



EU developments in Intelligent Transport Systems

**Intelligent transport systems
from science to policy and from policy to real world
3rd CISMOB Thematic Conference (Aveiro)**

**7th of March 2018
Pedro.BARRADAS@ec.europa.eu
European Commission - DG MOVE**



DATA

*'is changing the transport DNA,
unlocking opportunities to achieve a more
intelligent, safer, cleaner transport
and have a more efficient transport system.'*

Digitalisation *the 4th Industrial Revolution*

ITS Action Plan



Area 1

Optimal Use of Road, Traffic & Travel Data

EU-wide real time travel information

Collection & provision of road data

Accurate public data for digital maps

Free minimum information service

Promotion of multi-modal journey planners

Area 2

Continuity of Traffic & Freight Management

Continuity of ITS services

Services for freight transport & logistics

European ITS Framework architecture

Interoperability of electronic toll systems

Area 3

Road Safety and Security

Promotion of in-vehicle safety systems

Introduction of Europe-wide eCall

Regulatory Framework on HMI

Guidelines: Impact on Vulnerable road users

Guidelines: Secure parking places for trucks

Area 4

Integration of Vehicle & Transport Infrastructure

Open in-vehicle Platform architecture

Development & evaluation of coop. systems

Specifications for V2X, I2X communication

Mandate for European standardisation

Area 5

Data Protection & Liability

Security & data protection

Addressing liability, esp. in-vehicle safety systems

Area 6

European ITS Coordination

Legal framework for EU ITS cooperation

Decision support toolkit for ITS investments

Guidelines for public funding for ITS

Collaboration platform on urban ITS

Priority Areas



ITS Directive (2010/40/EU)

Supporting Framework and Enabling Conditions

Data sharing mechanisms

Data interoperability

Data format

**Optimal Use of Road,
Traffic and Travel Data**

**Road Safety
and Security**

Quality framework

**Interoperability and
continuity of services**

**Continuity of
Traffic and
Freight Management**

**Linking Vehicle and
Transport Infrastructure**

**National
Access
Point**

Specifications



Priority Action (a)

Adopted

- EU-wide **multimodal travel information** services

Priority Action (b)

Adopted

- EU-wide **real-time traffic information** services

Priority Action (c)

Adopted

- Road **safety related minimum universal traffic information** free of charge to users

Priority Action (d)

Adopted

- the Interoperable EU-wide **eCall**

Priority Action (e)

Adopted

- **Information** services for **safe and secure parking** places for trucks and commercial vehicles

Priority Action (f)

On hold

- **Reservation** services for **safe and secure parking** places for trucks and commercial vehicles



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Report on the Status of the NAP's

National Access Point definitions across the Delegated Acts.

- 'access point' means a digital point of access where the **information on parking places** is collected, processed, and made available to be disseminated. These points of access will provide the possibility to **disseminate the information services across borders**;
(as in DR No885/2013)
- 'access point' means a digital point of access where the road **safety-related traffic data** necessary for generating the road safety-related minimum universal traffic information are **collected, formatted, and made available for exchange and reuse**;
(as in DR No886/2013)

Report on the Status of the NAP's

National Access Point definitions across the Delegated Acts.

- 'access point' means a digital interface where the **static road data, dynamic road status data and traffic data**, together with the corresponding metadata are made accessible for re-use to users, or where the sources and metadata of these data are **made accessible for re-use to users**;
(as in DR No962/2015)
- 'access point' means a digital interface where at least the **static travel and historic traffic data** together with the corresponding metadata are made accessible for reuse to users, or where the sources and metadata of these data are **made accessible for reuse to users**;
(as in DR No1926/2017)

Report on the Status of the NAP's

National Access Point definitions across the Delegated Acts.



- **National Access Points** – A mechanism for accessing, exchanging and reusing transport related data
- To **establish a digital layer** interlinking all of the elements of transport. Building up this Digital Architecture involves open and common standards and interfaces and an efficient, but secure data ecosystem.
- This is why Member States are setting up their National Access Points; to facilitate access, easy exchange and reuse of transport related data, in order to **help support the provision of EU-wide interoperable travel and traffic services to end users.**

