TN-ITS

Road safety data exchange in Europe

GeoPlace Annual Conference 2018

Fay Simcock

TN-ITS
Map Data Exchange

TN-ITS Vision and Mission

Map Data Exchange

Vision

Bringing fresher map data to intelligent transport services

Mission

Facilitate and foster the exchange of ITS-related spatial road data between road authorities as <u>trusted</u> data providers, and, data users as map makers and other parties.

TN-ITS GO
Map Data Exchange

The TN-ITS data chain

Map Data Exchange

Road Authorities ⟷ TN-ITS Map Data Exchange ⟷ Map makers Service Providers ---- Vehicles / Map Users
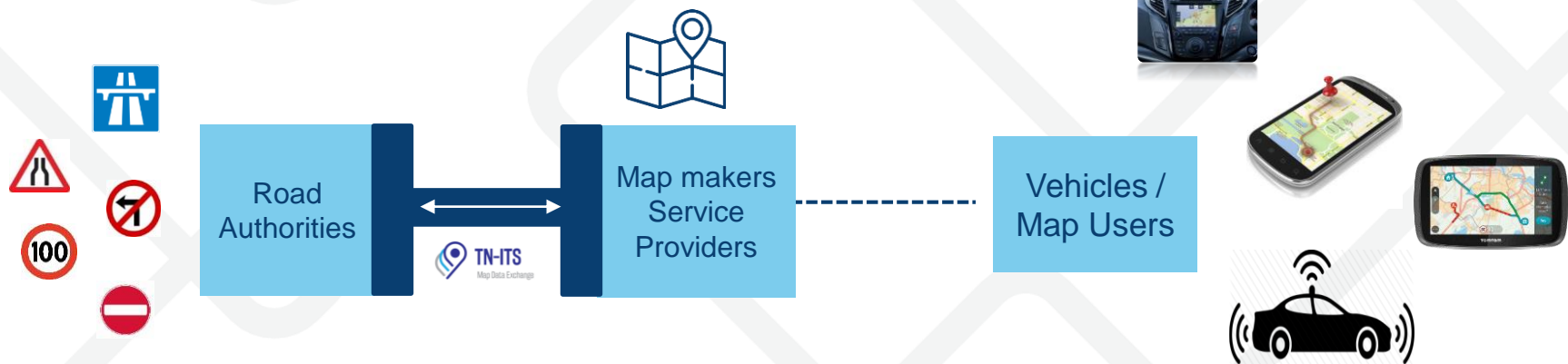
Road Authorities publish changes of road data as part of their Spatial Data Infrastructure maintenance

Map makers retrieve, verify and integrate these changes in their databases and bring this to map users

Drivers can benefit from up-to-date fresh map data in their in-vehicle system, stand-alone navigation device or smartphones

