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# Implementation of the ITS Directive

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# Agenda

- ITS Directive – 2010/40/EU – Member State Obligations
- Scenarios for implementing National Access Points across Europe
- Implementation in Austria
- Discussion

# ITS Directive – 2010/40/EU – Member State Obligations



## ITS Directive 2010/40/EU

Defines 6 Priority Actions „for the development and use of specifications and standards“:

- a) The provision of EU-wide **multimodal travel information** services
- b) The provision of EU-wide **real-time traffic information** services
- c) Data and procedures for the provision, where possible, of road **safety related** minimum universal **traffic information** free of charge to users
- d) The harmonised provision for an interoperable EU-wide **eCall**
- e) The provision of **information services for safe and secure parking places for trucks** and commercial vehicles
- f) The provision of **reservation services for safe and secure parking places for trucks** and commercial vehicles

## ITS Directive 2010/40/EU

Priority Action	Description	Status
a	The provision of EU-wide multimodal travel information services	Expected for 2016
b	The provision of EU-wide real-time traffic information services	Delegated Regulation expected by End of June 2016
c	Data and procedures for the provision, where possible, of road safety related minimum universal traffic information free of charge to users	Delegated Regulation No 886/2013
d	The harmonised provision for an interoperable EU-wide eCall	Delegated Regulation No 305/2013
e	The provision of information services for safe and secure parking places for trucks and commercial vehicles	Delegated Regulation No 885/2013
f	The provision of reservation services for safe and secure parking places for trucks and commercial vehicles	On ice

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# Priority Action c – safety related traffic information

- Covers TERN
- Definition of 8 categories:
  - Temporary slippery road
  - Animal, people, obstacles, debris on the road
  - Unprotected accident area
  - Short-term road works
  - Reduced visibility
  - Wrong-way driver
  - Unmanaged blockage of a road
  - Exceptional weather conditions
- Information content:
  - Location
  - Category
  - Driving behaviour advice, where appropriate

## Priority Action c – safety related traffic information

- MS shall **designate sections** of the TERN where traffic and safety conditions require the deployment of the road safety-related service
- Public and/or private road operators and/or service providers shall **share and exchange the data** they collect. For that purpose, they shall make these data available in the **DATEX II** (CEN/TS 16157) format or any fully compatible and interoperable with DATEX II machine-readable format through an access point.
- **Member States shall manage a national access point** to the data referred to, which regroups the access points established by public and/or private road operators and/or service providers operating on their territory.
- These data shall be **accessible for exchange and reuse by any user**:
  - on a non-discriminatory basis;
  - within the Union irrespective of the Member State of establishment;
  - in accordance with access rights and procedures defined in Directive 2003/98/EC (PSI Directive);
  - within a timeframe that ensures the timely provision of the information service;
  - through the national access point
- Public and private road operators and service providers shall ensure the **timely renewal and quality of data** made available through their access point.



## Priority Action c – safety related traffic information

- Public road operators, service providers and broadcasters shall provide road safety-related minimum universal traffic information to end users **prior to the provision of any other** non-safety-related traffic **information**.
- Public and private road operators and service providers shall collaborate to **harmonise the presentation** of the content of the information provided to end users. They shall **inform end users** of the existence of the information service and its coverage.
- Member States shall designate an **impartial and independent national body** competent to assess whether the requirements set out in Articles 3 to 8 are fulfilled by public and private road operators and service providers and broadcasters dedicated to traffic information. Two or more Member States may designate a common body competent to assess compliance with these requirements on their territories.
- Public and private road operators, service providers and broadcasters dedicated to traffic information shall provide the designated national bodies with their identification details and a description of the information service they provide, and submit a **declaration of compliance** with the requirements set out in Articles 3 to 8.
- The designated **national bodies shall randomly inspect the correctness of the declarations** of a number of public and private road operators, service providers and broadcasters dedicated to traffic information, and shall request proof of compliance.

## Priority Action c – safety related traffic information

- Member States shall communicate to the Commission no later than 12 months following the entry into force of this Regulation the following information:
  - the national body designated for the assessment of compliance with the requirements set out;
  - the description of the existing or envisaged national access point.
- At the latest 12 months following the entry into force of this Regulation and every calendar year thereafter, Member States shall communicate to the Commission the following information:
  - the progress they have made in implementing the information service, including the criteria used to define its level of quality and the means used to monitor its quality;
  - the results of the assessment of compliance with the requirements set out;
- with regard to the information service already deployed on the date of entry into force of this Regulation, it shall apply from 1 October 2015.

