

Executive Summary

Reference Handbook for ITS Core Service Deployment in Europe – Background & Scope

The *Reference Handbook for ITS Core Service Deployment in Europe* comprises a series of guidance and advice for use by road authorities and operators to support them in development of their strategic approach, design development, deployment, installation and operation of Intelligent Transport Systems and Services (ITS) and remain compliant with EU legislation.

The purpose of the guidance is to assist Member States in taking a broadly similar approach so wider European added value can be achieved, while at the same time delivering the needs of individual Member States, as outlined in Figure 1.

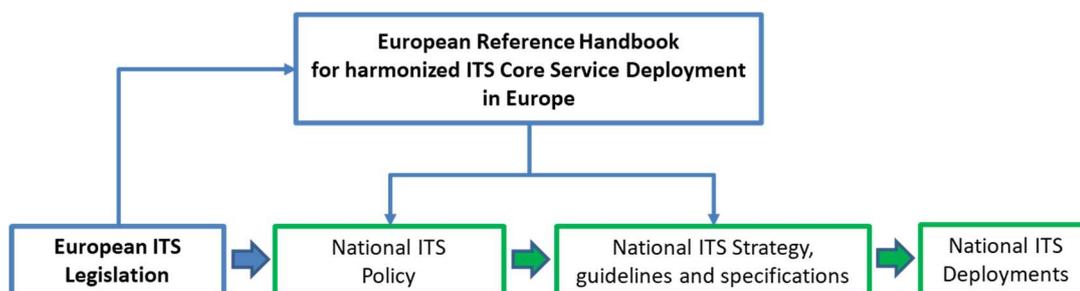


Figure 1: Integration of the ITS Reference Handbook in national specifications

The content of the handbook has been written by ITS practitioners and experts in the field of Traffic and Travel Information and Traffic Management systems from across Europe. The authors pay particular attention to the introduction of the Delegated Regulations issued under the European ITS Directive (DR (EU) 2013/885, 2013/886, 2015/962 and 2017/1926) and how these requirements are to be incorporated into ITS systems and services.

The traditional domains of road operators have now opened up to data and information exchange with actors outside their own area of responsibility. In response, the guidelines incorporate the results achieved by the European C-ITS platform C-ROADS, so handbook users can see how other data services and future C-ITS services will impact their schemes and operations. In addition, through the cooperation of EU EIP with DATEX II, Recommended DATEX II Service Profiles have been developed for the ITS Core Services included in the handbook.

The handbook contains information to facilitate the adoption of existing ITS Service specifications and best practice in four areas where European cooperation can bring added value. These areas are:

1. Functional and organisational interoperability with neighbouring ITS Service providers
2. Common Look & Feel to present ITS Core services to the end user
3. Accurate information provision and acquisition on national access points and C-ITS interfaces
4. European-wide accepted criteria of assessment for ITS Core services (e.g. Level of Quality)

The four target user groups for the guidelines comprise:

- Road Operators
- Service Providers
- End Users
- Member States

Overview of ITS Core Services explored in this Handbook

The handbook focuses on European ITS Core services under three ITS Service categories with 14 specific ITS Services in total. The table below presents the key focus areas of the handbook.

Traffic & Travel Information Services (TTIS) Overview	
<i>TTIS Objective</i>	<i>Provision of travel and traffic information, including safety-related & real-time traffic information to the road user, to improve the safety and the efficiency of the network supporting current traffic management activities and traffic management plans.</i>
TTIS-01 Forecast and Real-time Event Information	Provision of information about expected and unexpected events to road users on identified road segments of the network.
TTIS-02 Traffic Condition and Travel Time Information	Provision of information on the traffic conditions (Level of Service) and travel times on identified road segments of the network.
TTIS-03 Speed Limit Information	Provision of speed limit information to ensure that the driver always and everywhere knows what the speed limit in force is.
TTIS-04 Road Weather Information	Provision of information on conditions of the road surface, visibility conditions and infrastructure specific information of the network.
TTIS-05 Multimodal Travel Information	Comparative information of different modes/means of transport and/or the combination of different modes/means of transport within the same route.
Traffic Management Services (TMS) Overview	
<i>TMS Objective</i>	<i>Influence of traffic through a bundle of measures in order to coordinate traffic demand to the existing traffic system supply to guarantee traffic safety at the highest possible level, to increase the efficiency of the network to the maximum possible and to reduce traffic-related environmental impacts as far as possible.</i>
TMS-01 Dynamic Lane Management	Enablement of a temporally modifiable allocation of lanes by means of traffic guidance panels, permanent light signals, multiple-faced signs, LED road markers, closing and directing installations, etc.
TMS-02 Variable Speed Limits	Display of speed limits, advisory speed (recommended) or compulsory minimum speed, to guide drivers to travel at a speed suitable to the prevailing traffic, road or weather conditions.
TMS-03 Ramp Metering	Management of traffic at motorway junctions on a temporary basis usually during times of peak flow.
TMS-04 Hard Shoulder Running	Enablement of a dynamic temporary use of hard shoulders at road sections, including at junctions with the aim to increase road capacity when necessary.
TMS-05 HGV Overtaking Ban	Enablement of the channelling of heavy goods vehicles onto a single lane (slow lane).
TMS-06 Incident Warning and Management	Implementation of a systematic, planned and coordinated set of responsive actions and resources to prevent accidents in potentially dangerous situations and to handle incidents safely and quickly.
TMS-07 Traffic Management for Corridors and Networks	Application of Traffic Management Plans for the management of the European network and corridors including multi-modal capacities to allow for a more efficient use of the road network in Europe.