Transport Architecture

NETWORKS

SERVICES/SOLUTIONS

APPLICATIONS

DATA

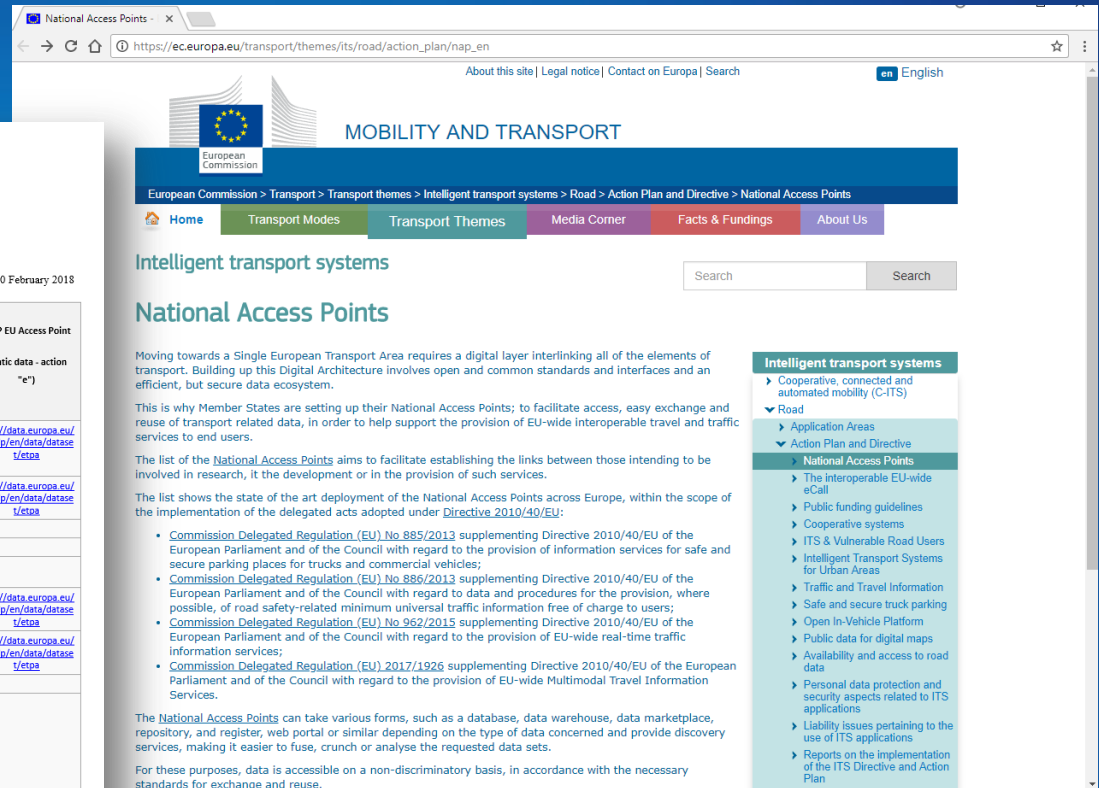
INFRASTRUCTURE

Report on the Status of the NAP's

Published on the 20th February 2018


National Access Points
20 February 2018

Country name	MMTIS National Access Point (action "a") – *based on info from CEF PSA	RTTI National Access Point (action "b")	SRTI National Access Point (action "c")	SSTP National Access Point (action "e")	SSTP EU Access Point (static data - action "e")
Austria	http://www.mobilitaet-sdaten.gv.at/ http://www.mobilitaet-sdaten.gv.at/	http://www.mobilitaet-sdaten.gv.at/ http://www.mobilitaet-sdaten.gv.at/	http://www.mobilitaet-sdaten.gv.at/ http://www.mobilitaet-sdaten.gv.at/	http://www.mobilitaet-sdaten.gv.at/ http://www.mobilitaet-sdaten.gv.at/	http://data.europa.eu/euodp/en/data/database/1/etpa
Belgium	Work in progress			http://data.its.be/	http://data.europa.eu/euodp/en/data/database/1/etpa
Bulgaria					
Croatia	Work in progress				
Cyprus		www.traffic4cyprus.org.cy/	www.traffic4cyprus.org.cy/		
Czech Republic		http://registr.dopravnii.info.cz/en/	http://registr.dopravnii.info.cz/en/		http://data.europa.eu/euodp/en/data/database/1/etpa
Denmark		https://nap.vd.dk/	https://nap.vd.dk/	Dynamic data	http://data.europa.eu/euodp/en/data/database/1/etpa
Estonia					
Finland	https://github.com/finnishtransportagency/mto-national-access-points	http://www.liikennevirasto.fi/web/en/open-data/digitalroad www.digitraffic.fi	www.digitraffic.fi	https://github.com/finnishtransportagency/digitraffic/wiki	
France	Work in progress	http://www.bison-fute.eouv.fr/action-b.html	http://www.bison-fute.eouv.fr/action-c.html	http://www.bison-fute.eouv.fr/action-e.html	
Germany	https://service.mdm-portal.de/	https://service.mdm-portal.de/	https://service.mdm-portal.de/	https://service.mdm-portal.de/	http://data.europa.eu/euodp/en/data/database/1/etpa
Greece					