## Priority Action d – truck parking information

- Covers TERN
- Member States shall **designate areas** where traffic and security conditions require the deployment of information services on the safe and secure parking places.
- They shall also define **priority zones where dynamic information** will be provided.
- Data on safe and secure public and private parking areas describing the parking facility, to be provided to the users, shall be collected and supplied by **public or private parking operators and service providers**.
- Public or private parking operators and service providers shall **use DATEX II profiles** or other internationally compatible formats in order to ensure interoperability of the information services across the Union.
- Static data, safety equipment information, dynamic data
- Data shall be **accessible for exchange and reuse** by any public or private information service provider and/or parking operator on a non-discriminatory basis, and in accordance with access rights and procedures defined in Directive 2003/98/EC.
- **The static data shall be accessible through a national or international access point**

## Priority Action d – truck parking information

- **For dynamic data, Member States (or national authorities) shall be responsible for setting up and managing a central national or international point of access** referencing all individual single points of access of each truck parking operator and/or service provider on their territory in the interests of users.
- Member States shall designate a **national body** competent to assess whether the requirements set out are fulfilled by service providers, parking operators and road operators. This body shall be impartial and independent.
- **Two or more Member States may designate a common regional body** competent to assess compliance with those requirements on their territories.
- All **services providers shall submit a declaration** to the designated bodies on their compliance with the requirements set out
- Designated bodies shall randomly **inspect the correctness of the declarations** of a number of public and private service providers and parking operators, and request a demonstration of compliance. The **quality of the service may also be assessed** using user-generated comment.

## Priority Action d – truck parking information

- At the latest 12 months following the entry into force of this Regulation and every calendar year afterwards, Member States shall communicate the following information:
  - the number of different parking places and parking spaces on their territory;
  - the percentage of parking places registered in the information service;
  - the percentage of parking places providing dynamic information on the availability of parking spaces and the priority zones to the Commission.
  
- It shall apply:
  - from 1 October 2015 to the provision of services already deployed on the date of entry into force of this Regulation,
  - from 1 October 2013 to the provision of services to be deployed after the date of entry into force of this Regulation

## Priority Action b – real-time traffic information

- It shall apply to the **comprehensive TERN**, as well as **motorways** not included in this network, and **priority zones** identified by national authorities where they consider this to be relevant.

### **National access points**

- Each Member State shall set up a national access point. The national access point shall constitute a **single point of access for users to the road and traffic data, including data updates**, provided by the road authorities, road operators and service providers and concerning the territory of a given Member State.
- Existing national access points that have been set up to comply with the requirements arising from other delegated acts adopted under Directive 2010/40/EU may be used, if deemed appropriate by the Member States, as national access points.
- National access points shall provide appropriate **discovery services** to users.
- Road authorities and road operators, in cooperation with digital map producers and service providers, shall ensure that they **provide the appropriate metadata** in order to allow users to discover and use the datasets to which access is provided through the national access points.
- Two or more Member States may set up a common access point.

## Priority Action b – real-time traffic information

- road authorities and road operators shall provide the **static road data** they collect and update in a **standardised format**, if available, **or in any other machine readable format**.
- road authorities and road operators shall provide the **dynamic road status data** they collect and update in **DATEX II** format or any machine-readable format fully compatible and interoperable with DATEX II.
- road authorities and road operators shall provide the **traffic data** they collect and update in **DATEX II** format or any machine-readable format fully compatible and interoperable with DATEX II.

### Assessment of compliance

- **Member States shall assess** whether the requirements set out are **complied** with by the road authorities, road operators, digital map producers and service providers.
- In order to proceed to the assessment, the competent authorities of Member States may request from the road authorities, road operators, digital map producers and service providers the following documents:
  - a **description** of the road and traffic data, digital map or real-time traffic information services they provide as well as the information on the **quality** thereof and the **conditions of re-use** of these data;
  - an evidence-based **declaration of compliance** with the requirements set out in Articles 3 to 10.
- Member States shall randomly **check the correctness of the declarations** referred to.

# Priority Action b – real-time traffic information

## DATA CATEGORIES

▪ **The types of the static road data include in particular:**

- road network links and their physical attributes, such as:
  - geometry;
  - road width;
  - number of lanes;
  - gradients;
  - junctions;
- road classification;
- traffic signs reflecting traffic regulations and identifying dangers, such as:
  - access conditions for tunnels;
  - access conditions for bridges;
  - permanent access restrictions;
  - other traffic regulations;
- speed limits;
- traffic circulation plans;
- freight delivery regulations;
- location of tolling stations;
- identification of tolled roads, applicable fixed road user charges and available payment methods;
- location of parking places and service areas;
- location of charging points for electric vehicles and the conditions for their use;
- location of compressed natural gas, liquefied natural gas, liquefied petroleum gas stations;
- location of public transport stops and interchange points;
- location of delivery areas.