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TN-ITS Cooperation

Map Data Exchange

By bringing together relevant stakeholders

By supporting EC policy via the ITS and INSPIRE directives
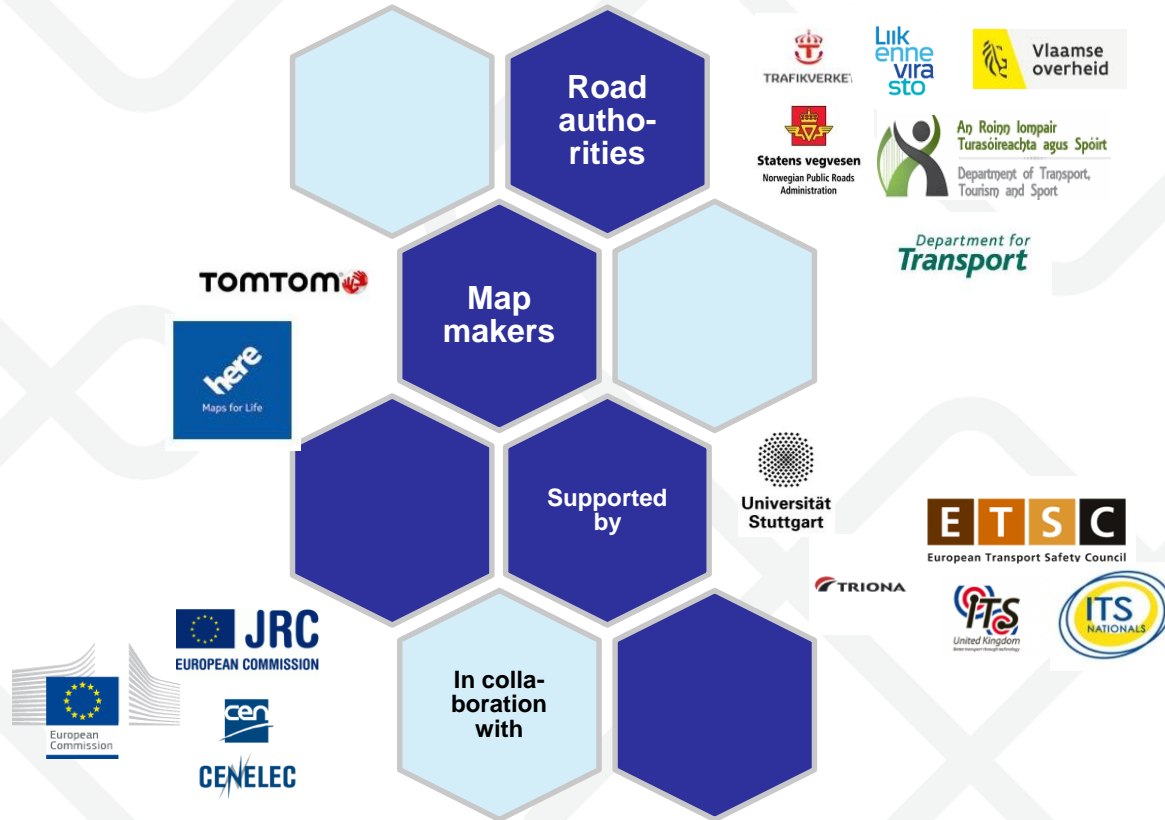
Road Authorities

Transport Agencies

Policy makers

ITS organisations

Map & Service providers

→ **to share effectively any changes to road data and ensure a seamless data chain**

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Map Data Exchange

TN-ITS Members

TN-ITS Storyboard

Map Data Exchange

2013: TN-ITS founded as ERTICO Platform

2014-2015: Transportation Pilot with JRC & EULF: operational services **NO, SE**

2016-2017: CEF Pilot EIP A4.7: five MS: IE, **UK**, BE/FL, FI, FR

2017- 2018: **CEN TC278 Technical Specification**

2018-2020: CEF Grant **TN-ITS GO**: nine additional MS: **NL, HU, CY, SL, EE, LT, PT, ES, GR**

→ Towards TN-ITS services in 15 EU countries

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Standardisation & Promote Service Deployment

Map Data Exchange

Standardisation

Define & maintain TN-ITS specifications in CEN/TC 278 WG7

CEN/TS17268 summer 2018!

Implementation Support

Provide guidelines, tools and services to support implementation in **Belgium, Finland, France**, **Ireland, Norway**, **Sweden**, and **United Kingdom.**

TN-ITS GO: + NL, HU, CY, SL, EE, LT, PT, ES, GR

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TN-ITS Working Groups & Task Forces

Map Data Exchange

- WG 1: Location Referencing (TomTom)

- WG 2: Specification & Standardisation (NPRA)

- WG 3: Implementation Support (FTA)

- WG 4: Tools (tbd)

- Task Forces (leading to position papers):
  - Data Licenses
  - Service Level Agreements
  - New Features/Attributes

