

RECOMMENDATION ERA-REC-122
OF
THE EUROPEAN UNION AGENCY FOR RAILWAYS
on

the technical specification for interoperability relating to the subsystem 'telematics applications for passenger services' of the Union rail system

THE EXECUTIVE DIRECTOR

HAVING REGARD TO Regulation (EU) 2016/796 of the European Parliament and of the Council of 11 May 2016 on the European Union Agency for Railways and repealing Regulation (EC) No 881/2004, hereafter referred to as the 'Agency Regulation', in particular Articles 4 and 19 thereof,

HAVING REGARD TO [Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system (Recast), hereafter referred to as the 'Interoperability Directive', in particular Article 5 thereof,]

HAVING REGARD TO COMMISSION DELEGATED DECISION (EU) 2017/1474 of 8 June 2017 supplementing Directive (EU) 2016/797 of the European Parliament and of the Council with regard to specific objectives for the drafting, adoption and review of technical specifications for interoperability, in particular Article 13 and Article 14 thereof,

HAVING REGARD TO the letter "Request for recommendations to the Commission pursuant to Article 5 paragraph 2 of the interoperability Directive (EU) 2016/797 – Digital rail and Green freight TSI revision package (2022 revision) (Ref. Ares(2020)452283, 24/01/2020)" in particular the List and description of actions thereof,

Whereas

1. The Article 3 (3) of Commission Regulation (EU) No 454/2011 of 5 May 2011 concerning a technical specification for interoperability relating to telematics applications for passengers (TAP TSI) requires the chapter 4 of the Annex to be amended for closing the open points of listed in annex II.
2. The article 14 of the Commission delegated decision (EU) 2017/1474 of 8 June 2017 supplementing Directive (EU) 2016/797 of the European Parliament and of the Council with regard to specific objectives for the drafting, adoption and review of technical specifications for interoperability requests the revision of the Regulation (EU) No 454/2011 ('TAP TSI') shall be revised in order to:
 - a. the geographical scope of the TAP TSI shall be the geographical scope of the TAF TSI,
 - b. where appropriate, the TAP TSI shall take into account the essential requirement 'Accessibility' as defined in Annex III, point 1.6 of Directive (EU) 2016/797,
 - c. shall take into account the revision of the TSI PRM, in particular as regards the Inventories of Assets and, where appropriate, the industry-driven Full Service Model initiative,
 - d. shall define the share of the tasks related to the management of centralised data structures to take into account the new tasks and responsibilities of the Agency and the governance body established by the sector with a view to accelerate the TAP TSI implementation,
 - e. shall aim to facilitate the emergence of through-ticketing, integrated ticketing and multi-modal travel information and reservation systems,
 - f. shall allow the Agency to assess the compliance of the IT tools deployed by the European rail sector with the TSI requirements.
3. The Digital rail and Green freight TSI revision package (2022 revision) requests the revision of the Regulation (EU) 454/2011 shall be revised in order to:
 - a. Enhancing information flows for freight and passengers
4. In accordance with Article 5 of the Agency Regulation and with Article 3 (3) of Commission Regulation (EU) No 454/2011, a working party has been established for making a proposal for a recommendation as regards the modification of the chapter 4 and other modifications required to meet the 'specific objectives' listed above of the TSI in annex to Commission

Regulation (EU) No 454/2011. This working party has completed its work in November 2021, and as a result, the Agency has finalised the revision of the TAP TSI.

5. A public consultation as provided for in Articles 6 and 7 of the Agency Regulation has been carried out.
6. An impact assessment in accordance with Article 8 of the Agency Regulation has been carried out during the revision of the TAP TSI. The proposed revision is covered by that impact assessment.

HAS ADOPTED the following recommendation:

1. The TAP TSI in Annex I to Commission Regulation (EU) No 454/2011 should be replaced by the document as set out in Annex I of this recommendation.
2. The glossary of the Commission Regulation (EU) No 454/2011 should be replaced by the document as set out in Annex II of this recommendation;
3. The list of open points in Annex III to Commission Regulation (EU) No 454/2011 should be replaced by the document as set out in Annex III of this recommendation;
4. The list of technical documents in Annex IV to Commission Regulation (EU) No 454/2011 should be replaced by the document as set out in Annex IV of this recommendation.
5. The list of technical documents for retail architecture and governance in Annex VI to Commission Regulation (EU) No 454/2011 should be replaced by the document as set out in Annex VI of this recommendation.
6. The tasks to be undertaken by the TAF/TAP National Contact Point (NCP) in Annex VII to Commission Regulation (EU) No 454/2011 should be replaced by the document as set out in Annex VII of this recommendation.
7. To enforce the implementation of the revised Commission Regulation (EU) No 454/2011 should contain an additional article as set out in Annex VIII of this recommendation.

This recommendation is addressed to the European Commission.

Valenciennes, 21/01/2022



Josef DOPPELBAUER
Executive Director

Annex:

- Annex I – revised TAP TSI
 - o Annex II - revised glossary
 - o Annex III - revised list of open points
 - o Annex IV - revised list of technical documents
 - o Annex VI - revised list of technical documents for retail architecture and governance
 - o Annex VII - revised tasks to be undertaken by the TAF/TAP National Contact Point (NCP)
- Annex VIII – additional article concerning the TAP TSI implementation

ANNEX I

1. INTRODUCTION

1.1. Technical scope

This Technical Specification for Interoperability (hereinafter referred to as this TSI) concerns the element 'applications for passenger services' of the subsystem "telematics applications" of the Union rail system referred to in Annex II to Directive (EU) 2016/797.

This TSI shall apply to the subsystem 'telematics applications' of the rail system in the European Union as defined in Section 2.6(a) of Annex II to Directive (EU) 2016/797.

1.2. Geographical scope

This TSI shall apply to the Union rail system network as defined in Annex I, Section 1 of Directive (EU) 2016/797;

This TSI shall neither apply to the cases referred to in Article 1(3) of Directive (EU) 2016/797 nor to infrastructures and vehicles which a Member State has excluded from the scope of the measures implementing the Directive (EU) 2016/797 in accordance with Article 1(4) thereof.

