PUBLIC-PRIVATE COLLABORATION ON THE IMPLEMENTATION OF THE REVISED RTTI DELEGATED REGULATION
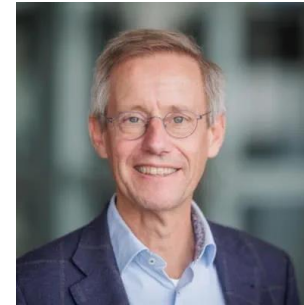
We all benefit?

Annet van Veenendaal
Epic owner NDW (NL)

Stephanie Leonard
Head of Government and Regulatory
Affairs / Chairwoman TISA

Folkert Bloembergen
Project manager (NL)

What is this session about?

1. Revised RTTI DR?

2. Public and private perspective on the revised RTTI DR

   1. The (EU) public perspective of member states / road authorities
   2. The private perspective of serviceproviders
   3. Public – private collaboration put into practice

3. Conclusions: can we all benefit?
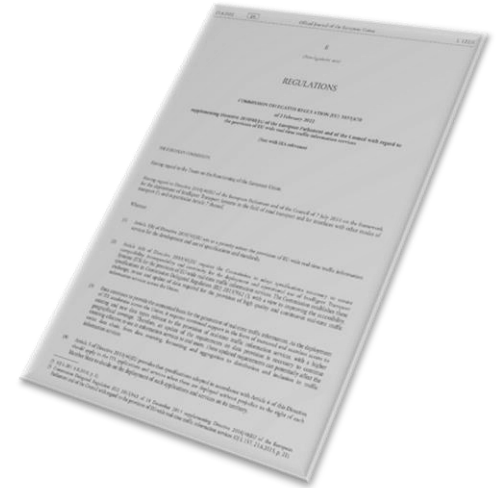
Revised RTTI DR

- Delegated Regulation (EU) 2022/670: Provision of EU-wide real-time traffic information services
- Substitutes Delegated Regulation (EU) 2015/962

Goal

Improving the accessibility, exchange, re-use and update of data required for the provision of <u>high quality and continuous real-time traffic information services</u> across the Union.

What's new? -> Data types

Data types

In addition to known data types, the focus is now very much on (the crucial data categories):

- ## Traffic regulations and restrictions
  - Traffic laws (e.g. speed limits, access restrictions)
  - Regulated traffic zones (e.g. environmental, freight delivery)
  - Traffic circulation plans
- ## State of the network
  - Road- and lane closures
  - Roadworks
  - Temporary traffic management measures.
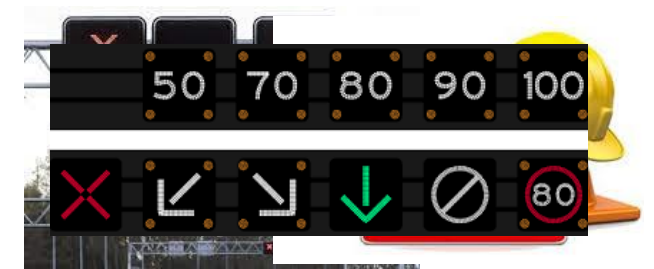
What 's new -> Data types

Real time traffic information services

4
3
2
1

Del Reg. 2022/670
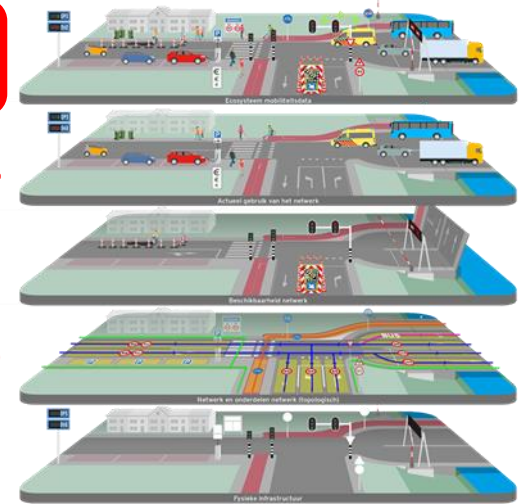
1

data on infrastructure

(a) road network links

(b) road classification

(c) tolling stations

(d) service areas and rest areas;

(e) recharging points for electric vehicles

(f) compressed natural gas, liquefied natural gas, liquefied petroleum gas stations

(g) points and stations for all other fuel types

(h) location of delivery areas

2

data on regulations and restrictions

Crucial:
(a) static and dynamic traffic regulations
(b) traffic circulation plans

Non-crucial:
(a) traffic signs
(b) static and dynamic traffic regulations
(c9 tolled roads,
(d) variable road user charges

3

data on the state of the network

Crucial:
(a) road closures;
(b) lane closures;
(c) roadworks;
(d) temporary traffic management measures.

Non-crucial:
(a) bridge closures;
(b) accidents and incidents;
(c) poor road conditions;
(d) weather conditions affecting road surface and visibility.

4

data on the real-time use of the network

(a) traffic volume;
(b) traffic speed;
© traffic queues;
(d) travel times;
(e) waiting time at border crossings;
(f) delivery areas;
(g) recharging points and stations for electric vehicles;
(h) refuelling points and stations for alternative fuel types;
(i) price of ad hoc recharging/refuelling.

Green = new

What else is new?