TN-ITS GO
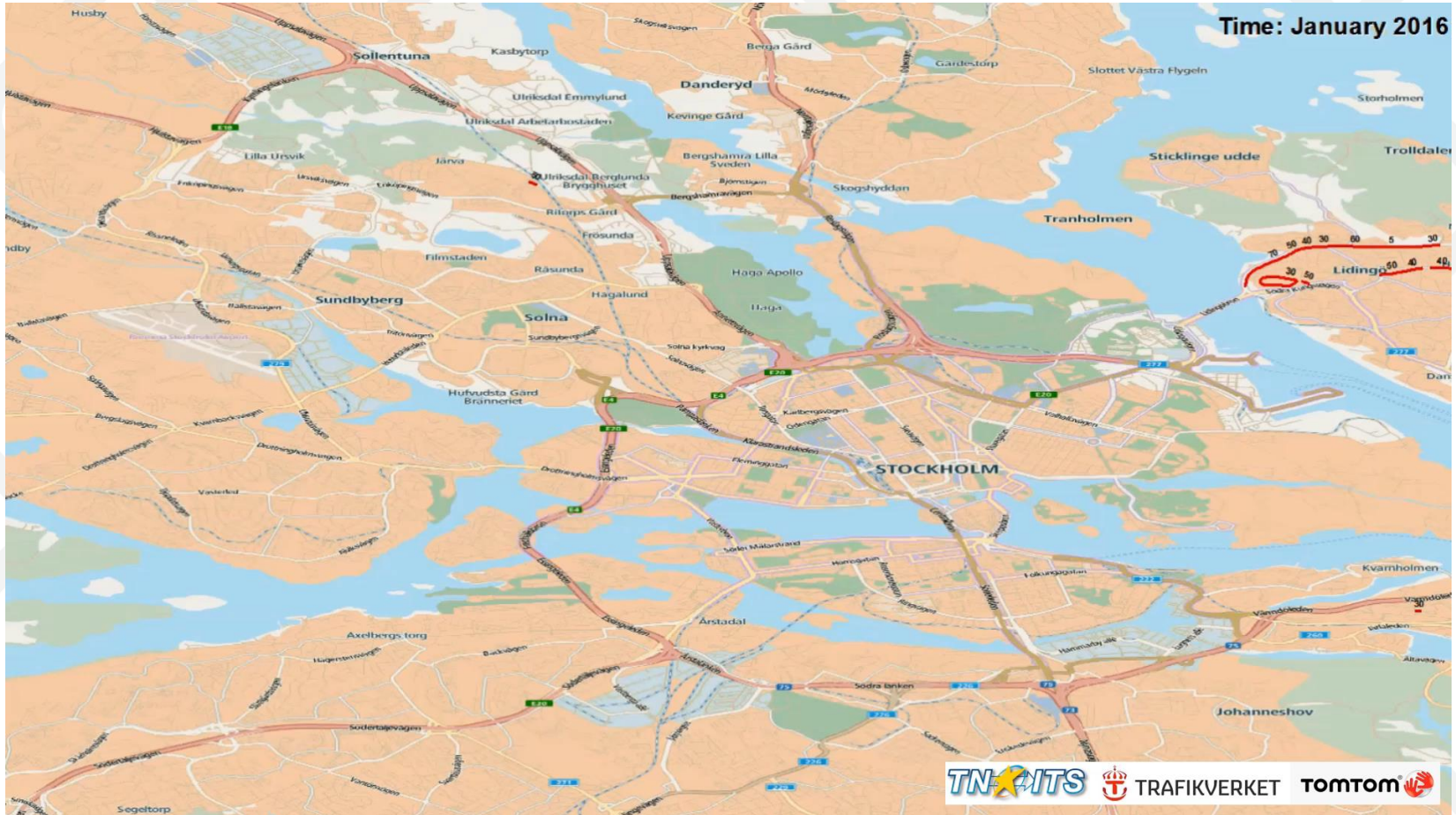Map Data Exchange

TN-ITS Services & Status

Map Data Exchange

Country	Service Provider	Service Status	Road Coverage	Key Attributes	Location Reference	Data License	Data Update Frequency
Sweden	STA	Operational	All roads	Speed Limits, Restrictions, Roadinfo	OLR, INSP, GML	OpenData	Daily
Norway	NPRA	Operational	All roads	Speed Limits, Warning, Stop, Roadinfo	OLR, INSP, GML	OpenData	Daily
Finland	FTA	Operational	All roads	Speed Limits	OLR, INSP, GML	OpenData, Attribution	Batch
Flanders	AWV/MOW	Pilot	Regional/ All roads	Speed Limits, Traf restrictions	OLR, GML	OpenData, Attribution	Batch
France	IGN	Pilot	Regional/ All roads	FRC,FOW,LaneInfo,DTRF,AccessInfo	GML	Special License	Batch, daily, weekly
UK	DfT	Pilot	Regional/ All roads/TEN-T	Speed Limits, Restrictions	GML, INSP	Special License	Batch
Ireland	DTTaS Nium	Pilot	Regional/ TEN-T	FRC,FOW,SpeedLim.,Lane Info	OLR, GML	OpenData, Attribution	TBD