## Priority Action b – real-time traffic information

- **The types of the dynamic road status data include in particular:**
  - road closures;
  - lane closures;
  - bridge closures;
  - overtaking bans on heavy goods vehicles;
  - road works;
  - accidents and incidents;
  - dynamic speed limits;
  - direction of travel on reversible lanes;
  - poor road conditions;
  - temporary traffic management measures;
  - variable road user charges and available payment methods;
  - availability of parking places;
  - availability of delivery areas;
  - cost of parking;
  - availability of charging points for electric vehicles;
  - weather conditions affecting road surface and visibility.

Those short term data need not to be included in digital map updates as they shall not be considered as changes of a permanent nature.

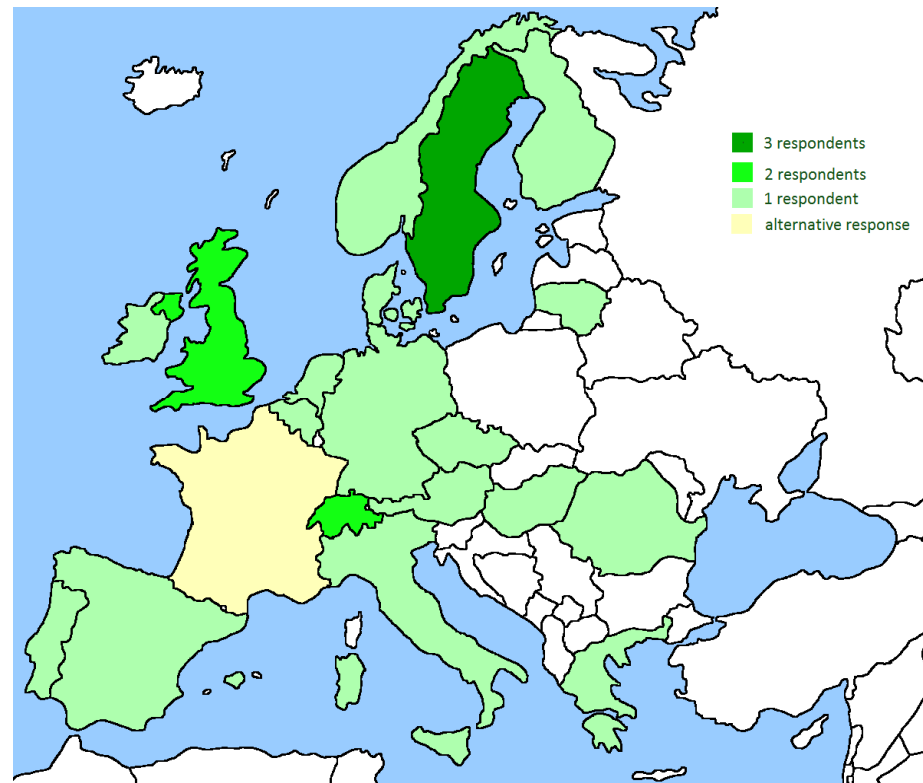
- **The types of the traffic data include in particular:**
  - traffic volume;
  - speed;
  - location and length of traffic queues;
  - travel times;
  - waiting time at border crossings to non-EU Member States.

# Scenarios for implementing National Access Points across Europe

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# EIP Questionnaire



# EIP Questionnaire

- Prio c

<b>Single point of access organisation</b>	Not important	Neutral	Important	Very important	N/A
Independent from other organisations	4	4	9	4	0
Available necessary budget	0	1	9	11	0
Available technical expertise - databases, datawarehouse, maintenance	2	2	3	14	0
Available technical expertise - DATEX II	3	1	3	14	0
Scalability	1	1	12	6	1
Public owned	3	6	7	5	0
Private owned	7	8	3	1	2
Fully dedicated (no other tasks)	10	7	4	0	0

<b>Audit/control organisation</b>	Not important	Neutral	Important	Very important	N/A
Independency	1	1	9	10	0
Impartial	1	1	6	13	0
Available necessary budget	0	1	12	8	0
Available technical expertise - databases, datawarehouse, maintenance	2	1	6	11	1
Available technical expertise - DATEX II	2	1	6	11	1
Expandable capacity	2	8	7	3	1
Public owned	2	8	6	4	1
Private owned	7	10	2	1	1
Fully dedicated	7	8	5	0	1