The screenshot shows the European Commission website page for 'National Access Points'. The page is titled 'MOBILITY AND TRANSPORT' and is part of the 'Intelligent transport systems' section. It includes a navigation menu with 'Home', 'Transport Modes', 'Transport Themes', 'Media Corner', 'Facts & Fundings', and 'About Us'. The main content area is titled 'National Access Points' and contains the following text:

Moving towards a Single European Transport Area requires a digital layer interlinking all of the elements of transport. Building up this Digital Architecture involves open and common standards and interfaces and an efficient, but secure data ecosystem.

This is why Member States are setting up their National Access Points; to facilitate access, easy exchange and reuse of transport related data, in order to help support the provision of EU-wide interoperable travel and traffic services to end users.

The list of the **National Access Points** aims to facilitate establishing the links between those intending to be involved in research, in the development or in the provision of such services.

The list shows the state of the art deployment of the National Access Points across Europe, within the scope of the implementation of the delegated acts adopted under **Directive 2010/40/EU**:

- **Commission Delegated Regulation (EU) No 885/2013** supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the provision of information services for safe and secure parking places for trucks and commercial vehicles;
- **Commission Delegated Regulation (EU) No 886/2013** supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to data and procedures for the provision, where possible, of road safety-related minimum universal traffic information free of charge to users;
- **Commission Delegated Regulation (EU) No 962/2015** supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the provision of EU-wide real-time traffic information services;
- **Commission Delegated Regulation (EU) 2017/1926** supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the provision of EU-wide Multimodal Travel Information Services.

The **National Access Points** can take various forms, such as a database, data warehouse, data marketplace, repository, and register, web portal or similar depending on the type of data concerned and provide discovery services, making it easier to fuse, crunch or analyse the requested data sets.

For these purposes, data is accessible on a non-discriminatory basis, in accordance with the necessary standards for exchange and reuse.

On the right side of the page, there is a sidebar titled 'Intelligent transport systems' with a list of links:

- ▶ Cooperative, connected and automated mobility (C-ITS)
- ▼ Road
 - ▶ Application Areas
 - ▶ Action Plan and Directive
 - ▶ National Access Points
 - ▶ The interoperable EU-wide eCall
 - ▶ Public funding guidelines
 - ▶ Cooperative systems
 - ▶ ITS & Vulnerable Road Users
 - ▶ Intelligent Transport Systems for Urban Areas
 - ▶ Traffic and Travel Information
 - ▶ Safe and secure truck parking
 - ▶ Open In-Vehicle Platform
 - ▶ Public data for digital maps
 - ▶ Availability and access to road data
 - ▶ Personal data protection and security aspects related to ITS applications
 - ▶ Liability issues pertaining to the use of ITS applications
 - ▶ Reports on the Implementation of the ITS Directive and Action Plan

https://ec.europa.eu/transport/themes/its/road/action_plan/nap_en

'C' – Road Safety

Traffic Info

- The events or conditions covered :
 - (a)temporary slippery road;
 - (b)animal, people, obstacles, debris on the road;
 - (c)unprotected accident area;
 - (d)short-term road works;
 - (e)reduced visibility;
 - (f>wrong-way driver;
 - (g)unmanaged blockage of a road;
 - (h)exceptional weather conditions.
- The information provided on the road safety-related events or conditions shall include the following items:
 - (a)location of the event or the condition;
 - (b)the category of event or condition and, where appropriate, short description of it;
 - (c)driving behaviour advice, where appropriate.

