works	Wrong way driver	Reduced visibility	Extreme weather (snow/ice)
		Obstacle on road	Hard braking	
Out of scope <i>(Not part of SRTI category)</i>	Intersection flow		End of queues	
	Vehicle density		Near-accident event	

It is expected that many of these use cases are getting implemented over the next decade.

# The generation of SRTI message based on vehicle-generated data requires intelligent data processing

The comparison between a simple and a more complex service creation highlights the challenges and chances associated with SRTI algorithms.



# The provided PVD currently contains warnings about adverse weather, obstacles (like broken down vehicles), and accidents<sup>01,02</sup>

## Connected vehicles



**On the road** 3 million connected vehicles (Europe)  
**% of new** 2020 – 37% of new vehicles  
 2022 – 100% of new vehicles

## Data points



**Timeframe** June - July 2020 (2 months)  
**Providers** BMW, Daimler, Ford, Volvo, NIRA Dynamics, TomTom  
**Total PVD** >18 million messages (Europe)

## Message latency



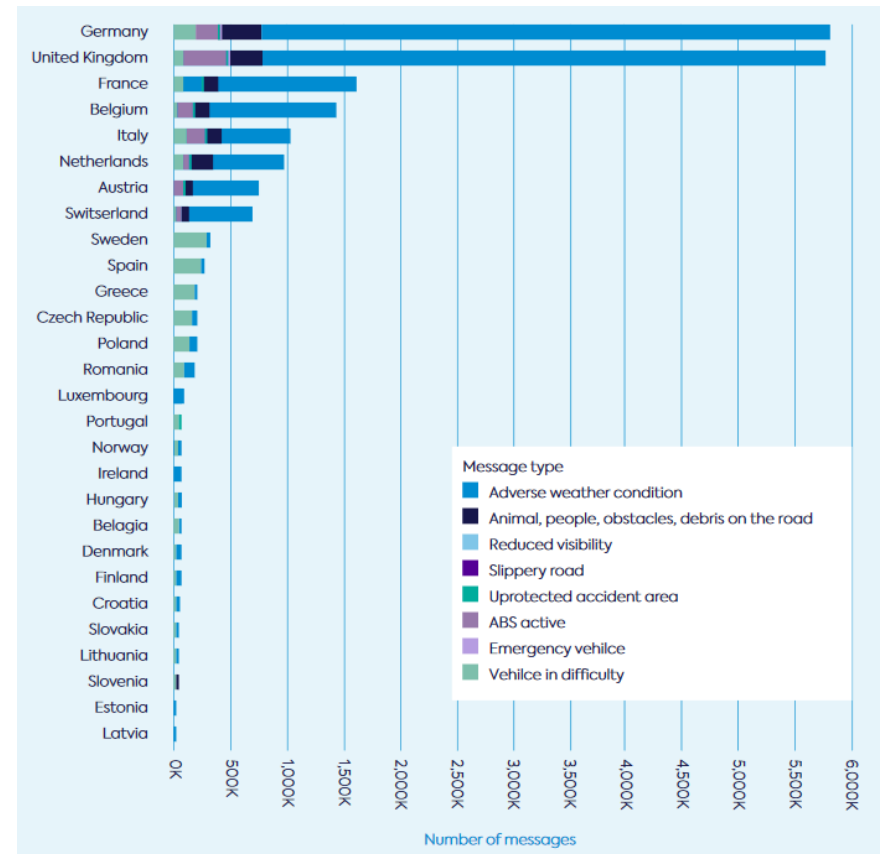
**52%** of events are delivered **within 5 seconds**  
**85%** of events are delivered **within 1 minute**  
**96%** of events are delivered **within 5 minutes**

## Average time gain



Time saved by PVD over existing sources:  
**Accidents** 11:43 minutes  
**Broken-down vehicles** 07:30 minutes