1.3. Content of this TSI

The content of this TSI is in accordance with Article 4 of Directive (EU) 2016/797.

This TSI also comprises, in Chapter 4, the operating and maintenance rules specific to the technical and geographical scope.

2. DEFINITION OF THE SUBSYSTEM/SCOPE

2.1. Subsystem

This TSI covers:

- (a) the functional subsystem "Telematics applications for passenger services";
- (b) the part of the maintenance subsystem relating to the telematics applications for passenger services (i.e. methods of use, management, updating and maintenance of databases, software and data communication protocols etc).

It includes the provision of information on the following aspects:

- (a) systems providing passengers with information before and during the journey;
- (b) reservation and payment systems;
- (c) luggage management;
- (a) issuing of tickets via ticket offices or ticket selling machines or telephone or internet, or any other widely available information technology, and on board trains;
- (d) management of connections between trains and with other modes of transport.

2.1.1. Providing passengers with information before and during the journey

Without prejudice to Art. 2 of the regulation (EU) 2021/782 on rail passengers' rights and obligations, minimum information will be provided to passengers by railway undertakings and/or by ticket vendors according to Annex II to Regulation (EU) 2021/782 .

2.1.2. Reservation and payment systems

Information will be exchanged between the reservation and ticketing systems, and the payment systems of the different ticket vendors and railway undertakings in order to enable the passenger to

pay for the above tickets, reservations and supplements for the journey and service chosen by the passenger.

2.1.3. *Luggage management*

Information will be provided to the passenger relating to the complaints procedures in the event of registered luggage being lost during the journey. Moreover, passengers will be provided with information about sending or picking up registered luggage.

2.1.4. *Issuing of tickets via ticket offices or ticket selling machines or telephone or internet or any other widely available information technology*

Information will be provided between railway undertakings and ticket vendors in order to enable the latter to issue, where available, tickets, through tickets, and supplements, and to make reservations.

2.1.5. *Management of connections between trains and with other modes of transport*

A standard is proposed for the provision of information to and exchange of information with other modes of transport.

3. ESSENTIAL REQUIREMENTS

3.1. Compliance with the essential requirements

In accordance with Article 3(1) of Directive (EU) 2016/797, the Union rail system, subsystems and interoperability constituents must meet the essential requirements set out in general terms in Annex III to the Directive.

Within the scope of the present TSI, fulfilment of relevant essential requirements quoted in Chapter 3 of this TSI will be ensured for the subsystem by compliance with the specifications described in Chapter 4: Characterisation of the subsystem.

3.2. Aspects relating to general requirements

The relevance of the general requirements to the telematics applications subsystem for passengers is determined as follows:

3.2.1. *Safety*

The safety-related essential requirements that apply to the telematics applications subsystem for passengers are the following: essential requirements 1.1.1, 1.1.2, 1.1.3, 1.1.4, 1.1.5 of Annex III to Directive (EU) 2016/797. These essential requirements are not relevant to the telematics applications subsystem.

3.2.2. *Reliability and availability*

The essential requirement 1.2 of Annex III to Directive (EU) 2016/797 is met by the following chapters:

- Chapter 4.2.19: Various reference files and databases,
- Chapter 4.2.21: Networking and communication.

3.2.3. *Health*

Essential requirements 1.3.1 and 1.3.2 of Annex III to Directive (EU) 2016/797 are not relevant to the telematics applications subsystem.

3.2.4. *Environmental protection*

Essential requirements 1.4.1, 1.4.2, 1.4.3, 1.4.4 and 1.4.5 of Annex III to Directive (EU) 2016/797 are not relevant to the telematics applications subsystem.

3.2.5. *Technical compatibility*

Essential requirement 1.5 of Annex III to Directive (EU) 2016/797 is not relevant to the telematics applications subsystem.

3.2.6. *Accessibility*

Essential requirement 1.6 of Annex III to Directive (EU) 2016/797 is met by the following chapters:

- Chapter 4.2.6 - Handling of information concerning carriage and assistance of persons with reduced mobility (PRM)

3.3. **Aspects relating specifically to the telematics applications for the passenger services subsystem**

The relevance of the general requirements to the telematics applications for the passenger services subsystem is determined as follows:

3.3.1. *Technical compatibility*

Essential requirement 2.7.1 of Annex III to Directive (EU) 2016/797 is met in particular by the following chapters:

- Chapter 4.2.19: Various reference files and databases,
- Chapter 4.2.21: Networking and communication.

3.3.2. *Reliability and availability*

Essential requirement 2.7.2 of Annex III to Directive (EU) 2016/797 is met in particular by the following chapters:

- Chapter 4.2.19: Various reference files and databases,
- Chapter 4.2.21: Networking and communication.

However, this essential requirement, especially the method of use to guarantee the efficiency of these telematics applications and the quality of the service, is the foundation for the complete TSI and is not restricted only to the chapters mentioned above.

3.3.3. *Health*

Regarding essential requirement 2.7.3 of Annex III to Directive (EU) 2016/797, this TSI does not specify any requirements in addition to existing national and European rules related to minimum rules on ergonomics and health protection of an interface between these telematics applications and users.

3.3.4. *Safety*

Essential requirement 2.7.4 of Annex III to Directive (EU) 2016/797 is met by the following chapters:

- Chapter 4.2.19: Various reference files and databases,
- Chapter 4.2.21: Networking and communication.

3.3.5. *Accessibility*

Essential requirement 2.7.5 of Annex III to Directive (EU) 2016/797 is met by the following chapters:

- Chapter 4.2.6 - Handling of information concerning carriage and assistance of persons with reduced mobility (PRM)

4. CHARACTERISATION OF THE SUBSYSTEM

4.1. Introduction

Taking all the applicable essential requirements into account, the telematics application for passenger services subsystem is characterised by the following basic parameters which are described in the following sections.