'B' – Real Time Traffic information

Static road data	Dynamic road status data	Traffic data
Road network links and physical attributes (e.g. geometry, road width, number of lanes, gradients, junctions)	Road / lane / bridge closures, Accidents, Incidents	Traffic volume
Road classification	Overtaking bans on HGV	Speed
Traffic signs on traffic regulations and dangers (e.g. access conditions for tunnels / bridges, permanent access restrictions, other)	Road works, Poor pavement conditions	Location and length of queues, Travel times
Speed limits	Dynamic speed limits	Waiting time at border crossings to non-EU countries
Freight delivery regulations, Traffic circulation plans	Temporary traffic management measures	
Location of tolling stations	Direction of travel on reversible lanes	
Tolled roads, fixed RUC, payment methods	Variable RUC, payment methods	
Location of parking places / service areas	Availability of parking places, cost of parking	
Location of charging points for EV and conditions of use	Availability of charging points for EV	
Location of CNG / LNG / LPG stations	Availability of delivery areas	
Location of public transport stops and interchange points	Weather conditions affecting road surface and visibility	
Location of delivery areas		

'A' – Multi Modal Travel Info Services

Group 1 static data

Address identifiers, points of interests, access nodes, geometry of access nodes, network topology, timetables, accessibility information, road/cycle/pedestrian network etc.

Group 2 static data

Car-sharing, bike-sharing stations, refuelling points, bike parking, basic ticket information etc.

Group 3 static data

Detailed cycle network attributes and estimated travel times by day type and time-band etc.

[Group 1 dynamic data

Disruptions, real-time status information - delays, cancellations, guaranteed connections monitoring, status of access nodes (platform information, operational lifts/escalators, closed entrances and exit locations)

Group 2 dynamic data

Car-sharing availability, bike sharing availability etc.

At discretion of M.S.

Group 3 dynamic data

Car parking spaces (on-street) etc.



Contents		page
	<i>II Non-legislative acts</i>	
	REGULATIONS	
	* Commission Delegated Regulation (EU) 2017/1926 of 31 May 2017 supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the provision of EU-wide multimodal travel information services ⁽¹⁾	1
	* Commission Implementing Regulation (EU) 2017/1927 of 16 October 2017 approving amendments to the specification for a Protected Designation of Origin or a Protected Geographical Indication (Méntrida (PDO))	14
	* Commission Implementing Regulation (EU) 2017/1928 of 20 October 2017 entering a name in the register of protected designations of origin and protected geographical indications (Kintoa (PDO))	15
	DECISIONS	
	* Council Decision (EU) 2017/1929 of 17 October 2017 appointing a member and an alternate member, proposed by the Federal Republic of Germany, of the Committee of the Regions	17
	* Commission Implementing Decision (EU) 2017/1930 of 20 October 2017 amending the Annex to Implementing Decision (EU) 2017/247 on protective measures in relation to outbreaks of the highly pathogenic avian influenza in certain Member States (notified under document C(2017) 7173) ⁽¹⁾	18

Became
official EU
Law on 21st
October
2017

⁽¹⁾ Text with EEA
relevance.

EN

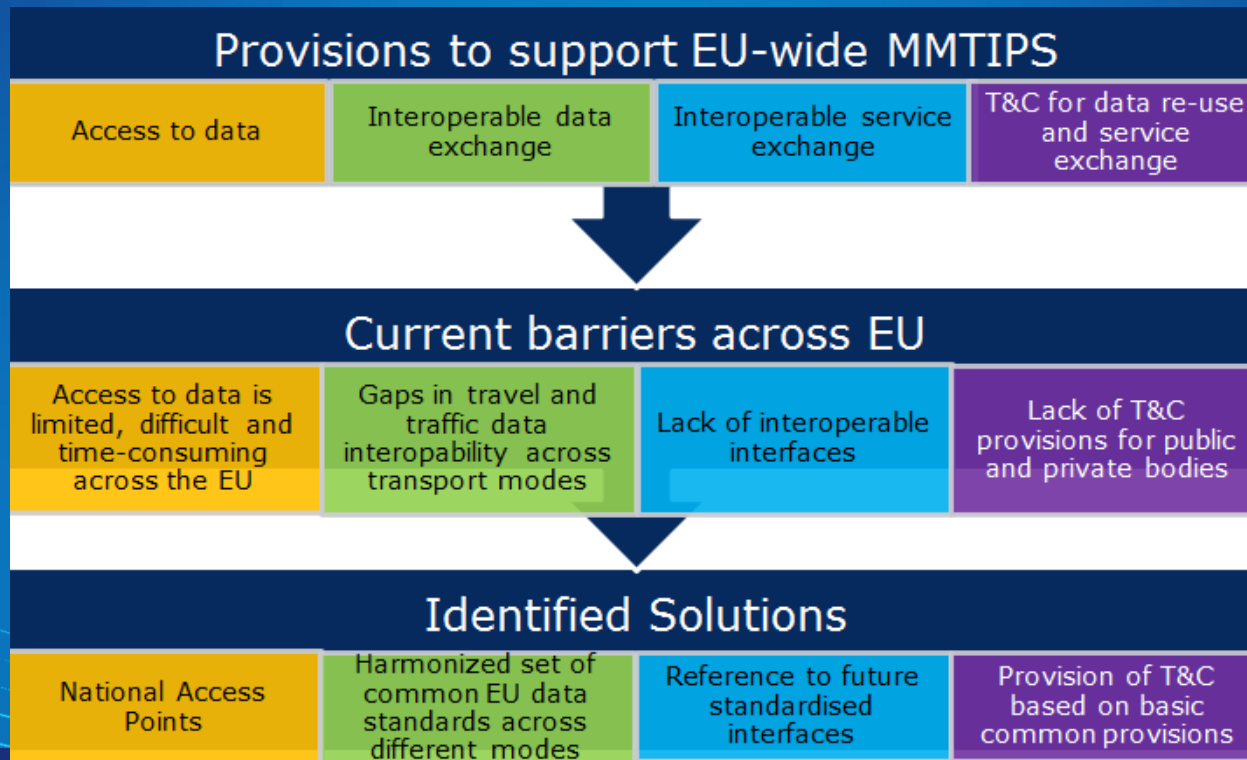
Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period.