2. This Regulation appl torised traffic.

Extension of geographical scope

(b) follo with relevant stake

Public – private agreement on criteria for minimum data quality

3. Data use order to ensure that any inaccuracies r originates.

Public – private data quality feedback loop

4. nd-user, ties and

Serviceproviders shall include data on TCP's and traffic regulations in their services

4. they pro the nat

Serviceproviders shall include data on TTM's in their services

Public alignment on European level

NAPCORE: Pan-European Coverage

- 33 Partners
- 37 Implementing Bodies
- 3 Associated Partners

Covering:

- Member States (Ministries) and National Road Authorities
- (National) Road Operators
- International Organisations

Co-funded by:

- European Commission (DG MOVE) as Programme Support Action under CEF
- Runtime: 2021 – 2024, Budget €16m

NAPCORE Goals

1. facilitate EU wide coordination of NAPs and NBs for the harmonisation of the implementation of the European specifications on the ITS Directive

2. increase interoperability by (further) establishing standards and recommendations for data exchange formats, content, access and data availability in the mobility domain in Europe

3. empower the NAPs as the backbone for ITS digital infrastructure and mobility data exchange in Europe

4. address existing and upcoming developments and challenges with a joint European strategy, vision and voice.

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NAPCORE RTTI Action Plan

Agreement amongst NAPCORE partners on two major principles:

1. **Focus on use cases rather than data!**
   What do road authorities want to achieve with f.i. a Traffic Circulation Plan?

2. **Elaborate these use cases in public private collaboration (as stated in the revised RTTI DR)**

   What data is needed for the use cases, with which quality and how to make use of feedbackloop?

Ad 1. Priority use cases

Priority use cases collected in online NAPCORE workshop February '23. Often mentioned use cases were:

1. Maximum speed data in order (ISA implementation)
2. Socially desirable routing (TCPs, preventing cut-through traffic, environmental and school zones)
3. Correct information about roadworks and closures (incl. detours)
4. Navigation advice in line with traffic management measures
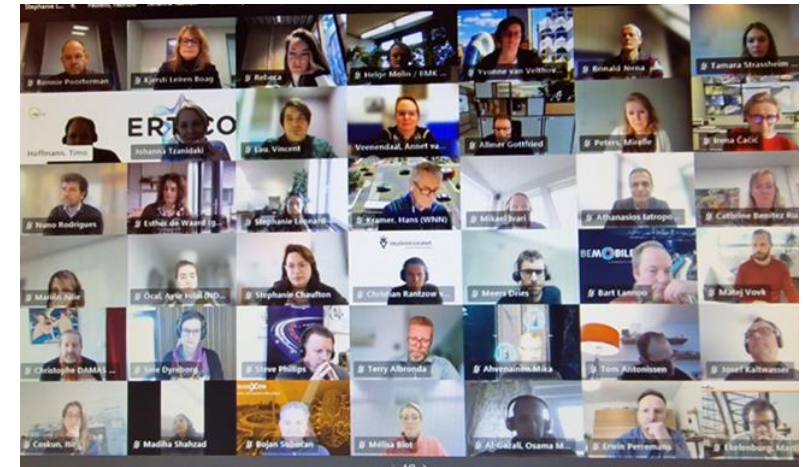
PRIORITY

Correct information

Services in line with policy

Ad 2. Public private collaboration

Establishing public private collaboration: working together with members of the Advisory Board of NAPCORE:

- Private serviceproviders TomTom, Google, Be-Mobile, Here
- TM2.0 platform
- TISA
- CEDR
- Polis

The missing link...

Providing data for use cases ➡ **Data accessibility** ➡ **Data in in-car services**

Member states /
Road authorites

RTTI Task force

RTTI Taskforce
Member states / Road authorities

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Why a RTTI Task force of MS's / RA's?

- Forming a RTTI taskforce of EU road authorities / operators to fill in the gap in the [data value chain](#)

- Work – in close collaboration with NAPCORE and the serviceproviders – on **focus use cases**:

    - Machine readable data needed for these use cases (f.i. TCP's and TMP's)

    - (Minimum) data quality requirements, star rating proposal serviceproviders

    - How to create a public – private feedbackloop

    - implementation of the mandate of the revised RTTI DR.
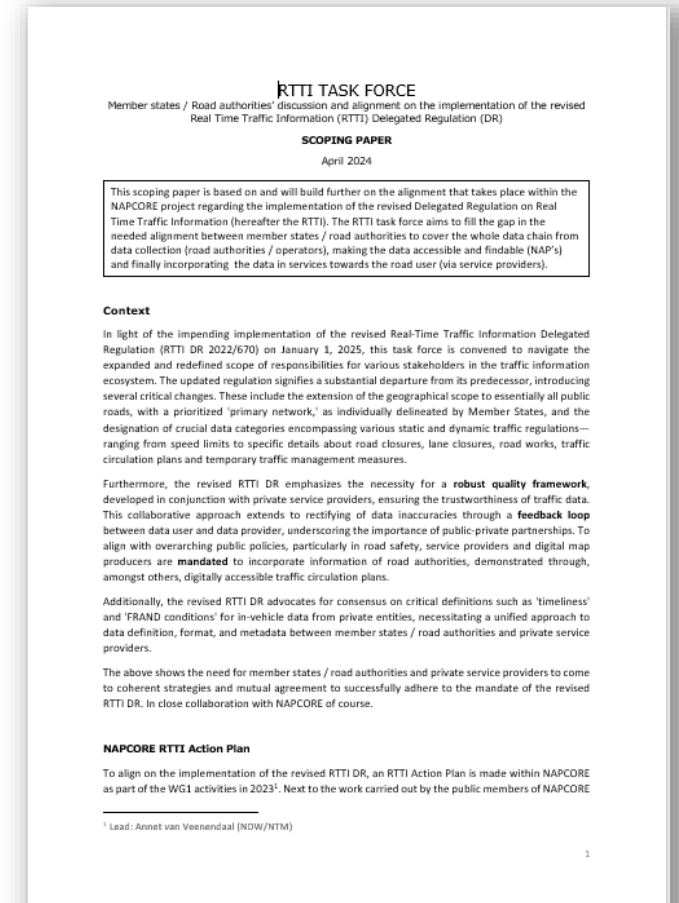
EU RTTI Taskforce

- First meeting during MDD's NAPCORE in Budapest '23

- Involved member states:
  - France
  - Spain
  - Austria
  - Sweden
  - Norway
  - Finland
  - Flanders
  - Cyprus
  - Switzerland
  - (Germany)
  - The Netherlands

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Next steps for the RTTI taskforce

- Organize 1-on-1 dialogue with service providers (the Netherlands and Sweden in the lead)

- Thinking about feedback loop: how can we organize it?