In light of the essential requirements in Chapter 3 (Essential requirements), the functional and technical specifications of the subsystem cover the following parameters:

- 4.2.1: Exchange of timetable data,
- 4.2.2: Exchange of tariff data,
- 4.2.3: Handling of information on contact details of the railway undertaking,
- 4.2.4: Handling of information concerning conditions of carriage
- 4.2.5: Handling of information concerning carriage of registered luggage,
- 4.2.6: Handling of information concerning carriage and assistance of persons with reduced mobility (PRM),
- 4.2.7: Handling of information concerning carriage of bicycles
- 4.2.8: Handling of information concerning carriage of cars,
- 4.2.9: Handling of availability/reservation,
- 4.2.10: Handling of security elements for product distribution,
- 4.2.11: Delivery of the product to the customer after its purchase (fulfilment),
- 4.2.12: Handling of ticket control and ticket state modification data
- 4.2.13: Handling of information provision in the station area
- 4.2.14: Handling of information provision in the vehicle area,
- 4.2.15: Objects Identifiers
- 4.2.16: Path request,
- 4.2.17: Train Preparation,
- 4.2.18: Train running information and forecast,
- 4.2.19: Service disruption information,
- 4.2.20: Quality for data and information,
- 4.2.21: The Main Reference Data, Various Reference Files and Databases,
- 4.2.22: Electronic Transmission of documents, Networking and Communication,
- 4.2.23: Management of connection with other modes of transport.

The detailed data specifications are defined:

- for basic parameters 4.2.1 to 4.2.12 in the Technical Documents listed in Annex IV;
- for basic parameters 4.2.15 to 4.2.19 in the Data Catalogue defined in the technical document ERA-TD-105 'TAF TSI — Annex D.2: Appendix F — TAF TSI Data and Message Model' of TAF TSI Appendix I.

In addition, for basic parameters 4.2.15 to 4.2.19, other existing standards may be used for the same purpose if there is a specific agreement between the parties involved to allow the use of these standards.

General remarks on the Railway Undertaking/Infrastructure Manager(RU/IM) message structure

The messages are structured into two data sets:

- Control data: defined through the mandatory message header of the messages of the catalogue.
- Information data: defined by the mandatory/optional content of each message and mandatory/optional data set in the catalogue.

If a message or a data element is defined as optional in this Regulation, the involved parties decide on using it. The application of these messages and data elements must be part of a contractual agreement. If in the data catalogue optional elements are mandatory under certain conditions this has to be specified in the data catalogue.

4.2. Functional and technical specifications of the subsystem

4.2.1. Exchange of timetable data

This basic parameter lays down how the railway undertaking and station manager shall perform the exchange of timetable data.

This basic parameter shall ensure that timetables comprising the data elements defined below shall be made available. This basic parameter shall further ensure that each railway undertaking and station manager shall provide accurate and up-to-date timetable data.

The provisions of this basic parameter shall apply to the passenger services of the railway undertaking.

This basic parameter shall have the following process:

4.2.1.1. *The railway undertaking makes available its own timetable data to other railway undertakings and to third parties*

The railway undertaking shall make available all of its timetable data for which the railway undertaking is responsible as sole or joint carrier and which are related to transport services which are available for purchase by the public by guaranteeing access to all railway undertakings, to third parties and to public bodies. The railway undertaking shall ensure that the timetable data are accurate and up-to-date. The timetable data shall be kept available at least for twelve months after such data have expired.

Where a railway undertaking operates a transport service for which it is one of the Joint carriers, the railway undertaking shall ensure, together with all the other Joint carriers, that its part of the timetable are accurate and up-to-date.

The main content of the timetable data shall be:

- Basic principles of train variants
- Representation of a train,
- Different possible ways of representing days of operation,
- Train category / service mode.
- Transport service relationships
- Coach groups attached to trains,
- Joining to, splitting from,

- Through connections (connecting to),
- Through connections (change of service number).
- Details of transport services, including public arrival, public departure and passing times
- Stops with traffic restrictions,
- Overnight trains,
- Crossing of time zones,
- Pricing regime and reservation details,
- Information provider,
- Reservation provider,
- Service facilities,
- Accessibility of the train (including scheduled existence of priority seats, wheelchair spaces, universal sleeping compartments – see PRM TSI 4.2.2) – see section 4.2.6.1
- Service extras,
- Connecting - Timing between transport services by using the timetable data delivered by the station manager according to chapter 4.2.1.2.,
- Station list.

For those transport services over which the railway undertaking has sole control, the annual timetable shall be made available at least two months before that timetable comes into force. For the remaining transport services, the railway undertaking shall make the timetable available as soon as possible.

The railway undertaking shall make available any changes to the annual timetable in a series of timetable updates at least seven days before those changes take effect. This obligation shall apply only if the change is known to the railway undertaking seven or more days in advance of it taking effect.

The above process and the information used therefor shall comply with the technical document(s):

- B.4 (see Annex IV).

4.2.1.2. The station manager makes available its own timetable data to railway undertakings, public bodies and to third parties

The station manager shall make available all of its timetable data for all stations the station manager is responsible for by guaranteeing access to all railway undertakings, to third parties and to public bodies. The station manager shall ensure that the timetable data are accurate and up-to-date. The timetable data shall be kept available at least for twelve months after such data have expired.

The main content of the timetable data shall be:

- Connecting - Timing within the station (default minimum connection time),
- Connecting - Timing between different locations (e.g. parts of the station, platforms) within the station, if appropriate,
- Connecting - Timing between the station and stations in the neighbourhood, if appropriate

The annual timetable shall be made available at least two months before that timetable comes into force.

The station manager shall make available any changes to the annual timetable by update of the reference file for the coding of locations at least seven days before those changes take effect. This obligation shall apply only if the change is known to the station manager seven or more days in advance of it taking effect.

An entity defined by the Member state or by default the station manager, should design a neutral process involving RU's and IM's in order to seek consensus for the definition of the relevant connection timing. In case of disputes it is referred an entity defined by the member state, which could be the National enforcement body.

The above process and the information used therefor shall comply with the technical document(s):

- reference file of the coding of retail locations

This process shall be performed for the first time not later than 12 months after this TSI enters into force.

4.2.2. Exchange of tariff data

This basic parameter lays down how the railway undertaking shall perform the exchange of tariff data.

This basic parameter shall ensure that tariff data in the format defined below shall be made available.

The provisions of this basic parameter shall apply in respect of all passenger tariffs of the railway undertaking for domestic, international and foreign sales.