The titles of all other Acts are printed in bold type and preceded by an asterisk.

'A' – Multi Modal Travel Info Services



from science to policy and from policy to real world
specifications to support the provision of EU-wide multimodal
travel information services



'A' – Multi Modal Travel Info Services



WHAT: Access and exchange of least STATIC Public and Private Travel and Traffic Data for Travel PLANNING across all modes

HOW (1): via **National Access Points (NAP)** in phased implementation - MS to determine shape/form of NAP

HOW (2) Standardised Travel and Traffic Data in NAP – harmonised set across different modes.
Use of translators possible

HOW (3) Use via **licence agreements**, harmonised set of **terms and conditions**, quality criteria



What?



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'A' – Multi Modal Travel Info Services



Static Dataset	Comprehensive TEN-T incl. Urban Nodes	Other parts of the network
Timetables, access nodes, accessibility PRM, network topology etc.	2019	2023
Bike-sharing & car-sharing stations, vehicle facilities, basic common standard fares, how and where to buy tickets etc.	2020	
Detailed cycling network attributes, estimated travel times etc.	2021	

Dynamic data – if MS choose to include dynamic data in the NAP, they are encouraged to follow the above timeframe

'A' – Multi Modal Travel Info Services



WHAT: Access and exchange of least STATIC Public and Private Travel and Traffic Data for Travel PLANNING across all modes

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HOW (3) Use via licence agreements, harmonised set of **terms and conditions, quality criteria**



How? (1)



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'A' – Multi Modal Travel Info Services



National Access Point

Type	Features	Examples
Database	A single organised collection of data held on a common media/set of server	Rejseplanen, DK
Data warehouse	A virtually co-located set of databases	National Data Warehouse, NL
Data marketplace	A platform for connecting data providers and data consumers. Brokerage function.	Mobility Data Marketplace, DE
Data register	a national registry pointing towards the different data sources (i.e. data owners' access points, websites, datasets, databases) provided that : (1) the information is digitised, (2) the data are in the right format, up to date and ready for re-use, (3) the path towards the data sources is self- explanatory.	data.gov.uk mobilitydata.gov.at

'A' – Multi Modal Travel Info Services



WHAT: Access and exchange of least STATIC Public and Private Travel and Traffic Data for Travel PLANNING across all modes

HOW (1): via **National Access Points (NAP)** in phased implementation - MS to determine shape/form of NAP

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HOW (3) Use via licence agreements, harmonised set of **terms and conditions, quality criteria**



How? (2)



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'A' – Multi Modal Travel Info Services



WHAT: Access and exchange of least STATIC Public and Private Travel and Traffic Data for Travel PLANNING across all modes

HOW (1): via **National Access Points (NAP)** in phased implementation - MS to determine shape/form of NAP

HOW (2) Standardised Travel and Traffic Data in NAP – harmonised set across different modes. Use of translators possible

HOW (3) Use via licence agreements, harmonised set of terms and conditions, quality criteria



How? (3)



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'A' – Multi Modal Travel Info Services



WHAT: Access and exchange of least STATIC Public and Private Travel and Traffic Data for Travel PLANNING across all modes

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HOW (3) Use via licence agreements, harmonised set of **terms and conditions, quality criteria**