## No. of events per country



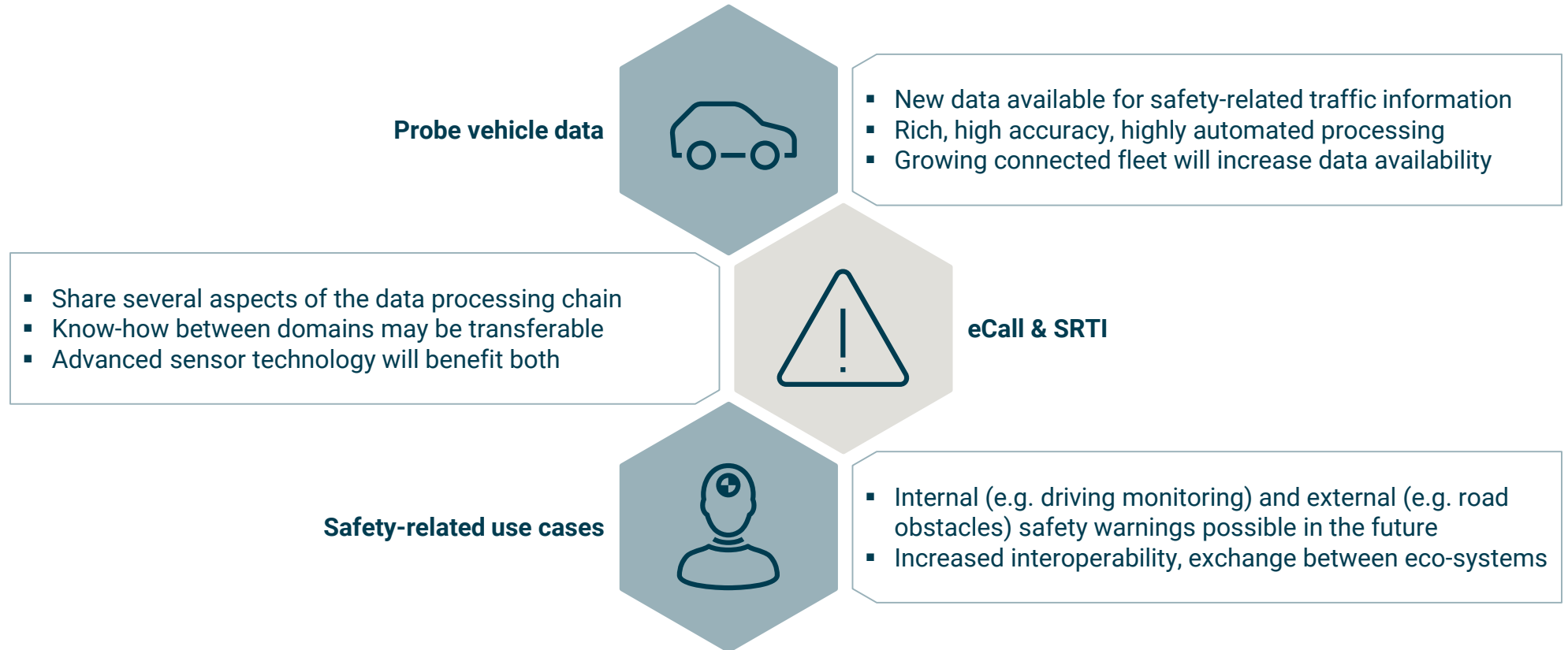
<sup>01</sup> [www.roundtable-dtf.eu/images/Documenten/DTF-REPORT-OCTOBER-2020-021020.pdf](http://www.roundtable-dtf.eu/images/Documenten/DTF-REPORT-OCTOBER-2020-021020.pdf)

<sup>02</sup> [www.roundtable-dtf.eu/images/Documenten/Microsoft\\_Word\\_-\\_PoC\\_DTF\\_-\\_monitor\\_\\_evaluation\\_report\\_Sweco.pdf](http://www.roundtable-dtf.eu/images/Documenten/Microsoft_Word_-_PoC_DTF_-_monitor__evaluation_report_Sweco.pdf)



# Summary and conclusion

Both eCall and SRTI improve European road safety by using capabilities of connected cars for automated communication.



The eCall and SRTI eco-systems share sensors, data streams, IT architecture and the overall goal of road safety. The new Multi-Party-Agreement will accelerate the progress of PVD projects and use cases.

# Questions, Comments?

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## Service portfolio for traffic organisations

Business knowhow			Data Science & IT		
Traffic Simulation	Navigation systems	Traffic Optimization	Big Data	System Integration	Machine Learning
Mobility Analytics	C-ITS Integration	Telematics	Visualization	Data Ingestion & Streaming	Optimization & Algorithms
Charging Infrastructure	Toll Models	Vehicle and Sensor Data	System Configuration	Cloud Integration	Blockchain & DLT

### → Experience in PVD projects

- Support of a national road authority in data processing and with data science competencies in order to produce safety-related traffic information based on PVD.
- Support of a national road authority in IT architecture in order to process PVD.



# Your contacts



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The logo for d-fine, featuring the lowercase letters 'd-fine' in a white, sans-serif font. The 'd' is significantly larger than the other letters, and a horizontal line passes through the middle of the 'f'.

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