This basic parameter shall have following process:

4.2.2.1. *The railway undertaking makes available its own tariffs to other railway undertakings, authorised public bodies and third parties*

Without prejudice to passenger rights and in accordance with distribution agreements, each railway undertaking shall make available its tariffs (including fare tables) by guaranteeing access to railway undertakings to which it grants authorisation to sell, third parties to which it grants authorisation to sell, and to authorised public bodies. The railway undertaking shall ensure that the tariff data are accurate and up-to-date.

Where a railway undertaking operates a transport service for which it is one of the joint carriers, the railway undertaking shall ensure, together with all the other joint carriers, that the tariff data are accurate and up-to-date.

The main content of tariff data intended for international or foreign sales shall be as defined in Annex V.

Tariff data intended for international or foreign sales shall be made available at least as far in advance as provided for in Annex V.

The above process and the information used for it shall be compliant with data intended for international or foreign sales with at least one of the following technical document(s), standards or any format fully compatible and interoperable with those standards or technical documents::

- B.1 (see Annex IV),
- B.2 (see Annex IV),
- B.3 (see Annex IV),
- B.13 (see Annex IV),
- CEN/TS 16614-3:2020 and subsequent versions.

Tariff data intended for domestic sales shall be made available to railway undertakings and to third parties which are authorised to sell, and also to authorised public bodies, at least as long in advance as it is the case for tariff data intended for international or foreign sales.

The above process and the information used for it in respect of tariff data intended for domestic sales shall comply with at least one of the following technical document(s), standards or any format fully compatible and interoperable with those standards or technical documents: :

- B.1 (see Annex IV),
- B.2 (see Annex IV),
- B.3 (see Annex IV).
- CEN/TS 16614-3:2020 and subsequent versions.

4.2.3. Handling of information on contact details of the railway undertaking

This basic parameter lays down how the railway undertaking shall provide information about its official website from which customers can obtain accurate information.

The provisions of this basic parameter shall apply to all railway undertakings.

This basic parameter shall have following process:

4.2.3.1. The railway undertaking makes available a dataset of its contact details

The railway undertaking shall make available to other railway undertakings, to the Agency, to third parties and to public bodies a dataset that includes its carrier name, carrier code and its official website. The official website referred to in this basic parameter shall be machine readable and compliant with web content accessibility guidelines. If a railway undertaking operates a joint business unit with (an)other railway undertaking(s), the name of the joint business unit, carrier codes and official website shall be made available to the other railway undertakings.

When a railway undertaking makes its timetable information available to other railway undertakings pursuant to chapter 4.2.1.1, it shall ensure that the carrier name in the timetable delivery has a corresponding carrier name in this dataset. If changes have occurred, the railway undertaking shall update the content of the dataset as soon as possible.

4.2.4. Handling of information concerning conditions of carriage

This basic parameter lays down how the railway undertaking shall handle information concerning conditions of carriage.

This basic parameter shall ensure that conditions of carriage are available on the official website of the railway undertaking.

The provisions of this basic parameter shall apply to the passenger services of the railway undertaking.

This basic parameter shall entail the following process:

4.2.4.1. The railway undertaking publishes information relating to conditions of carriage.

The railway undertaking shall publish information relating to:

- general conditions of carriage for rail passengers (GCC-CIV/PRR),
- its own conditions of carriage,
- a link to the Regulation (EU) 2021/782 of the European Parliament and of the Council of 21 April 2021 on rail passengers' rights and obligations,
- the accepted means of payment,
- sales and after-sales conditions, especially for the exchange and reimbursement of tickets,
- procedures for the submission of complaints

at least on its official website. This website shall comply with web content accessibility guidelines which take into account the needs of people with auditory and/or visual impairment.

This process shall be performed for the first publication not later than six months after this TSI comes into force. Changes to this information shall be published at least 6 days before they enter into force. The railway undertaking shall list the articles which have been changed compared to the previous

version. On each such occasion the railway undertaking shall maintain the earlier version of this information on its official website.

4.2.5. *Handling of information concerning carriage of registered luggage*

This basic parameter lays down how the railway undertaking shall ensure the provision of information for the carriage of registered luggage if the service is offered by the railway undertaking. If the service is not offered, the railway undertaking shall provide the information that the service is not offered.

This basic parameter shall ensure that information on the handling of registered luggage shall be available to the passenger.

This basic parameter shall entail the following process:

4.2.5.1. *The railway undertaking publishes conditions for the handling of registered luggage*

The railway undertaking shall publish for the attention of passengers the conditions for the handling of registered luggage where the railway undertaking offers such handling. Where the service is not offered, the railway undertaking shall publish information to that effect. This information shall be published at least on the official website of the railway undertaking. This website shall comply with web content accessibility guidelines which take into account the needs of people with auditory and/or visual impairment.

This process shall be performed for the first publication not later than six months after this TSI comes into force. Changes to this information shall be published at least 6 days before the modification enters into force. The railway undertaking shall list the articles which have been modified compared to the previous version. The railway undertaking shall on each such occasion maintain the previous version of this information on its official website.

4.2.6. *Handling of information concerning carriage and assistance of persons with reduced mobility (PRM)*

This basic parameter lays down how the railway undertaking, ticket vendor, and/or station manager must ensure the provision of information on the carriage and assistance of PRMs.

This basic parameter shall ensure that information on the carriage and assistance of PRMs shall be available to the passenger. If the railway undertaking uses IT communication for the purposes of sending an availability/reservation request for PRM assistance, the system to which it is addressed shall at least be able to handle messages according to the protocol specified in the technical document B.10 (see Annex IV). In addition, the system shall issue a confirmation number for the assistance reservation – this is essential in order to provide the customer/passenger with the guarantee and confidence that the assistance will be provided and to establish accountability and responsibility for the provision of assistance. Those messages contain all the information needed in order for the railway undertaking, ticket vendor and/or station manager to issue to the PRM a confirmation number (for each departure and arrival of each journey) to reserve assistance.

The provisions of this basic parameter shall apply as follows: the handling of information concerning the carriage of PRM shall be applied in respect of the passenger services of the railway undertaking.