Freight & Logistic Services (F&LS) Overview	
F&LS Objective	<i>Enablement of a more efficient transfer of products from origin to destination using a supply chain network consisting of road, rail, ai, and waterways.</i>
F&LS-01 Intelligent and Secure Truck parking	Provision of information on the truck parking situation on the European networks and access roads to manage the parking space, support the observation of rest and driving periods for drivers, reduce dangerous parking and improve safety and security.
F&LS-02 Abnormal Goods Transport Regulations	Provision of country-specific information on the vehicle regulations and permit application procedures, contact persons, and guidelines for completing application forms for abnormal transports.

Overview of Handbook Structure

The Handbook is designed to facilitate quick assimilation. Through necessity, it incorporates a wealth of information. Therefore, in Section 1, the guidelines incorporate guidance to its reading, and a description of the overarching conceptual approach to describing each of the three ITS Services and 14 specific ITS Services highlighted above. In Section 2 they are explored separately following a standard structure. This structure is presented in Figure 2 below.

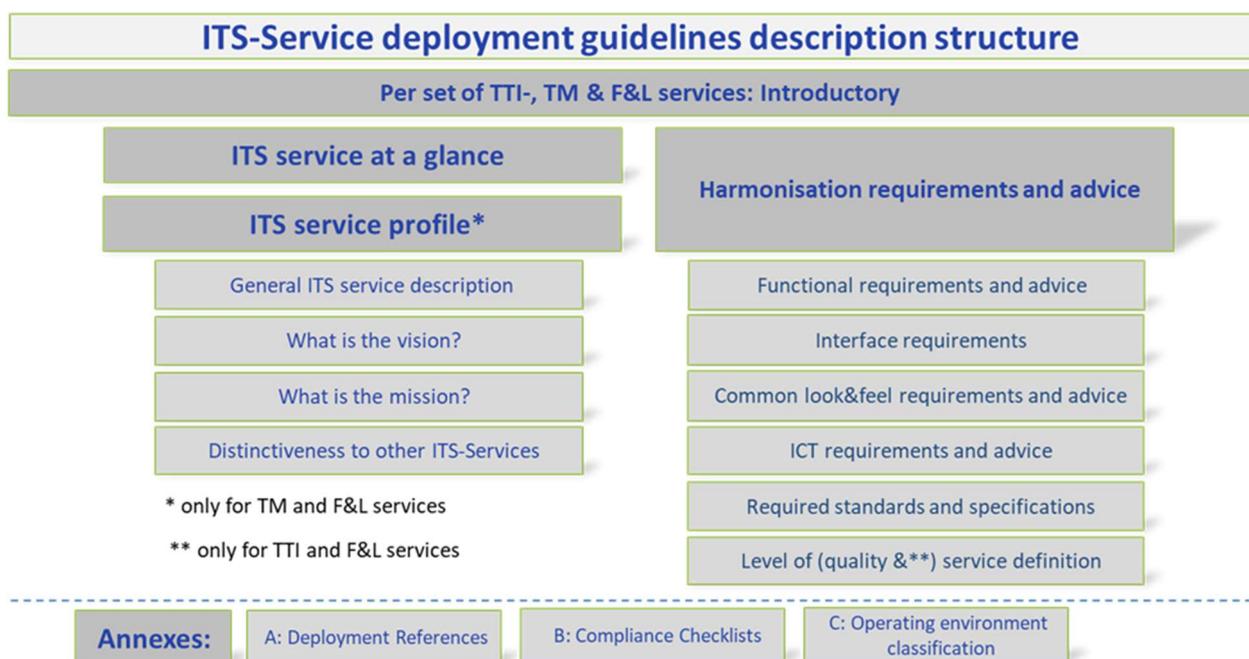


Figure 2: The common ITS service description standard

The introduction to each of the three services provides decision makers with general and strategic information common to TTI, TM and F&L services. The sections on Service at a Glance and ITS Service Profile describe what is achieved by the service, its profile in relation to other services and what type of benefits are expected.