# EIP Questionnaire

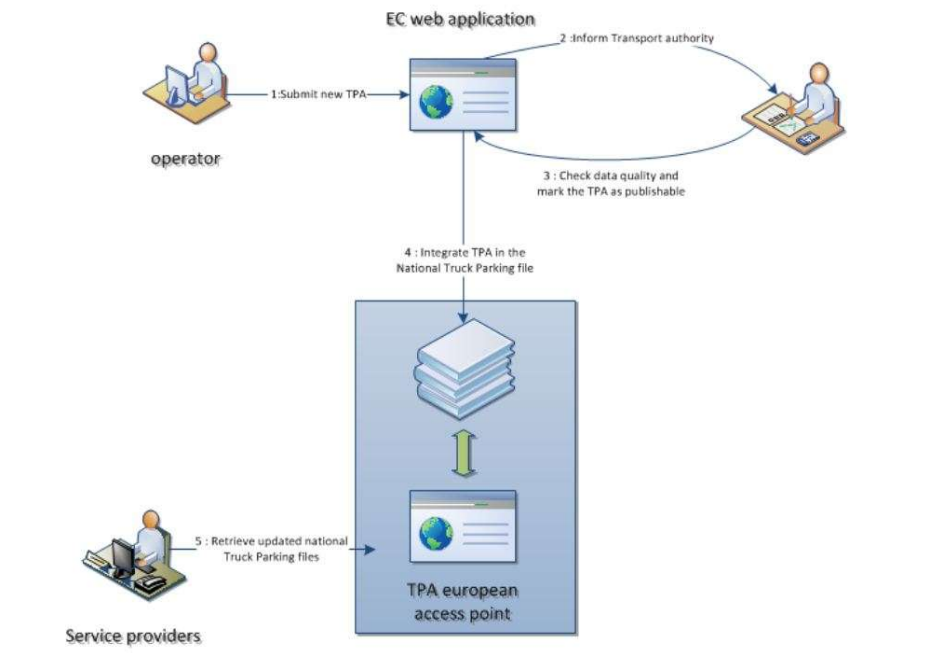
- **Priority**

<b>Single point of access organisation</b>	Not important	Neutral	Important	Very important	N/A
Independent from other organisations	3	7	5	4	2
Available necessary budget	0	2	7	10	2
Available technical expertise - databases, datawarehouse, maintenance	1	2	4	12	2
Available technical expertise - DATEX II	1	2	4	12	2
Scalability	1	7	7	3	2
Public owned	3	8	7	1	2
Private owned	3	10	4	0	4
Fully dedicated (no other tasks)	11	6	1	1	2

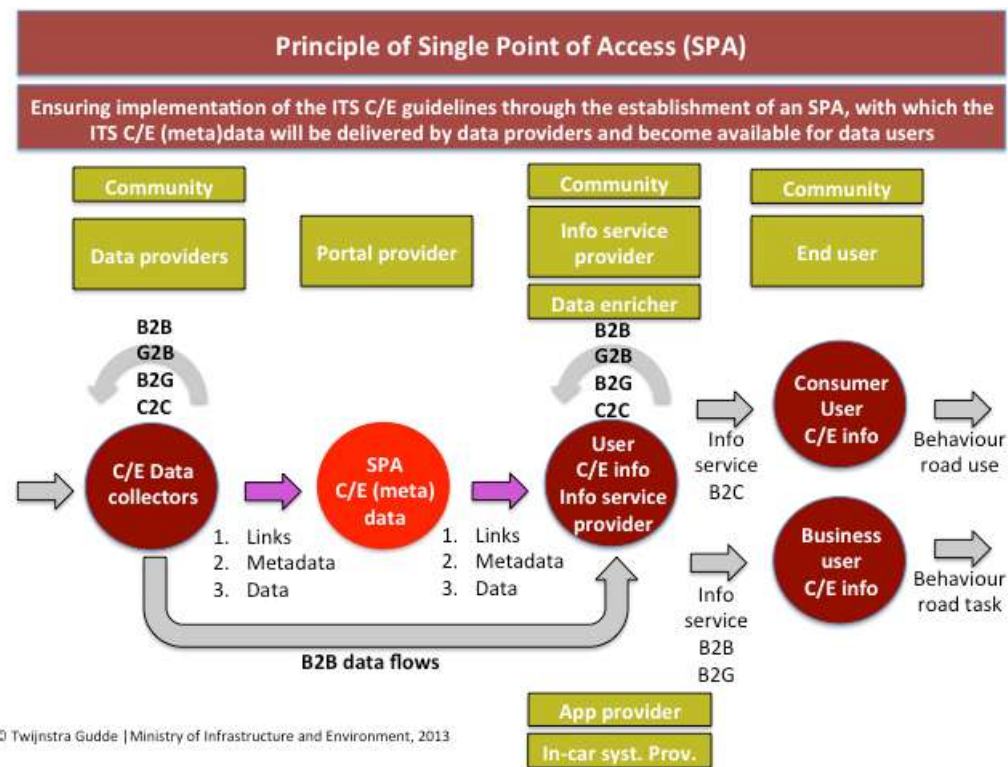
  

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Independency	0	0	11	8	2
Impartial	0	0	11	8	2
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Available technical expertise - DATEX II	0	1	6	11	2
Expandable capacity	0	5	10	3	2
Public owned	2	10	6	0	2
Private owned	3	12	3	0	3
Fully dedicated	4	10	3	1	2