Priority Action A is not just about DATA but also about SERVICES



WHAT: Push for Distributed Journey Planning across EU via linking local, regional and national services where there is a demand

HOW: Recommended use of European standardised interface, defined 'handover points' and contractual agreements



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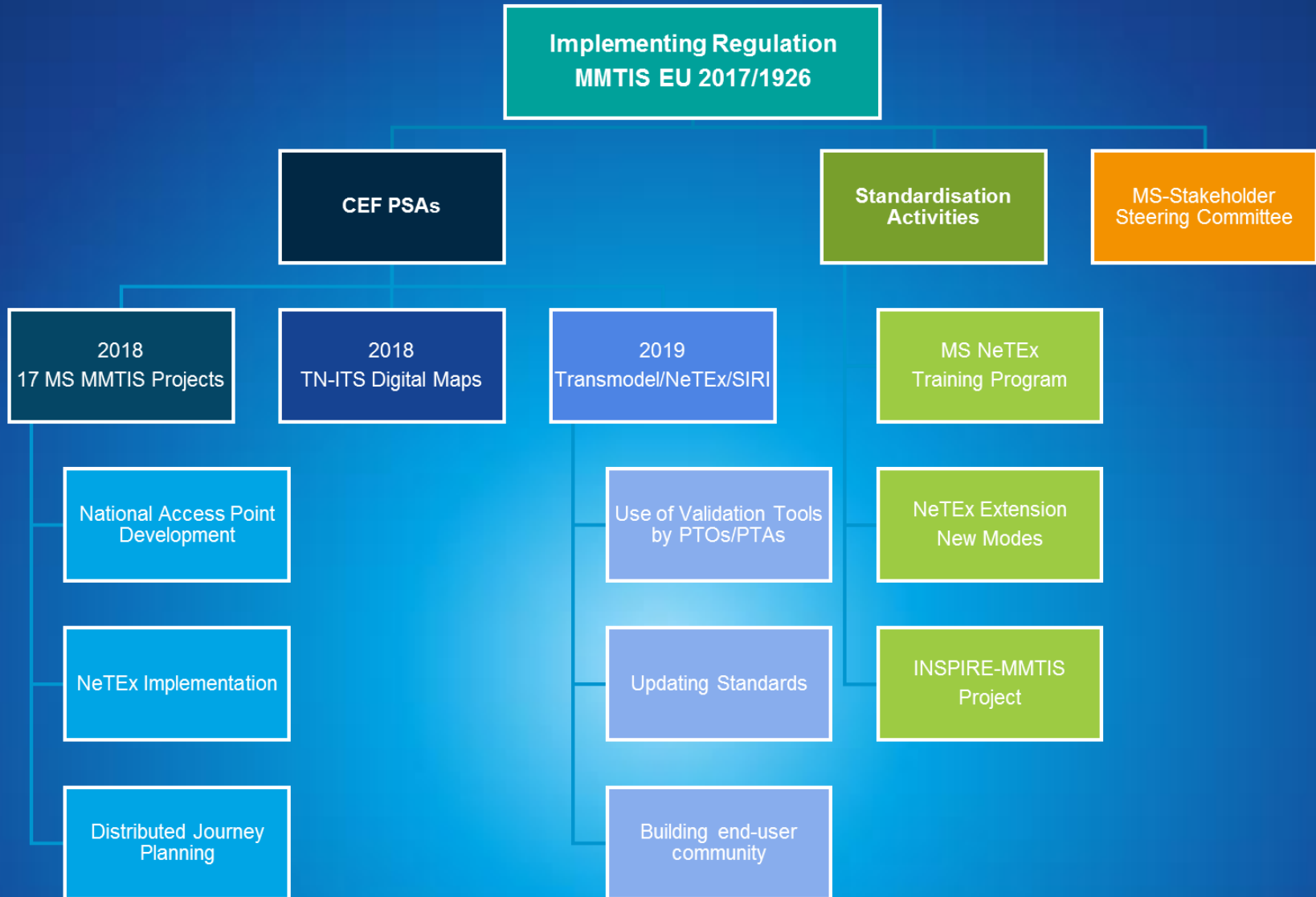
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Supporting Implementation



- Public-Private Collaboration
- Functional, Technical and Organisational Assistance
- Phased Approach