(OLR: OpenLR, INSP: INSPIRE linear reference, GML: coordinate string)

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Map Data Exchange

Fast & efficient integration in digital maps

Fast & efficient integration in digital maps

Map Data Exchange

SUPPLIERS ACTIVITY

COUNTRY

All

All

All

Year

Multiple values

Atribute Type

4,530 7,435

194,963

440,580

1,026,159

341,386

24,781

Attribute Type

- Null
- MaximumHeight
- MaximumLadenWeight
- MaximumLength
- MaximumSpeedLimit
- MaximumWeightPerSingleAxle
- MaximumWidth
- NoEntry
- PassingWithoutStoppingProhibited
- RoadName
- RoadNumber
- WarningSignType
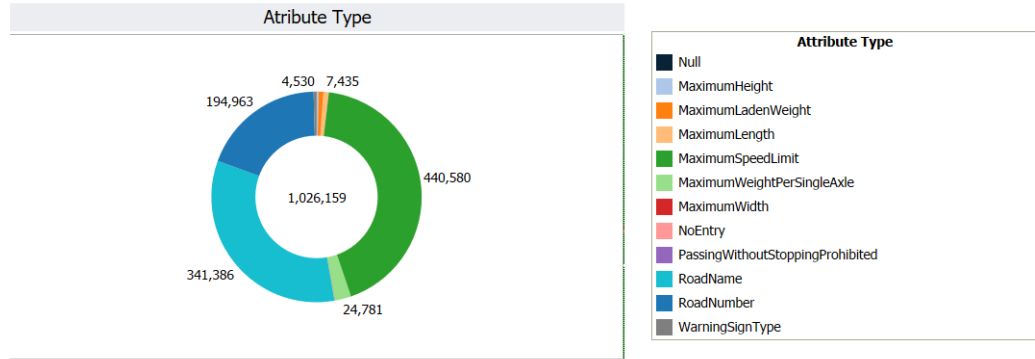
Suppliers activity type per week

Published Date / Published Week

2017 | 2018

| January | February | March | April | May | June | July | August | September | October | November | December | January | February |

Number of Records

100K
80K
60K
40K
20K
0K

1 2 3 4 5 6 7 8 9 9 10 11 12 13 13 14 15 16 17 18 19 20 21 22 22 23 24 25 26 26 27 28 29 30 31 31 32 33 34 35 36 37 38 39 39 40 41 42 43 44 44 45 46 47 48 48 49 50 51 52 1 2 3 4 5 6 7 8

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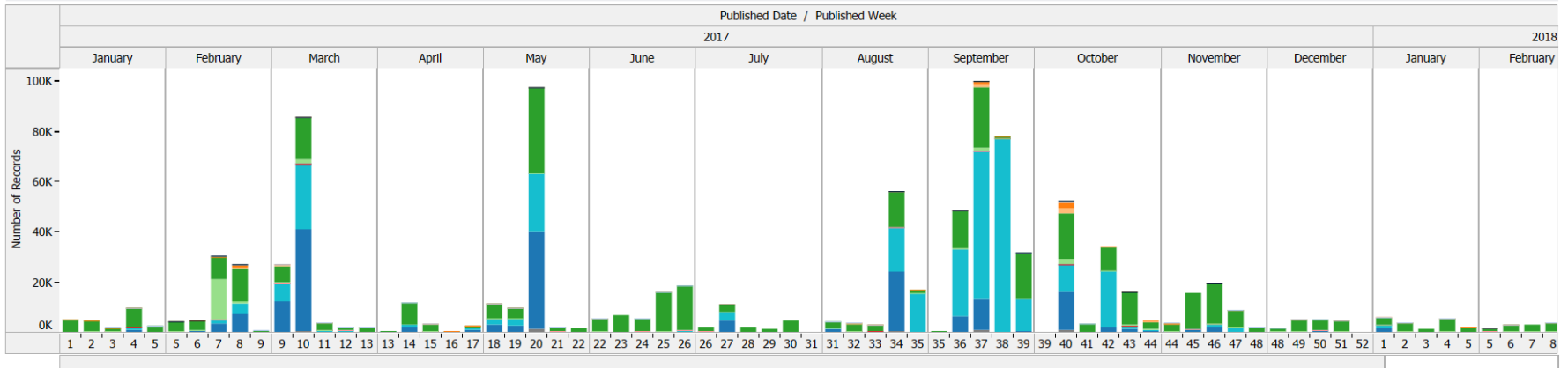
Map Data Exchange