- Sharing best practices and lessons learned

- Create a joint roadmap with use cases

- Ecosystem with win-win-win?

- All in close collaboration with NAPCORE!

Private Sector Perspective RTTI
Traffic Management as a Synchronal Public Service and Business

Stephanie Leonard Head of Government Affairs TomTom // TISA Chairwoman

Correct Perception?

It often appears the public sector believes the private sector only cares about their:

 Share Price

 Bank Balance

Do we really have such adverse priorities and objectives?

Private companies also have **corporate social responsibility** goals and **visions** to make mobility safer, cleaner and more accessible for all.

Our **contexts**, however, ultimately **shape** our activities…

Wrong Information	Correct Information
Reality Outside Not Reflected	Reality Outside Reflected
Distracted	Concentrated
Unoriginal Features	Innovative/ Intuitive Features
LOSE Users	**GAIN** Users

= <u>Shared Goal</u> of Road Operators/Authorities and Service Providers

Correct Information

Reality Outside Reflected

Concentrated

Innovative/ Intuitive Features

GAIN Trust

The more **<u>accurate</u>** the traffic and traveller information is, the more users will **trust** and **use** the service:

- Improved **safety**
- Improved **travel times**
- Improved **congestion**
- Improved **driving experience**

EU RTTI Mandate for Accurate Real-Time Traffic Info

Article 1

Subject matter and scope

1. This Regulation establishes the specifications necessary in order to ensure the accessibility, exchange, re-use and update of data by data holders and data users for the provision of EU-wide real-time traffic information services, and to ensure that these services are accurate and available across borders to end-users.

2. This Regulation applies to the entire road network that is publicly accessible to motorised traffic. By way of exception, it shall not apply to private roads, unless they are part of the comprehensive TEN-T network or they are designated as a motorway or as a primary road.

3. This Regulation shall apply in accordance with Article 5 of Directive 2010/40/EU.

The key provisions in RTTI to enable accurate RTTI services:

- Minimum Quality Requirements
- Feedback Loops
- Location Referencing

Already 18 Months of RTTI Public - Private Collaboration

TISA
Traveller Information Services Association

EU RTTI Adopted

Feb 22'

RTTI Webinar

Feb 23'

NAPCORE Mobility Data Days

Budapest Nov 23'

TISA – RTTI 5 Star Rating Workshop

March 24'

NAPCORE Advisory Board

Paris Nov 22'

Berlin Workshop

April 23'

RTTI TISA Quality Workshop

Amsterdam Nov 23'

How to combine and use input from April 23' Berlin workshop?

Data Quality – Minimum Service Provider Requirements

General	Location Referencing	Event & Validity Handling	Content

Must have:
• **format: xml/json/DATEX II**
• **feed: can be fetched once per minute**
• **stable message id required if referring to the same event**
 	
• if possible, event description/comments available
	Must have:
	• **coordinate referencing system is stated: preferably WGS84**
	• **lon/lat stretches/polylines or OpenLR**
	• **direction defined / bidirectional attribute**
	
	• if possible, road names given (lane level specific for high road classes, updates available as close to real time for automation use cases)
		Must have – Event:
		• **differentiation between full road closures and lane closures**
		• **vehicle specific closures (i.e. older petrol cars)**
		• if possible, documentation around all valid event types
		• if possible, guided by Datex II standard or Alert-C event codes
		
		Must have - Validity
		• **start/stop times available**
		• if possible, schedules available (e.g. "Mon-Fri 22:00-06:00")
			Must have
			• **Coverage:**
			   • **which road classes are covered?**
			   • **which areas are covered (urban, rural)**
			• **how many messages are active at the same time (or is the feed cluttered with old messages)?**
			• **how many short-term events are available (intermittent road closures, accidents) or are the events mostly scheduled?**
			• If possible, how well does map matching onto our map work

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Key Aspects for Data Quality

3. Data Quality

1. **Service Level Agreement (SLA)**
   1. a commitment between the provider and customer on various aspects of the service (quality, availability, responsibilities)
   2. the most common component of an SLA is that the services should be provided to the customer as agreed upon in the SLA
   3. Very common tool in traffic business, could be useful in RTTI NAP context (see next slide)
2. **Location Referencing** – standardized/widely adopted method required
3. **Event and Validity Handling** – high level of detail required
4. **Content** – detail and context of data required
5. Description of accuracy, freshness, completeness, correctness – quality management
6. High requirements expected when we move from SD, ADAS Map to HD Map

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Service Level Agreement (SLA) in TN-ITS GO

Parameter	Entry	Basic	Elite	Ultimate
Timeliness	3 Month	Month	Week	Day
Location Accuracy	>10m	<10m	<5m	<1m
Completeness	>80%	>90%	>95%	>99%
Correctness	>80%	>90%	>95%	>99%

TN-ITS Service Levels	Basic	Elite	Ultimate
Support services	**(low)**	**(medium)**	**(high)**
Service Availability (over a period):	90%	96%	99,9%
Incident management – support hours	Office hours	Office hours	24x7
Incident management – Initial response time	1 day	4 hours	1 hour
Incident management – Target resolution time	Reasonable effort	1 day	4 hours

Table 2 - Service Quality Levels

TN-ITS GO, Deliverable 4.1 Evaluation

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Chicken or Egg Paradox

What comes first, traffic data quality improvements or commitment to use traffic data?