This basic parameter shall entail the following processes:

4.2.6.1. *The railway undertaking publishes information on the accessibility of rail services and on the conditions of access to rolling stock*

The railway undertaking shall publish the following information:

- the train types/numbers and/or line number (if no train number is available for the public) where PRM facilities are available,
- the types and minimum quantities of PRM facilities in the above trains (such as wheelchair seat, PRM berth, PRM toilet, location of PRM seats) under normal operating conditions,

- the methods of requesting assistance for boarding and disembarking from trains (including PRM notice period, address, email, operating hours and the telephone number of the office(s) for PRM-assistance) according to Article 24 of the Regulation on Passenger Rights,
- the maximum size and weight of wheelchair (including the weight of the PRM) permitted,
- the transport conditions for accompanying persons and/or animals,
- conditions of access to the station building and platforms, including whether the station is classified as accessible for PRMs and whether is staffed for PRM support,

at least on its official website. This website shall be accessible to persons with disabilities.

This process shall be performed for the first publication at the latest six months after this TSI comes into force. Any modifications to this information shall be published at least 6 days before the modification enters into force. The railway undertaking shall list the articles which have been modified compared to the previous version. On each occasion the railway undertaking shall maintain on its official website the previous version of this information.

4.2.6.2. The entity in charge of collecting accessibility data or the station manager publishes information on the accessibility of rail services

The entity in charge of collecting accessibility data or the station manager shall publish the following information:

- conditions of access to the station building and platforms, including whether the station is classified as accessible for PRMs and whether is staffed for PRM support

The above process and the information used for it shall be compliant with the following standard(s):

- B.15 (see Annex IV)

This process shall be performed for the first publication as defined in article 7a (4) of the Commission Regulation (EU) 1300/2014¹ (PRM TSI). Any modifications to this information shall be published at least 6 days before the modification enters into force.

4.2.6.3. If the railway undertaking or ticket vendor uses IT communication for the purposes of sending an availability / reservation request for PRM assistance, such request must comply with the relevant provisions

The requesting distribution system shall send to the system requests for the relevant train availability/reservation in respect of the specified type of assistance.

The main types of requests shall be:

- Availability request,
- Reservation request,
- Partial cancellation request,
- Full cancellation request.

This process shall be performed following a request from a customer transmitted to the system of the railway undertaking or ticket vendor.

The data elements and the information content of the message used to meet the obligations shall comply:

¹ Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility (OJ L 356, 12.12.2014, p. 110).

- either with elements defined in the technical document B.10 (see Annex IV), in which case all addressed systems must be able to understand the request and to respond;
- or with otherwise defined standards, in which case the addressed system must be able to understand the request and to reply only if there is a specific agreement with the requesting system.

4.2.6.4. Addressed system sends an availability/reservation response for PRM assistance

If the railway undertaking uses IT communication for the purposes of sending of an availability/reservation response for PRM assistance, it shall abide by the terms and conditions of this process.

If a request for reservation of PRM assistance has been properly formulated according to the process described above, the addressed system shall send to the requesting system an availability/reservation response for the requested assistance type.

The main types of reservation responses shall be:

- Reply about availability,
- Confirmation of reservation request ,
- Confirmation of partial cancellation request,
- Confirmation of complete cancellation request,
- Negative reply.

This process shall be performed in response to an incoming request received by the system to which it is sent according to the process described above.

The data elements and the message information contents used to meet the obligations shall comply:

- either with the elements defined in technical document B.10 (see Annex IV),
- or with otherwise defined standards,

according to the protocol used by the requesting system.

4.2.7. Handling of information concerning the carriage of bicycles

This basic parameter lays down how the railway undertaking shall ensure the provision of information concerning the carriage of bicycles.

This basic parameter shall ensure that information for the carriage of bicycles shall be available to the passenger. The attributing system shall be able to handle at least messages according to the protocol specified in technical document B.5 (see Annex IV).

The provisions of this basic parameter shall apply as follows: the handling of information concerning the carriage of bicycles shall be applied in respect of the passenger services of the railway undertaking where carriage of bicycles is offered. The provisions of this basic parameter regarding an electronic request/confirmation shall be applied if there is an agreement between the requesting and the attributing parties for the provision of services where such carriage may be reserved or is subject to compulsory reservation.

This basic parameter shall have the following processes:

4.2.7.1. The railway undertaking publishes conditions for handling of bicycles

The railway undertaking shall publish for the attention of passengers the conditions for carriage of bicycles where such carriage is offered by the railway undertaking. This information shall be published at least on the railway undertaking's official website. This website shall meet web content accessibility

guidelines which take into account the needs of people with auditory and/or visual impairment. These conditions shall list at least

- the train types/numbers or line number (if no train number is available for the public) where carriage of bicycles is available including – if available - the types and the number of bikes permitted,
- particular times/periods where carriage of bicycles is permitted,
- the fares for the carriage of bicycles,
- whether a specific reservation for a bicycle storage place in the train is available or required (including bicycle notice period, operating hours, email and/or telephone).

The first publication of these conditions shall take place not later than six months after this TSI comes into force. Changes to this information shall be published at least six days before the change comes into force. The railway undertaking shall list the articles which have been changed compared to the previous version. The railway undertaking shall in all cases maintain the previous version of this information on its official website.

4.2.7.2. A railway undertaking or ticket vendor sends an availability/reservation request for bicycles to the attributing reservation system

The possibility of making a reservation may be subject to the existence of a commercial agreement between the carrier(s) and distributor(s) involved.

If the railway undertaking or ticket vendor uses IT communication for the purposes of sending a request for availability/reservation for the carriage of bicycles, such communication shall conform to the requirements of this process.

The requesting distribution system shall send requests for the specified bicycle carriage to the attributing system concerning the availability/reservation of the train concerned.

The main types of reservation requests shall be:

- Enquiry about availability,
- Reservation request,
- Partial cancellation request,
- Complete cancellation request.

This process shall be performed following a request from a customer sent to the distribution system of the railway undertaking.

The data elements and the information content of the message used to meet the obligations shall be compliant:

- with the definitions in technical document B.5 (see Annex IV) or with elements defined in technical document B.13 (see Annex IV), in which case all attributing systems shall be able to understand the request and to answer;
- or standards or any format fully compatible and interoperable with the above mentioned technical documents B.5 and B.13

4.2.7.3. Attributing reservation system sends availability/reservation response for bicycles

If the railway undertaking uses IT communication for the purposes of sending of an availability/reservation answer for the carriage of bicycles, it shall follow the relevant instructions of this process.