# European Access Point for Static Parking



# General Principle of National Access Point - NL

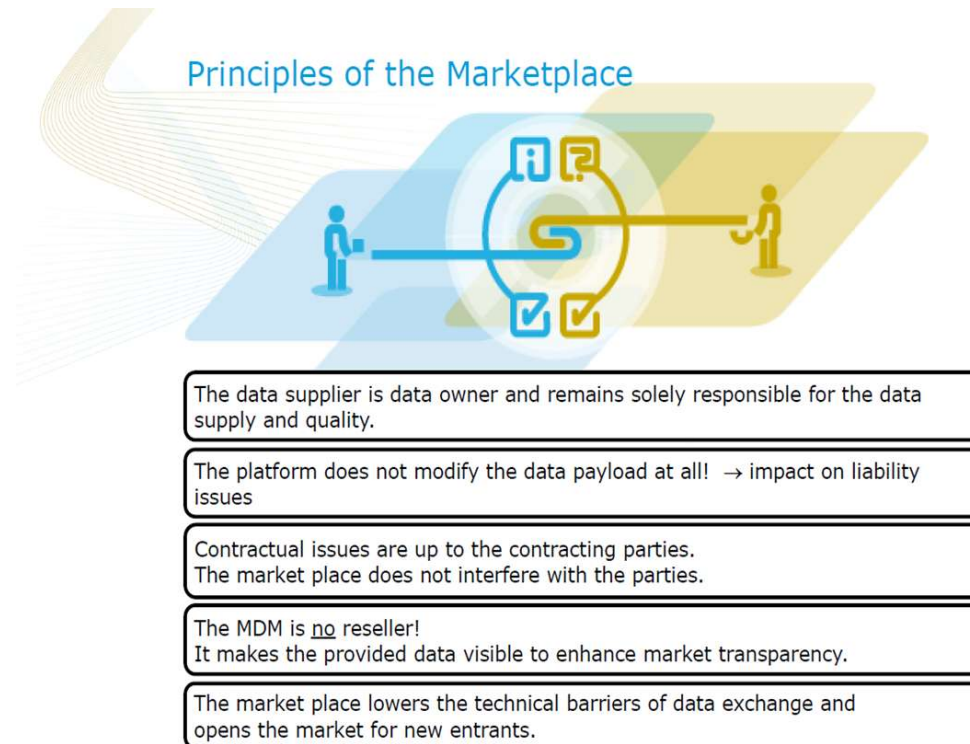


## Estimated Annual Costs of National Access Point - NL

	<b>Links (L)</b>	<b>L + MD (metadata)</b>	<b>L + MD + D (data)</b>
Hosting * TM SPA	€ 3.000 + 40h	€ 5.000 + 40h	€ 20.000 + 400h
Maintenance FM SPA	40h	60h	200h
Helpdesk customers	40h	120h	800h
Knowledge mngt. & representation	40h	80h	80h
SLA & contract mngt.	24h	24h	240h
F=12/jr signalling failures SPA	12h	8-12h	8-12h
# managed sets/items	<50	<50	<50
# providers	<50	<50	<50
# customers	<50	<50	<50
Total (estimate)	€ 18.000/year	€ 31.000/year	€ 151.000/year



# General Principle of National Access Point - GER



# Proposal for LoS service requirements for NAPs

Criteria	Type of SPA		
	Basic SPA: Website with links to data providers	Medium SPA: Website with links to data providers + meta data	Advanced SPA: Website with links to data providers + meta data + database
<b>Level of service of SPA: dependability requirements</b>			
Availability: readiness for correct service	Low	Medium	High*)
Reliability: continuity of correct service	Medium	Medium	High*)
Integrity: absence of improper system alterations	Medium	Medium	High*)
Maintainability: ability to undergo modifications and repairs	Medium	Medium	High*)
<b>Level of service of SPA: performance requirements</b>			
Number of parallel users	Low	Low	High*)
Time for a user to access/pull content	Low	Low	High*)
Update rate of content in SPA	Low	Low	High*)
<b>Level of service of SPA: security requirements</b>			
Security: identification, authentication and authorization	Low	Low	High*)
Privacy	Low	Low	High

# Implementation in Austria

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## The Austrian national ITS law – IVS-G

- EU ITS Directive (DIRECTIVE 2010/40/EU)
- converted into Austrian national law IVS-Gesetz (IVS-G, the Austrian national law on intelligent transport systems) by February 2013.
- IVS-G also closely refers to the Austrian national ITS Action Plan

Key concepts of the IVS-G:

- Definition of a nation wide **transport graph** including all modes as common spatial reference system for all national services (GIP)
- Establishment of a **continuous monitoring mechanism** on ITS development and deployment on national, EU and international level
- Role definitions for the „**trusted third party**“ and the **ITS conciliation board**