Inspired by EuroNCAP's 5 Star Vehicle Safety Rating as an SLA Alternative

Scope of 5 Star Rating

Out of scope (for now)

High Definition (HD) MAP

Included in scope

ADAS MAP

LIVE MAP

Standard Definition (SD) MAP

Autonomous driving

Advanced driver assistance
Automated driving

EV services
On-street &
Off-street parking
Traffic

3d visualization
Search
POI
Navigation
Traffic signs
Geocoding
Addressing
Routing
Road network

SLe
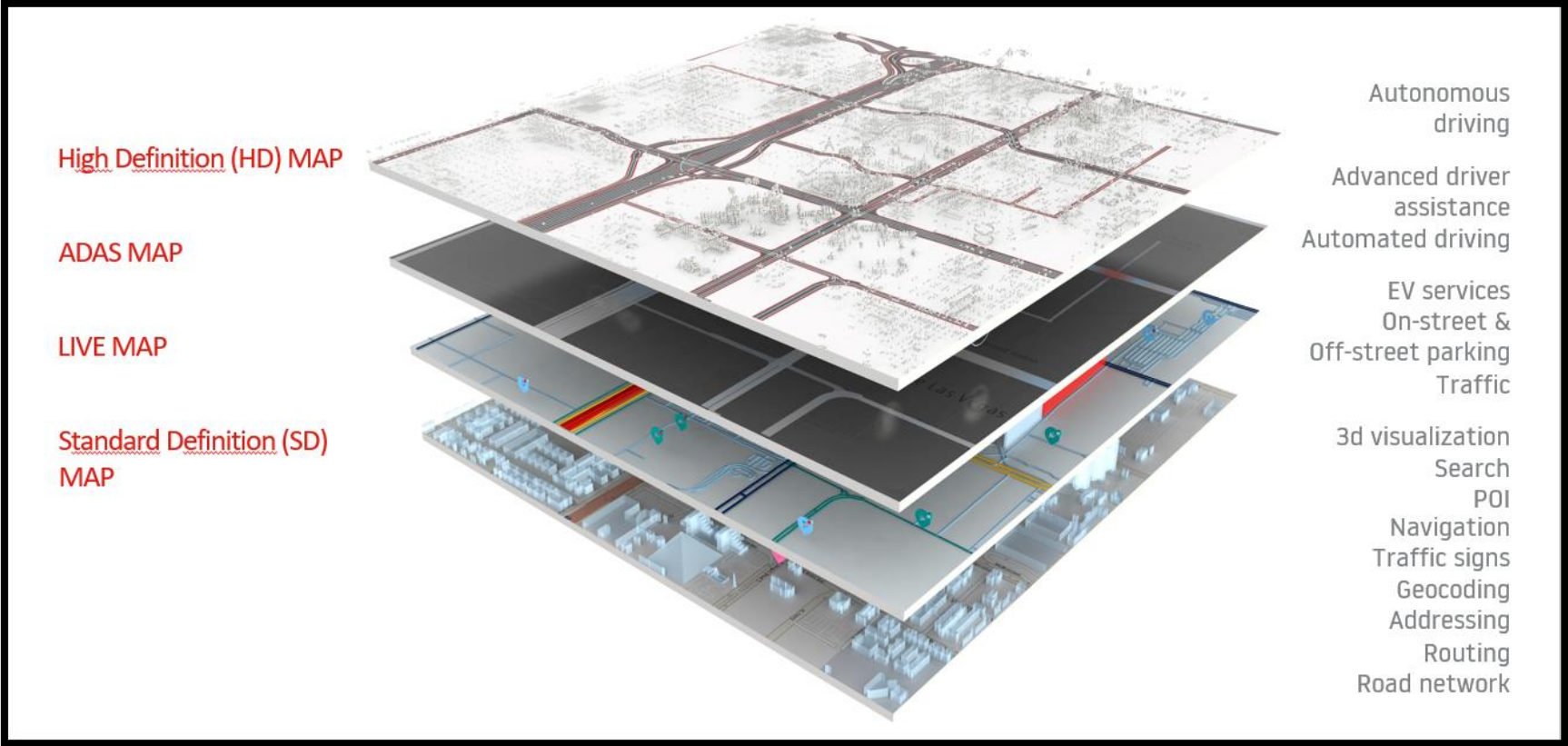
Data quality comes in different **shapes** and **sizes**