If a request for reservation of bicycle spaces has been correctly formulated according to the process above described, the attributing system shall send to the requesting distribution system an availability/reservation response for the requested train.

The main types of reservation responses shall be:

- Reply about availability,
- Confirmation of reservation request,
- Confirmation of partial cancellation request,
- Confirmation of complete cancellation request,
- Negative reply.

This process shall be performed in response to an incoming request arriving at the attributing system according to the process described above.

The data elements and the information content of the message used to meet the obligations shall comply:

- either with information contained in technical document B.5 (see Annex IV),
- or with elements defined in technical document B.13 (see Annex IV),
- or standards or any format fully compatible and interoperable with the above mentioned technical documents B.5 and B.13

4.2.8. Handling of information concerning the carriage of cars

This basic parameter lays down how the railway undertaking shall ensure the provision of information for the carriage of cars/motorcycles (in the following, the word 'cars' includes motorcycles) if it is offered by the railway undertaking.

This basic parameter shall ensure that information on the carriage of cars shall be available to the passenger. The attributing system shall be able to handle at least messages according to the protocol specified in technical document B.5 (see Annex IV).

The provisions of this basic parameter shall apply as follows: the handling of information concerning the carriage of cars shall be applied in respect of the passenger services of the railway undertaking where carriage of cars is offered. The provisions of this basic parameter regarding electronic request/confirmation shall apply if there is an agreement between the requesting and the attributing parties for services where such carriage may be reserved or is subject to mandatory reservation.

This basic parameter shall apply as follows:

4.2.8.1. The railway undertaking publishes conditions for the handling of cars

The railway undertaking shall communicate to the passenger the conditions for carriage of cars where this is offered by the railway undertaking. This information shall be published at least at the railway undertaking's official website. This website shall comply with web content accessibility guidelines which take into account the needs of people with auditory and/or visual impairment.

These conditions shall list at least:

- the train types/numbers on which carrying of cars is available,
- particular times/periods where carrying of cars is available,
- the standard fares for carrying of cars (incl. fares for accommodation of passengers, where accommodation is offered by the railway undertaking),
- specific address and time for loading of cars on to the train,

- specific address and arrival time of the train at the station of destination,
- size, weight and other limitations for the transport of cars.

The first publication shall take place at the latest six months after this TSI comes into force. Changes to this information shall be published at least six days before they enter into force. The railway undertaking shall list the articles which have been amended. The railway undertaking shall on each occasion keep the previous version of this information on its official website.

4.2.8.2. The railway undertaking or ticket vendor sends an availability/reservation request for cars to the reservation system

The possibility of making a reservation shall be subject to the existence of a commercial agreement between the carrier(s) and distributor(s) involved. Such agreements may include charges, technical and security standards, specific limitations in terms of trains, Origins/Destinations, tariffs, sales channels, etc.

If the railway undertaking or ticket vendor uses IT communication for the purpose of sending availability/reservation requests for the carriage of cars, such communication shall comply with the provisions governing this process.

Subject to an agreement between the parties involved, the requesting distribution system shall send to the attributing system for the relevant train availability/reservation requests for the specified carriage of cars.

The main types of reservation requests shall be:

- Availability request,
- Reservation request,
- Partial cancellation request,
- Complete cancellation request.

This process shall be performed following a request transmitted by a customer to the distribution system of the railway undertaking.

The data elements and the information content of the message used to meet the obligations shall be compliant:

- either with elements defined in technical document B.5 (see Annex IV), in which case all attributing systems shall be able to understand the request and to reply;
- or with otherwise defined standards, in which case the attributing system shall be able to understand the request and to answer only if there is a specific agreement with the requesting distribution system.

4.2.8.3. Attributing reservation system sends availability/reservation response for cars

If the railway undertaking uses IT communication for the purpose of sending availability/reservation responses for the carriage of cars, it shall adhere to the rules laid down in respect of this process.

If a request for reservation of cars has been properly formulated according to the process described above, the attributing system shall send an availability/reservation response for the requested train to the requesting distribution system.

The main types of reservation responses shall be:

- Reply about availability,
- Confirmation of reservation request,
- Confirmation of partial cancellation request,

- Confirmation of complete cancellation request,
- Negative reply.

This process shall be performed in response to an incoming request arriving at the attributing system according to the process described above.

The data elements and the information content of the message used to meet the obligations shall comply:

- either with elements defined in technical document B.5 (see Annex IV),
- or with otherwise defined standards,

according to the protocol used by the requesting distribution system.

4.2.9. Handling of availability/reservation

This basic parameter lays down the manner in which the railway undertakings shall deal with reservations for the accommodation of passengers. All of the various types of accommodation (such as seats, couchettes, sleepers, priority seats, wheelchair spaces, universal sleeping compartments (see PRM TSI section 4.2.4)) will be designated hereinafter as "places", unless more specific information is needed. Reservations for the carriage of bicycles, cars and for assistance of PRM, are described in separate basic parameters in separate chapters.

Reservation of places may simply concern the booking of accommodation, in addition to the transport contract, or may be part of a combined transaction which includes both accommodation and a transport contract.

This basic parameter shall ensure that the issuing and attributing railway undertakings shall exchange appropriate availability and reservation information. The attributing system shall be able to handle at least messages according to the protocol specified in the technical document B.5 (see Annex IV).

The provisions of this basic parameter shall be applied if an agreement between the requesting and the attributing parties exists in respect of services which may be reserved or are subject to mandatory reservation.

This basic parameter shall involve the following processes:

4.2.9.1. The railway undertaking or ticket vendor sends an availability/reservation request to the attributing reservation system

The possibility of making a reservation may be subject to the existence of a commercial agreement between the involved carrier(s) and distributor(s).

The requesting distribution system shall send requests to the attributing system in respect of the relevant train availability/reservation for the specified accommodation type.

The main types of reservation requests are:

- Enquiry about availability,
- Reservation request,
- Request for partial cancellation,
- Request for complete cancellation.