# AustriaTech's role in the IVS-G

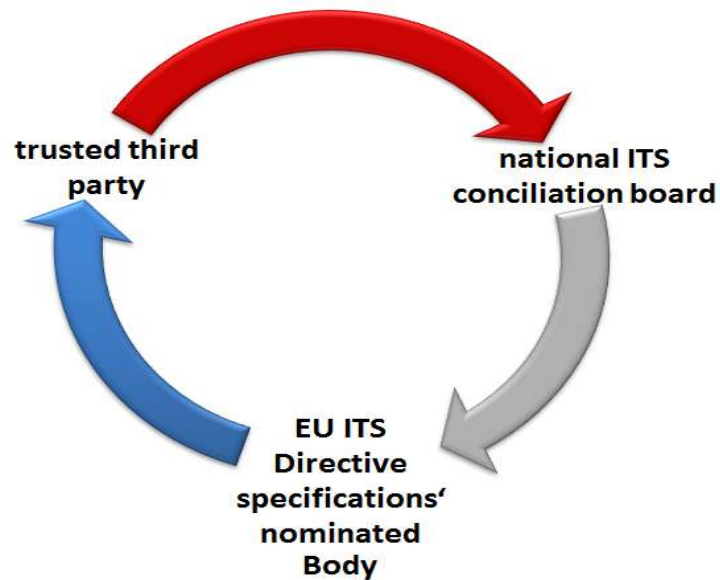
## What is AustriaTech?

- We are a **federal agency** owned by Austrian Ministry of Transport, Innovation and Technology (bmvit)
- We are a **think-tank** with 40 employees
- We are a **neutral partner**, coordinating between infrastructure operators, industry and governmental institutions

## Roles for AustriaTech in the IVS-G

- Supports the monitoring activities of the MoT on ITS
- ITS Conciliation board
- Trusted Third Party
- *“national body for the assessment of ITS services”* as requested in the Delegated Regulations c, d, and e to the EU ITS Directive

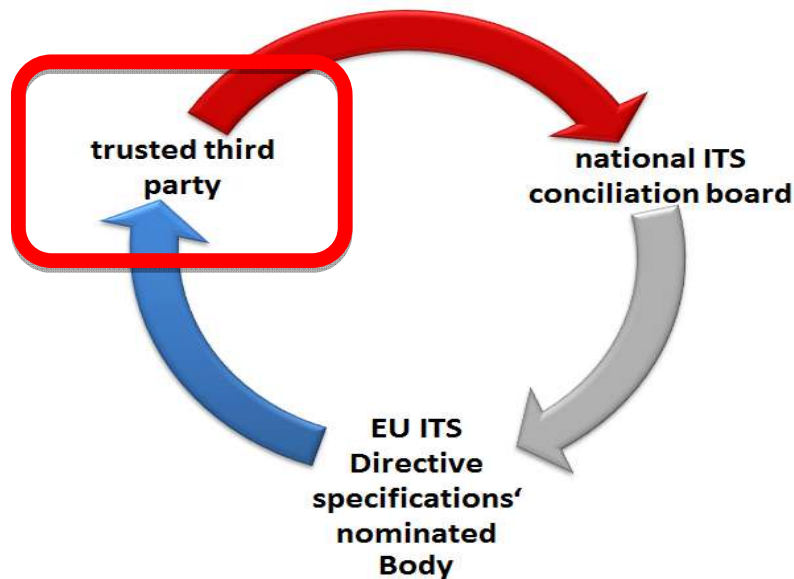
## Roles in the context of IVS-G and EU ITS Directive



### Organisational functions identified:

- Trusted third party
- ITS conciliation board
- EU ITS Directive specifications' nominated Body

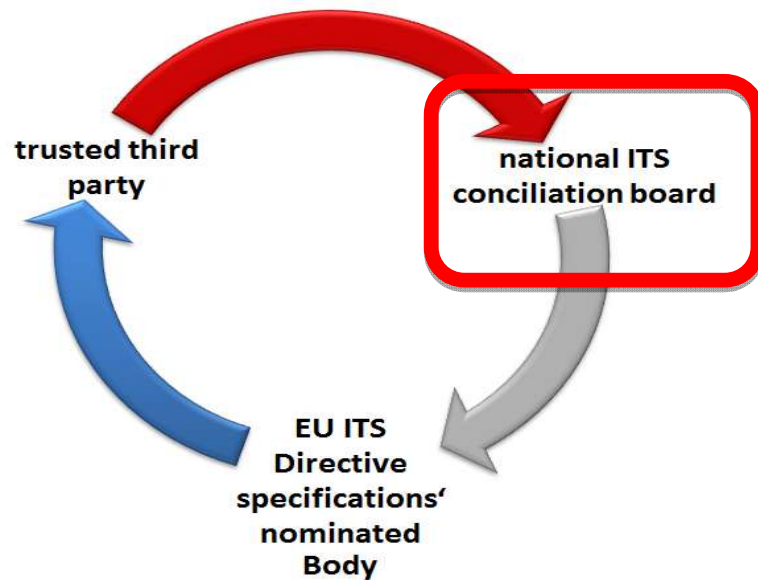
## Roles in the context of IVS-G and EU ITS Directive