5 Star Quality Rating

RTTI Data Usability

★☆☆☆☆ ★★☆☆☆ ★★★☆☆ ★★★★☆ ★★★★★

Minimum Level

NAP Functionality
Data Definitions
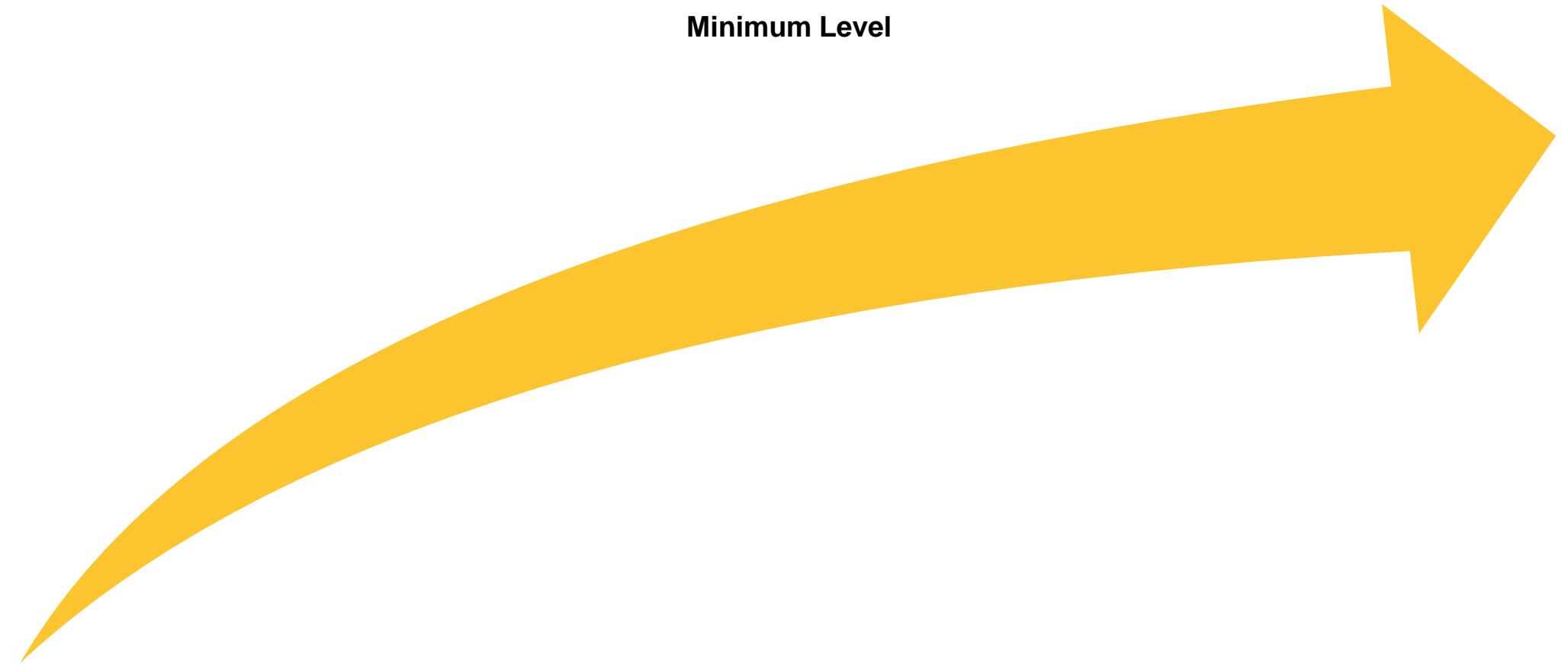Use of Standard
Location Referencing
Stable Message ID
Secure Access
etc.

**Use Case
Requirements**
Update Cycle
Timeliness
Accuracy
Correctness
Completeness
Vehicle Classification
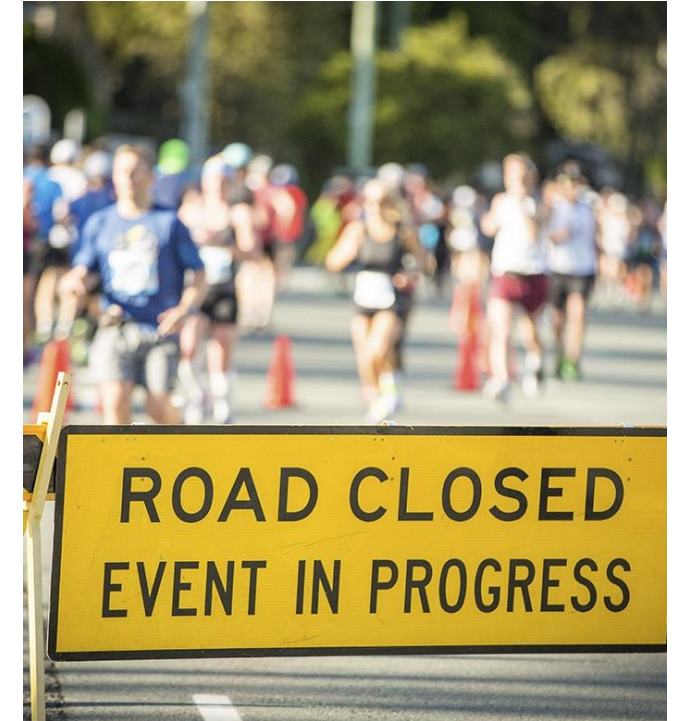etc.

RTTI Data Ingestion

Use Cases Explored So Far

Static Speed Limits

Planned & Unplanned Road Works

Planned & Unplanned Road Closures

5 Star Quality Rating Agreement

Minimum Level

If the data is below the agreed minimum quality standard, there is no guarantee the data will be used by ITS Service Providers.

If the data meets the **commonly** agreed minimum quality standard or higher, ITS Service Providers will use the data:

- Subject to **company specific** product requirements
- Subject to **validated quality score** (w/o 3rd party assessment)
- Data is sourced via the **National Access Point** (NAP)
- Data is never published as is, **always validated with other sources** in our fusion engines.
- If **data quality degrades** over time and goes below minimum quality standard, we may stop using it (giving feedback to data provider).

Planned Next Steps 5 Star Rating

EU RTTI Adopted
Feb 22'

NAPCORE Advisory Board
Paris Nov 22'

RTTI Webinar
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TISA – RTTI 5 Star Rating Workshop
March 24'

TISA Launch Technical Expert TF
Q2 24'

Next TISA Workshop Latest Progress 5 Star Rating
Q4 24'

Convert 5 Star Rating into Quality Standard

Open Call for Data Quality Analysts

If you want to join TISA's Technical Task Force on the 5 Star Rating please contact:

Stephanie Chaufton
TISA Coordinator
s.chaufton@tisa.org

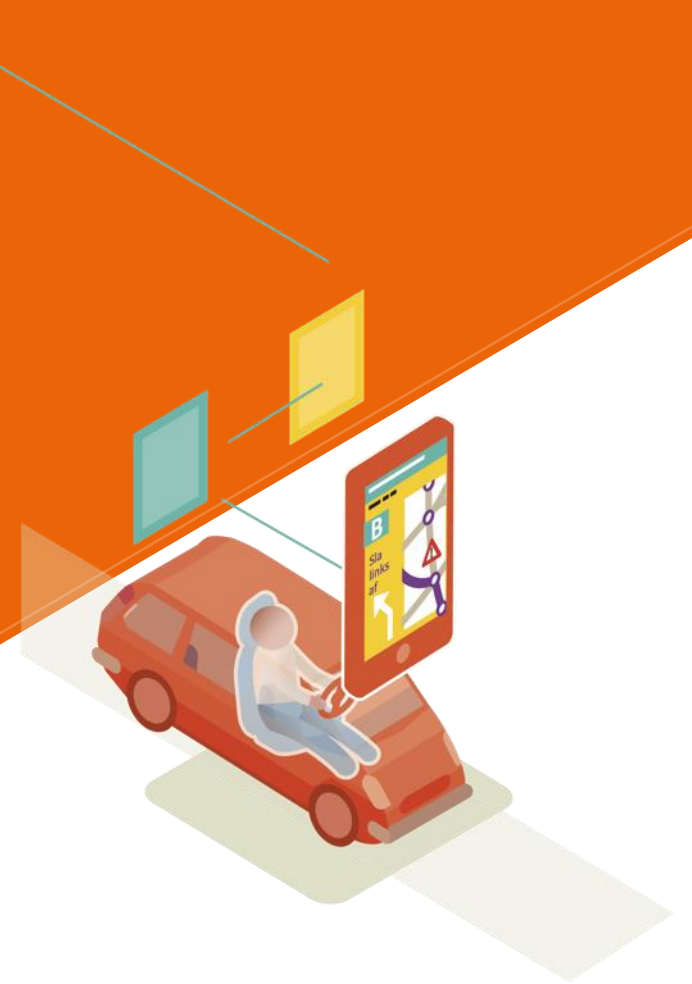# Feedback Loops

The next 'big rock'
to tackle…

Rijkswaterstaat
Ministerie van Infrastructuur en Waterstaat

Public – private collaboration put into practice

Folkert Bloembergen, Projectmanager Rijkswaterstaat
Intertraffic Amsterdam 2024

VM-IVRA – the Dutch approach

From traffic data to smart routing

Traffic management in the digital age

- Travellers primarily seek real-time and personalized information, especially young drivers

- Transition from roadside to in-car information

- Further digitization of traffic management

- Traffic Management: added value through public private cooperation

Voorkeur informatie als wegkant en in-car tegenstrijdige informatie geven

Figuur 46.

18-35 jaar   36-64 jaar   65 plus
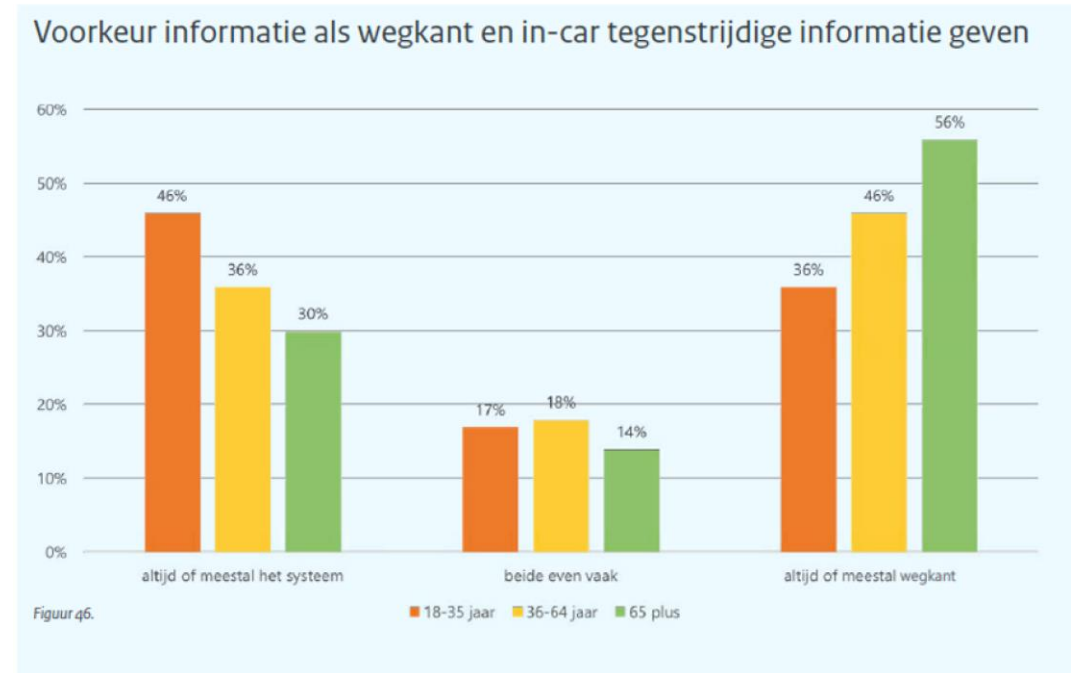
Source: Smart Mobility Monitor 2022

Traffic management in the digital age

No through traffic
Follow signs

Traffic management in the digital age

Preventing traffic on unwanted routes.

Digital, but socially responsible.