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Map Update Exchange

**A reference interface
for European road data updates**

TN-ITS GO : further deployment in EU

Map Data Exchange

- CEF MOVE/B4-2017-63 2M€ Grant

- New TN-ITS services in nine MS
  - **Cyprus, Greece, Portugal, Spain, The Netherlands, Estonia, Lithuania**

- Service improvement in five existing implementations
  - **UK, Ireland, Flanders, Finland, France**
  - Current Pilot services to become fully operational
  - Feedback loop from Map Makers
  - New features and increased coverage

- Minimum coverage TEN-T network, more expected!

- Start Jan 2018 – 4 Years

Map Data Exchange

- Conducted by Ordnance Survey and GeoPlace on behalf of DfT

- Permanent TRO data from Highways Authorities for speed & vehicle restrictions features, supplemented with TRO data from OS Highways with vehicle restrictions.

- Sample data was converted using TN-ITS specification and publish through an API.

Key conclusions from this project:

- Highways Authorities' processes to create and manage TROs are not consistent

- Data is not captured digitally & not captured consistently

- There is no central repository

- Any solution must be scalable and flexible

TN-ITS GO
Map Data Exchange

Map Data Exchange

UK next steps

- Conduct a full investigation into the current methods and processes used by Highways Authorities across the UK in the management of TROs.

- Initiate collaboration to develop & deploy a consistent process to create, record, manage and publish TROs that is well defined within the legal process.

- Work with relevant parties to develop & implement the most appropriate standards and protocols for the capture, maintenance and of TRO data.

- Review the feedback from the data receivers about the API service and data itself to ensure that the information published is as appropriate as possible.

TN-ITS **GO**
Map Data Exchange

TN-ITS Benefits

Map Data Exchange

- M2M sharing of road data changes to improve Road Safety and Environmental

- Implementation support: documention & software tools

- Approved Technical Standard (CEN Technical Specification)

- Experience and lessons learned: eg. Finland: service deployed in 6 months, software in Github, data under OD license)

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Overview of "Phase 1" Features

Map Data Exchange

Phase 1 'Safety' Feature	Type	Finland	Norway	Sweden
RestrictionForVehicles	MaximumHeight	x	x	x
	MaximumLadenWeight	x	x	x
	MaximumLength	x	x	
	MaximumWeightPerSingleAxle	x	x	x
	MaximumWidth	x		
RoadName	Name	x	x	x
Road Number	Number		x	x
SpeedLimit	MaximumSpeedLimit	x	x	x
PassingWithoutStoppingProhibited				
WarningSign	WarningSignType		x	
	Dangerous curve		x	
NoEntry				x
Stop sign		x		x

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Map Data Exchange

TN-ITS GO: Relevant for UK

Map Data Exchange

UK phase 1 summary

- Conducted by Ordnance Survey and GeoPlace on behalf of DfT

- Obtained permanent TRO data from Highways Authorities for features such as speed restrictions and vehicle restrictions. Supplement TRO data with vehicle restrictions from OS Highways.

- Convert data into Rosatte specification.

- Publish the data through an API.

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Map Data Exchange

UK phase 1 summary

Five key conclusions can be identified from this project:

- Processes to create and manage TROs are not consistent

- Data is not captured digitally

- Data is not captured consistently

- There is no central repository

- Any solution must be scalable and flexible

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Map Data Exchange

TN-ITS GO: Relevant for UK

Map Data Exchange

UK next steps

- Conduct a full investigation into the current methods and processes used by Highways Authorities across the UK in the management of TROs.

- Initiate collaboration to develop a consistent process to create, record, manage and publish TROs that is well defined within the legal process.

- Work with interested parties to develop the most appropriate standards and protocols for the capture, maintenance and of TRO data.

- Review the feedback from the data receivers about the API service and data itself to ensure that the information published is as appropriate as possible.

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