Trusted Third Party – Ideas:

- independent actor on **national** level
- Support to public stakeholders for the deployment of ITS services
- recommends on technical and organisational aspects e.g. to ensure transnational compatibilities.
- Link to and representation of Austria to EU and international legislative processes
- Supports the conciliation board

## Roles in the context of IVS-G and EU ITS Directive



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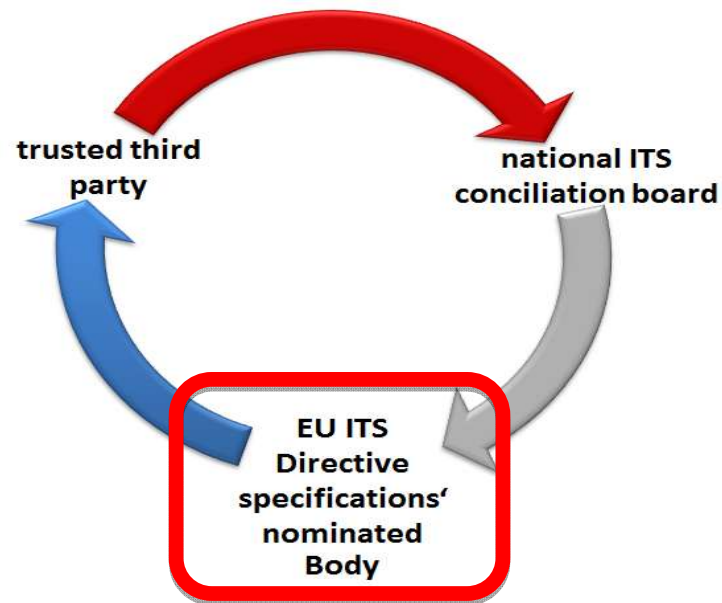
## The ITS conciliation board

- operative since the 1st of January 2014
- arbitrate and support out-of-court settlement between conflicting parties in the B2B (Business to Business) sector in the field of ITS services and applications
- Consultation of the ITS-CB not mandatory but favorable
- For all ITS Services/application providers which refer to the Austrian State territory
- Low cost and fast processing of cases