Ad 1. Priority use cases

Priority use cases collected in online NAPCORE
workshop February '23. Often mentioned use cases were:

1. Maximum speed data in order (ISA implementation)
2. **Socially desirable routing (TCPs, preventing cut-through traffic, environmental and school zones)**
3. Correct information about roadworks and closures (incl. detours)
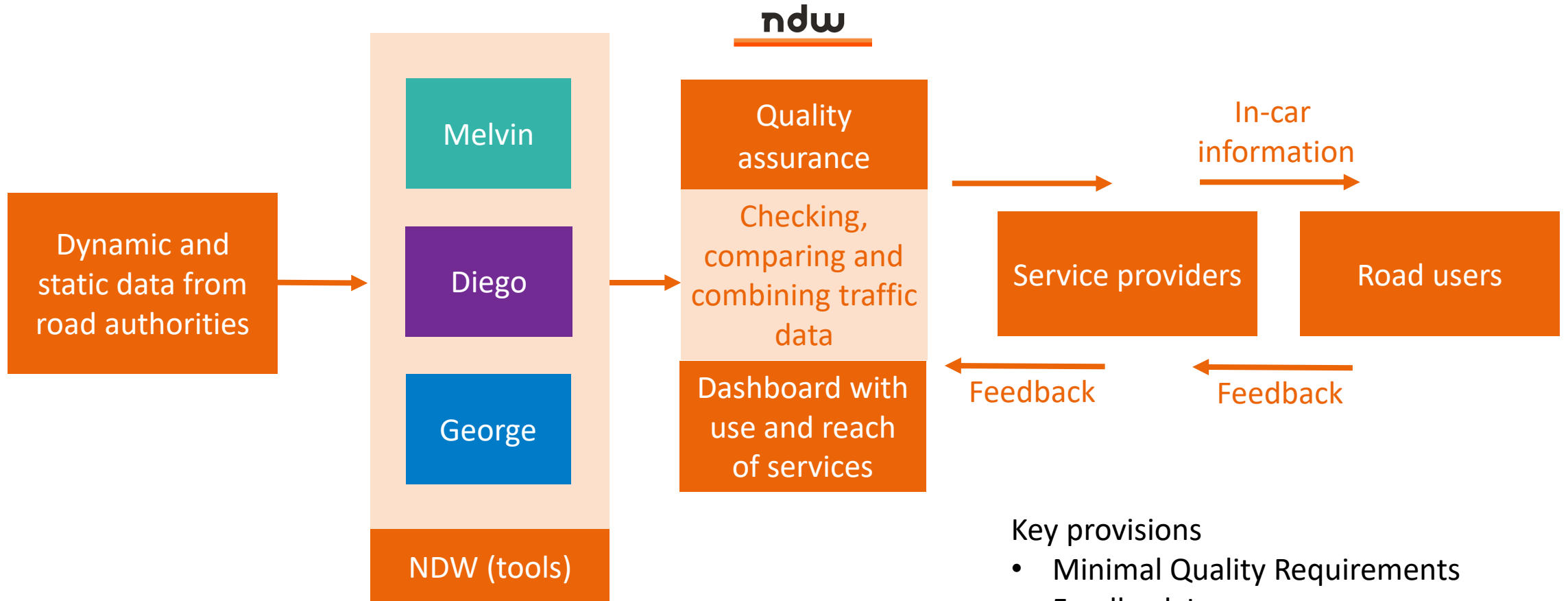4. **Navigation advice in line with traffic management measures**

Mission VM-IVRA

- **Developing in-car services** that contribute to safer, more sustainable, and smoother traffic flow.

- Achieving **real-time travel information and personalized route advice** for road users

- Guiding road authorities in transitioning to digital traffic management so they **gaine experience with data service** before the European RTTI-regulation takes effect

- Establishing **uniform guidelines** for sharing traffic data and setting data quality criteria

- Making agreements to **intelligently manage traffic across the road network** to reduce traffic on unwanted routes

Collaboration and data sharing is win-win

- **Service providers** enhance their service by enriching their navigation service with real-time traffic information from road authorities

- **Road users** receive real-time and personalized traffic information

- **Road authorities** maintain control over traffic flow by digitally informing road users about traffic situations along their route

RTTI – the data value chain

Dynamic and static data from road authorities

NDW (tools)
- Melvin
- Diego
- George

ndw
- Quality assurance
- Checking, comparing and combining traffic data
- Dashboard with use and reach of services

In-car information

Service providers

Road users

Feedback

Feedback

Key provisions
- Minimal Quality Requirements
- Feedback Loop

Deployed VM-IVRA data services

ndw

1. **Pre-announcements** of planned road works and events → Melvin

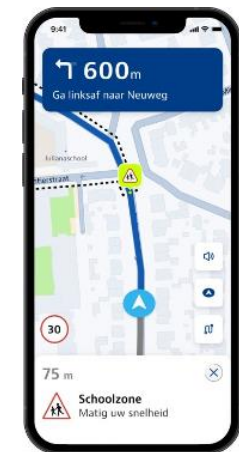2. Sharing of **traffic disruptions** along the route
3. **Digital Information Messages** → Diego

4. In-car **schoolzone notifications**
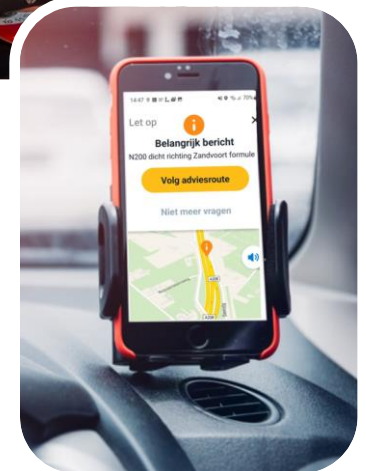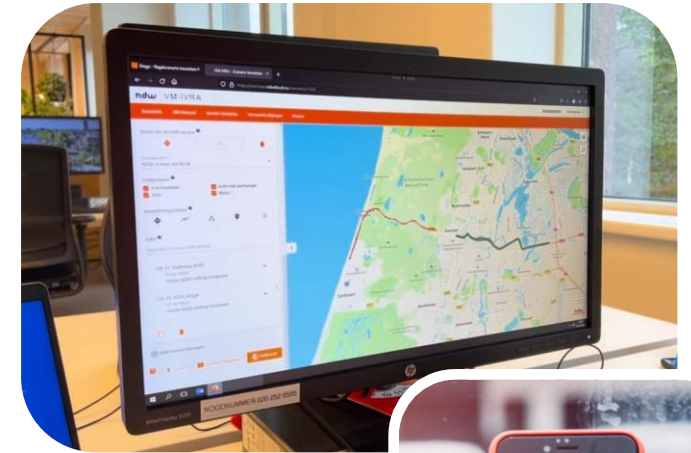5. Sharing of **environmental zones** → George

The technology works!