This process shall be performed following a request from a customer transmitted to the distribution system of the railway undertaking.

The data elements and the information contained in the message used to meet the obligations shall comply:

- either with the elements set out in technical document B.5 (see Annex IV) or with elements defined in technical document B.13 (see Annex IV), in which case all attributing systems shall be able to understand the request and to reply;
- or standards or any format fully compatible and interoperable with the above mentioned technical documents B.5 and B.13

4.2.9.2. Attributing reservation system sends availability/reservation response

If a request for reservation of places has been validly formulated according to the process described above, the attributing system shall send an availability/reservation response for the requested train to the requesting distribution system.

The main types of reservation responses shall be:

- Reply about availability,
- Confirmation of reservation request,
- Confirmation of partial cancellation request,
- Confirmation of complete cancellation request,
- Replacement proposal,
- Negative reply.

This process shall be performed in response to an incoming request arriving at the attributing system according to the process described above.

The data elements and the message information contents used to meet the obligations shall be compliant:

- either with elements defined in technical document B.5 (see Annex IV),
- or with elements defined in technical document B.13 (see Annex IV),
- or standards or any format fully compatible and interoperable with the above mentioned technical documents B.5 and B.13

4.2.10. Handling of security elements for product distribution

This basic parameter specifies the manner in which the attributing railway undertaking shall generate security elements for the distribution of its products.

This basic parameter must ensure that railway undertakings and passengers shall, at the appropriate time, obtain from the attributing railway undertaking the security information and references needed for the various ticket types.

This basic parameter shall entail the following processes:

4.2.10.1. Attributing system creates security element for electronic delivery

If a railway undertaking or ticket vendor issues ticket/reservation, the staff of the rail ticket office/agency/retailer or the distribution system of the railway undertaking shall generate the security information to be inserted in the ticket/reservation.

This process shall be performed as soon as the booking status and sales transaction data have been successfully sent to the distribution system of the agreed railway undertakings.

The above process and the information used for it shall comply with:

- the technical document B.5
- the technical document B.13,

- The technical document B.12 for the security elements.

To check the authenticity of the security elements by the TCO, a public key infrastructure (PKI) has to be used by the railway undertakings, ticket vendors and tour operators creating those security elements for electronic delivery.

4.2.10.2. Attributing system creates a file reference for the railway undertaking for electronic delivery

If a railway undertaking or ticket vendor issues CIV compliant ticket/reservation, the staff of rail ticket office/agency/retailer or the distribution system of the railway undertaking shall produce a dossier reference to retrieve the ticket/reservation and shall enter all information concerning the ticket into its own distribution system.

This process shall be performed as soon as the booking status and sales transaction data have been successfully sent to the distribution system of the agreed railway undertakings.

The above process and the information used for it shall be compliant with:

- the technical document B.5.

4.2.10.3. Attributing system creates a dossier reference for the passenger for electronic delivery

If a railway undertaking or ticket vendor issues a CIV compliant ticket/reservation, the staff of the rail ticket office/agency/retailer or the distribution system of the railway undertaking shall generate a dossier reference and shall enter it on the ticket/reservation.

This process shall be performed as soon as the booking status and sales transaction data have been successfully sent to the distribution system of the agreed railway undertakings.

The above process and the information used for it shall be compliant with:

- TAP TSI technical document B.5 - message "2.14.6.2 – Retrieve security features for existing booking".

4.2.11. Delivery of the product to the customer after its purchase (fulfilment)

This basic parameter sets out all the possible direct and indirect fulfilment methods which are linked to the ticket and/or reservation and to the kind of media (e.g. paper).

This basic parameter shall ensure that the issuer or ticket vendor shall issue tickets according to standards that ensure interoperability between railway undertakings. For the purposes of issuing tickets for international and foreign sales, railway undertakings shall use at least one of the fulfilment types listed in Chapter 4.2.11.1 Fulfilment - direct - for international and foreign sales and in Chapter 4.2.11.2 Fulfilment – indirect - for international and foreign sales. For the purposes of issuing tickets for domestic sales, railway undertakings shall use at least one of the fulfilment methods listed in chapter 4.2.11.3 Fulfilment – direct – domestic sales and in Chapter 4.2.11.4 Fulfilment – indirect – domestic sales.

4.2.11.1. Fulfilment - direct - for international and foreign sales

This process shall be an alternative to process 4.2.11.2 Fulfilment - indirect- for international and foreign sales.

The railway undertakings shall at least accept tickets according to the definition in technical document B.11 (see Annex IV), except where the ticket is not appropriate for the journey being undertaken, where the railway undertaking has reasonable grounds to suspect fraud and where the ticket is not being used in accordance with the conditions of carriage according to Chapter 4.2.4.

The main types of issued tickets are specified in technical document B.11 of Annex III:

- Ticket and reservation,
- Ticket only,

- Reservation only,
- Supplements,
- Upgrade,
- Change of itinerary,
- Boarding pass,
- Ticket only or ticket and reservation for Special fares in conjunction with national railcards,
- Ticket only or ticket and reservation for Group ticket,
- International rail passes of various kinds,
- Accompanied vehicle coupon,
- Travel voucher for compensation.

The above process and the information used for it shall be compliant with the technical document(s):

- B.11 (see Annex IV).
- B.12 (see Annex IV)

4.2.11.2. Fulfilment - indirect - for international and foreign sales

This process shall be an alternative to process 4.2.11.1 Fulfilment - direct - for international and foreign sales

If the railway undertaking makes sales using indirect fulfilment on one of the following methods, it must use the following standards:

- CIV compliant electronic delivery (Ticket On Departure, Manifest On List),
- CIV compliant A4 ticket via electronic delivery for visual inspection by barcode readers,
- CIV compliant flexible ticket via electronic delivery for visual inspection by barcode readers.

The main types of above issued tickets shall be:

- Non-Reservation ticket (travel only),
- Non-Reservation ticket + reservation (travel and reservation),
- Non-Reservation ticket + supplement (travel and supplement),
- Non-Reservation ticket + reservation + supplement (travel, reservation and supplement),
- Integrated-Reservation ticket (travel and reservation).