**Arbitrate in case of conflicts on data use and data access in the B2B and G2B area**

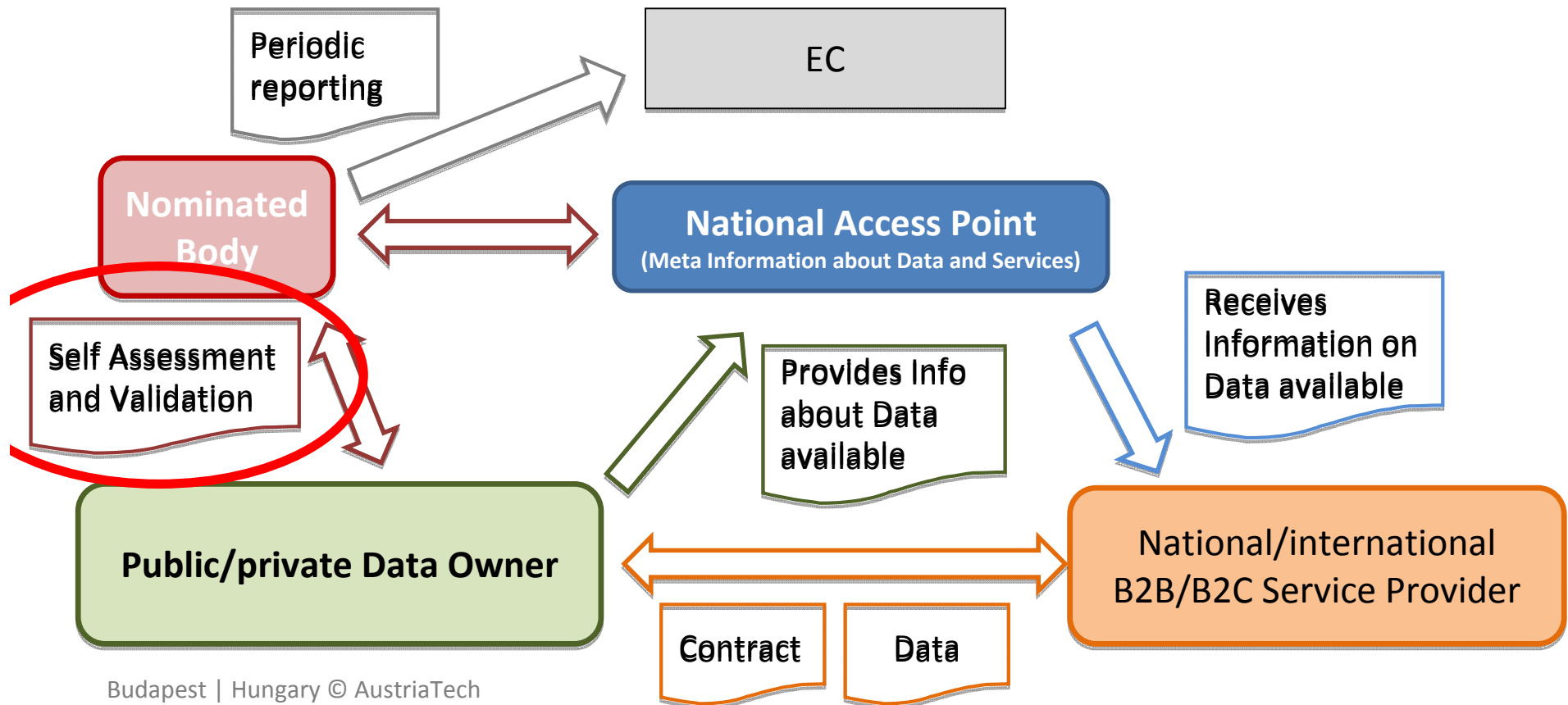
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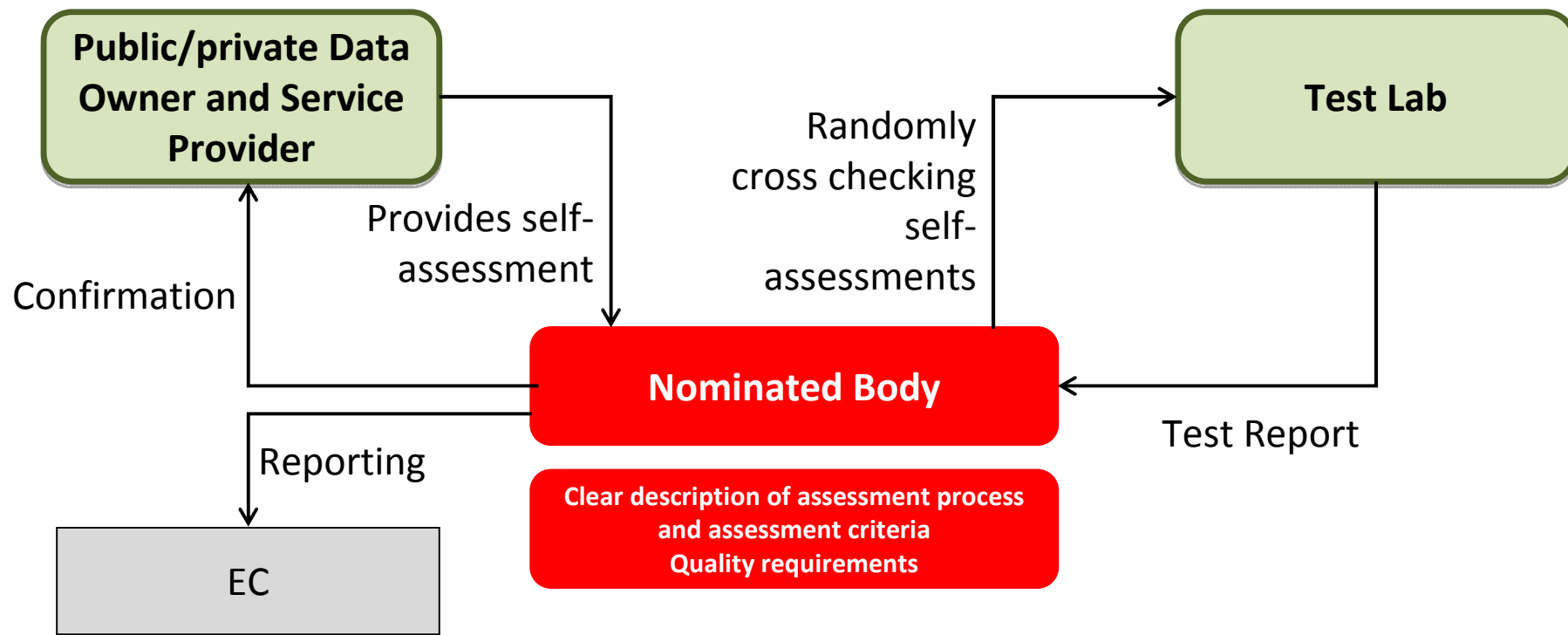
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# National Body – EU ITS-Dir. Specifications



# National Body – Assessment Process



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