A set up data chain, an initiated dialogue about the pass-on data conditions by service providers and a determined number of services that will add value for road authorities, service providers, road users and society.

Informing
Sharing policy information on socially desirable routes

Disruptions
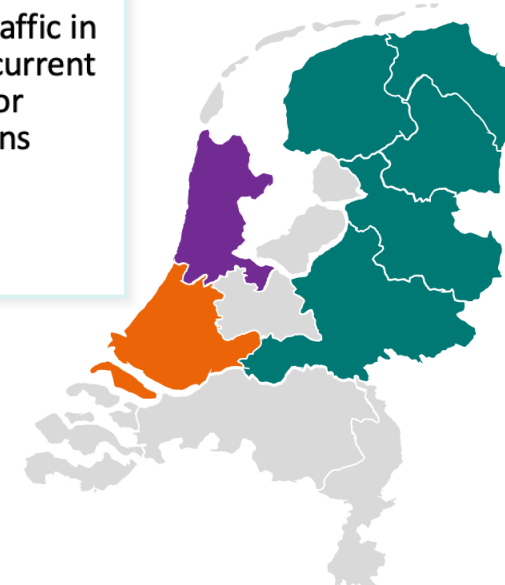Informing road users about current disruptions on the road network

Pre-announcements
Informing road users about planned road works and events (announcements)

Redirecting
Redirecting traffic in the event of current and major disruptions

VM-IVRA best practices

- Environmental zone indications were used in **Flitsmeister** app in 2022:
  - Reach of 2 million route advices monthy

- Deployment of services at **Formule 1 Dutch Grand Prix,** measured reach in 2022 :
  - 2 Avoids en 15 Digital Information Messages
  - 150.000 road users were informed in-car

- From the schoolzone trial of 2023, it was found that 2/3 of drivers appreciated the in-car alert and **adjusted their driving behaviour**

- Arnhem-Nijmegen region in 2022: **at 33 major incidents in the region,** traffic scenarios were directly shared with service providers

- In Zeeland in 2022 and 2023: **in-car warnings were deployed for hazardous weather conditions** (replacing Variable Message Signs)

- In Amsterdam: **tunnel closures were automatically updated in Google Maps within 5 minutes**

Collaboration and data sharing is win-win

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- **Road users** receive real-time and personalized traffic information

- **Road authorities** maintain control over traffic flow by digitally informing road users about traffic situations along their route

Thank you for your attention!

For more information: www.vm-invra.nl
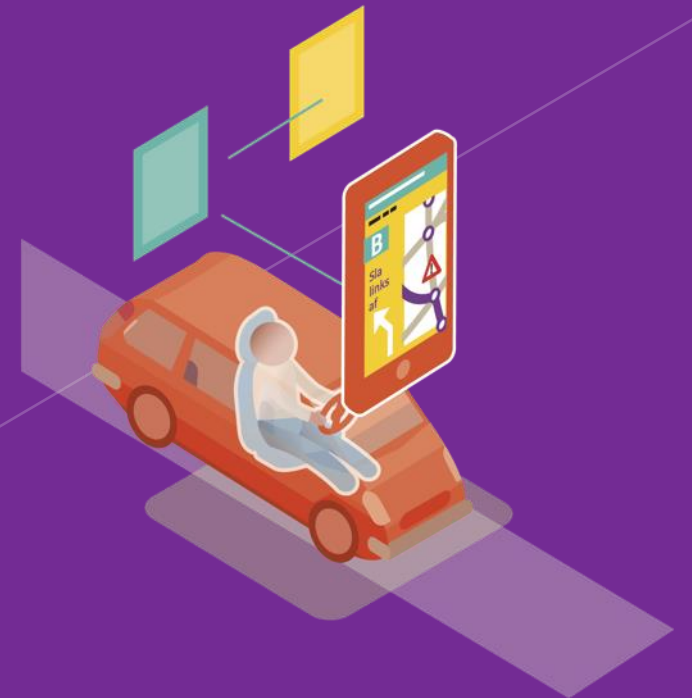
We all benefit?

Public-private collaboration on the implementation of the revised RTTI DR

Member states / road authorities

1. Accurate traffic a[...]
   information to ro[...]

2. Services in line with[...]
   the goal of incr[...]
   - livability[...]
   - accessibili[...]
   - safety

Private serviceproviders

[...]urate traffic and travel
[...]rmation to road users

[...]rate social responsibility
[...]s and visions to make
[...]y safer, cleaner and more
[...]accessible for all

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Debate statement 1

Creating a feedbackloop helps road authorities / operators getting on board in improving data quality.
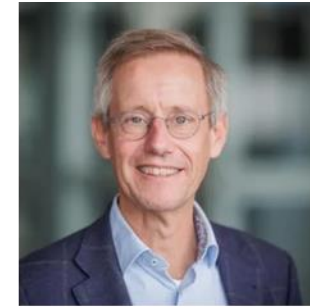
Debate statement 2

Having insight in how certain quality data are incorporated in the services of serviceproviders helps road authorities / operators motivate to supply data.

Debate statement 3

Data quality is a responsibility for:
(a) road autorities / operators
(b)   NAPCORE
(c)   Serviceproviders
(d) Combination of the above.

Thank you for your attention!

Stephanie Leonard
Head of Government and Regulatory
Affairs / Chairwoman TISA

Folkert Bloembergen
Project manager (NL)