Information and advice are given on harmonisation requirements. This extends to the requirements for data sharing of each ITS Service. This is based on the generic data sharing structure presented in Figure 3.

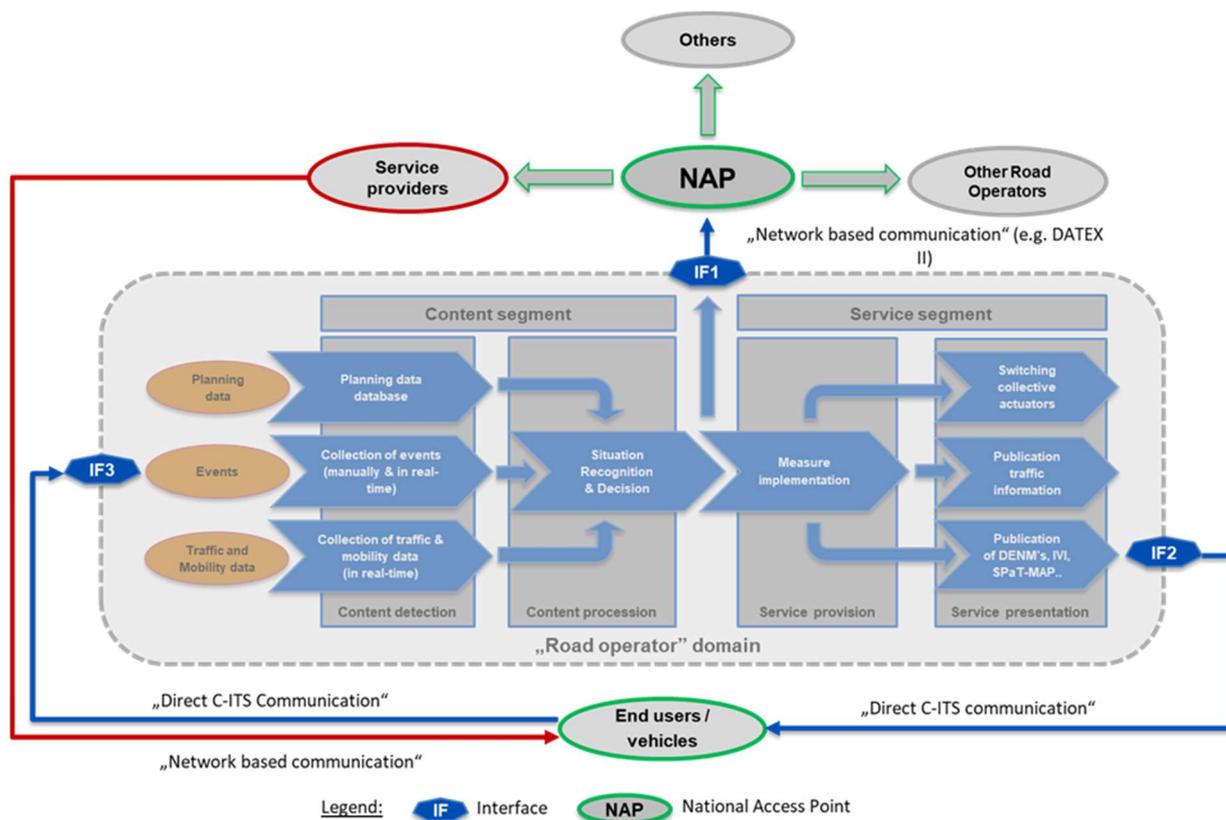


Figure 3: Data sharing architecture (Road operator view)

Finally, three Annexes are incorporated to complement the handbook.

- **Annex A provides a collection of references to existing deployments.**
- **Annex B** lists mandatory features required for a harmonized ITS Core service deployment in form of a table named 'compliance checklist'.
- **Annex C** provides an explanation of the concept of the Operating Environments.

These Annexes are designed to provide examples of real-life deployments, along with further background information which will help in meeting the objectives of the reference handbook, which is to facilitate a European harmonised approach to the deployment of ITS systems and services.