'A' – Multi Modal Travel Info Services



'A' – Multi Modal Travel Info Services



European
Commission

Implementing Regulation MMTIS EU 2017/1926

CEF PSAs

Standardisation
Activities

MS-Stakeholder
Steering Committee

2018
17 MS MMTIS Projects

2018
TN-ITS Digital Maps

2019
Transmodel/NeTEx/SIRI

MS NeTEx
Training Program

National Access Point
Development

NeTEx Implementation

Distributed Journey
Planning

Use of Validation Tools
by PTOs/PTAs

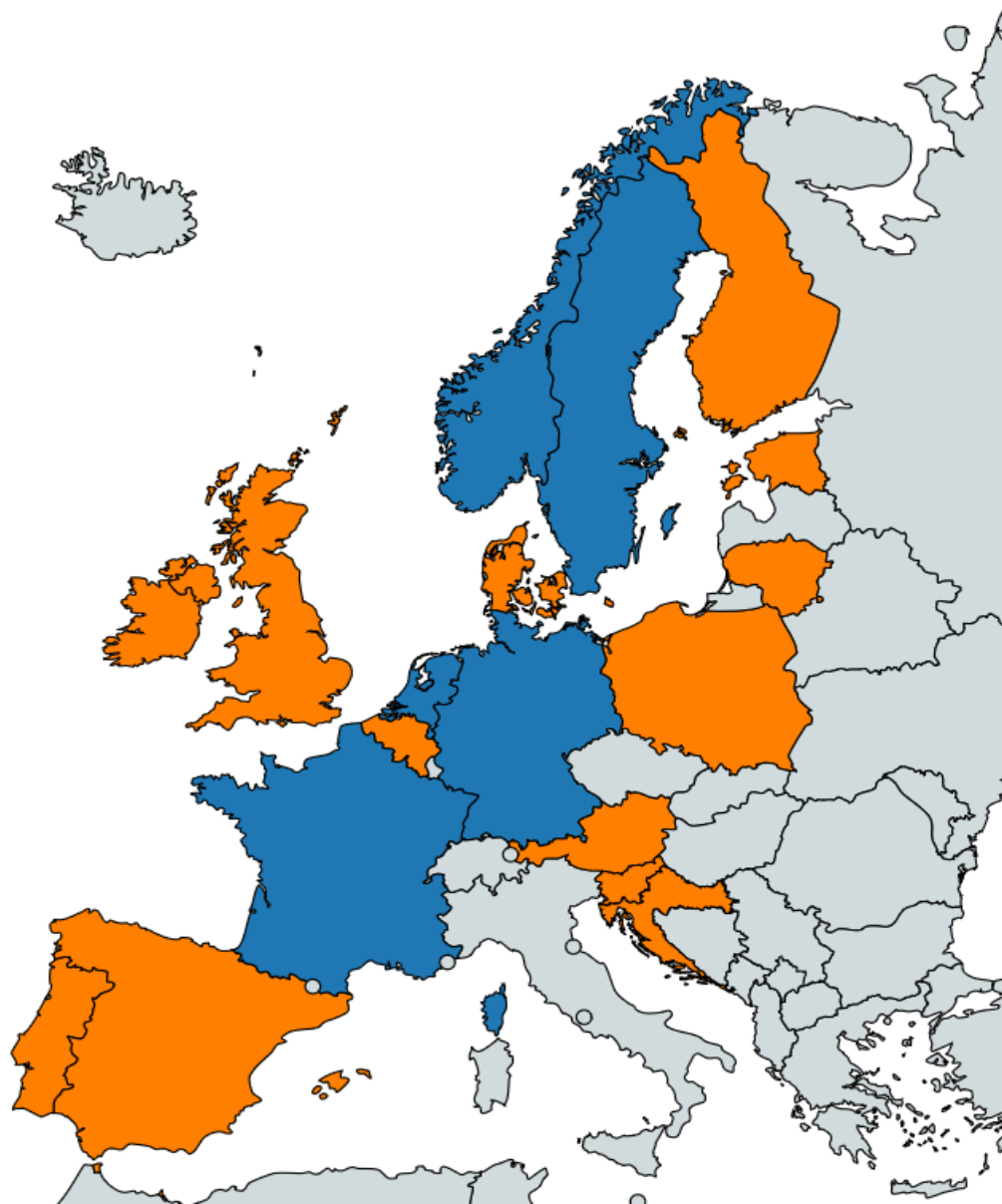
Updating Standards

Building end-user
community

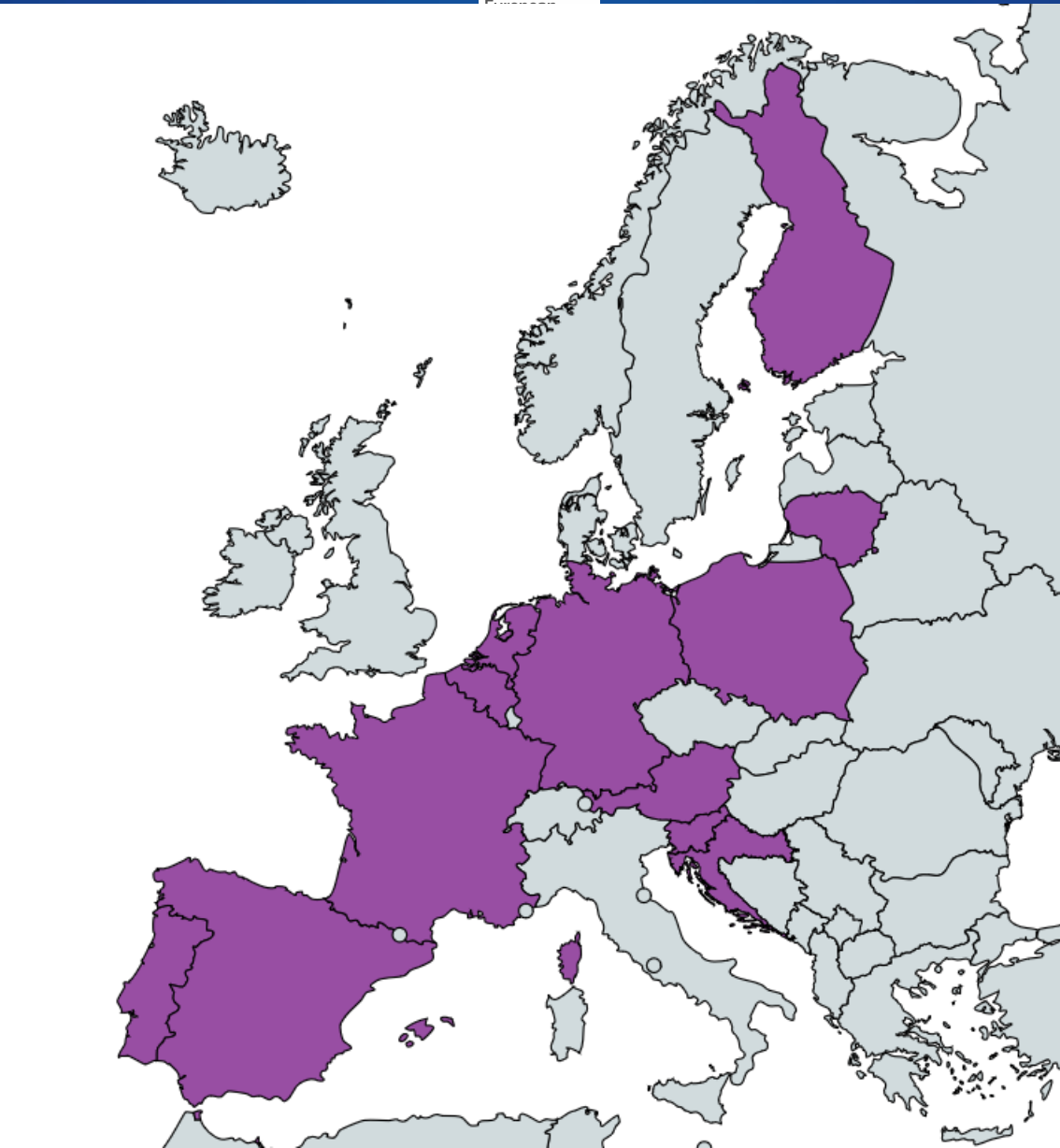
NeTEx Extension
New Modes

INSPIRE-MMTIS
Project

National NeTex Profiles



National Access Points



Distributed Journey Planning



Get engaged!



More Information

Directorate-General for Mobility and Transport:

http://ec.europa.eu/transport/index_en.htm

ITS Action Plan and Directive:

http://ec.europa.eu/transport/its/road/action_plan_en.htm

Cooperative, connected and automated mobility (C-ITS):

https://ec.europa.eu/transport/themes/its/c-its_en



Thank you for your attention!

Pedro BARRADAS

Pedro.BARRADAS@ec.europa.eu

European Commission - DG MOVE

B.4: Sustainable & Intelligent Transport



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