The above process and the information used for it shall be compliant with the following technical document(s):

- B.5 (see Annex IV)
- B.11 (see Annex IV),
- B.12 (see Annex IV),

4.2.11.3. Fulfilment – direct – domestic sales

This process shall be an alternative to process 4.2.11.4 Fulfilment - indirect- for domestic sales.

If the railway undertaking makes sales using direct fulfilment on one of the following methods, it must use the following standards:

- Rail combined ticket 2 (RCT2) and Rail Credit card size ticket (RCCST)

The above process and the information used for it shall be compliant with the following technical document(s):

- B.11 (see Annex IV),
- B.12 (see Annex IV),
- or with otherwise defined standards

4.2.11.4. Fulfilment – indirect – domestic sales

This process shall be an alternative to process 4.2.11.3 Fulfilment - direct - for domestic sales

If the railway undertaking makes sales using indirect fulfilment on one of the following methods, it must use the following standards:

- electronic delivery (Ticket On Departure, Manifest On List),
- A4 ticket via electronic delivery for visual inspection by barcode readers,
- flexible ticket via electronic delivery for visual inspection by barcode readers.

The main types of above issued tickets shall be:

- Non-Reservation ticket (travel only),
- Non-Reservation ticket + reservation (travel and reservation),
- Non-Reservation ticket + supplement (travel and supplement),
- Non-Reservation ticket + reservation + supplement (travel, reservation and supplement),
- Integrated-Reservation ticket (travel and reservation).

The above process and the information used for it shall be compliant with the following technical document(s):

- B.5 (see Annex IV)
- B.11 (see Annex IV),
- B.12 (see Annex IV),

4.2.12. Handling of ticket control and ticket state modification data

This basic parameter specifies the manner in which the ticket control organization shall exchange ticket control information with the issuing railway undertaking or carrier, ticket vendor and tour operator.

This basic parameter shall ensure that the ticket control organisation shall provide ticket control data or ticket state changes various ticket types, specified in chapter 4.2.11 according to standards that ensure interoperability between ticket control organisations, railway undertakings and ticket vendors.

This basic parameter lays down the exchange of ticket annotation data, including ticket check data. It must prescribe how the dialogue between TCO and railway undertaking, carrier, ticket vendor and tour operator, has to be maintained in order to exchange ticket annotations (e.g. electronic nip, extension of validity, extension of route).

The TCO must, at the appropriate time, send ticket annotation information to other TCO, carrier, ticket vendor and tour operator.

4.2.12.1. Handling of ticket annotation message

This message must be issued by the TCO to the railway undertaking, ticket vendor or tour operator, who have issued the ticket. The message has to be made available as well to other TCO, involved in the ticket check and annotation.

The ticket annotation information, including ticket check information has to be provided by the TCO in due time to the railway undertaking, other TCO and carrier.

The definition of the mandatory structure of ticket annotation including ticket check message and the elements to be followed are described in the document B.14 (see Annex IV).

4.2.12.2. The railway undertaking or ticket vendor sends an reimbursement or compensation request to the attributing system

For the involved carrier(s) and distributor(s), the requesting distribution system shall send reimbursement and compensation request on behalf of the passenger to the attributing system in respect of the relevant ticket or through-ticket.

The definition of the mandatory structure of ticket reimbursement and compensation request and the elements to be followed are described in the document B.13 (see Annex IV).

4.2.13. Handling of information provision in the station area

This basic parameter lays down how the station manager shall provide the customer with train running information within the station area.

The provisions shall apply only if there has been a renewal, major upgrade or new installation of voice announcements and/or display systems.

The provisions of this basic parameter shall apply at least in respect of stations at which trains performing international service stop.

This basic parameter shall entail the following processes:

4.2.13.1. Station manager informs customers with in the station

With regard to information on train departures, station managers shall provide the following departure information on trains to customers in stations:

- Train type and/or number,
- Station(s) of destination
- And, where appropriate, intermediate station stop(s),
- Platform or track,
- Scheduled Departure time.

In the event of deviation from this information for departing trains, station managers shall provide, in stations, at least the following train information:

- Train type and/or number,
- Station(s) of destination
- Scheduled Departure time,
- Deviation from plan.

As regards information on terminating trains, the station manager shall provide at least the following train information:

- Station(s) of origin,
- Arrival time at the terminating station,
- Train type and/or number,
- Arrival platform or track.

In the case of deviation for terminating trains, the station manager shall provide at least the following information for such trains:

- Train type and/or number,
- Station(s) of origin
- Scheduled arrival time,
- Deviation from plan.

Deviations from plan comprise:

- delays,
- Change of track or platform,
- Full or partial cancellation of train,
- Train rerouting.

The station manager decides according to agreements with the railway undertakings and/or infrastructure managers on:

- The type of information system (display and/or voice announcement),
- The point in time when the information is provided,
- The location within the station where the information system will be installed.

In accordance with a contractual agreement, information about deviations shall be delivered by railway undertakings and/or infrastructure managers in due time to the station manager.

4.2.14. Handling of information provision in the vehicle area

This basic parameter lays down how the railway undertaking shall provide train running information within the vehicle area.

The provisions shall apply to new or renewed or upgraded rolling stock, if information systems (voice announcements and/or displays) are renewed or installed.

The provisions of this basic parameter shall apply to at least all those trains performing international service.

This basic parameter shall have the following processes:

4.2.14.1. The railway undertaking informs passengers in the train

The railway undertakings shall provide information to passengers in the train:

- At station of departure and major intermediate station stops:
 - Train type and/or number,
 - Final destination(s),
 - Where practicable, intermediate station stops,
 - delay,
 - Reasons for delay, if known.
- Before arrival at all intermediate station stops:
 - Next station stop (station name).
- Before arrival at major intermediate station and destination station:
 - Next station stop (station name),

- Planned arrival time,
- Estimated arrival time and/or other Delay information,
- Next main connecting services (at the discretion of the railway undertaking).

The railway undertaking decides on:

- The type of information system (Display and /or voice announcements),
- The point in time when the information will be provided,
- The location within a train where the information devices will be installed.

4.2.15. *Objects Identifiers*

Objects exchanged between RUs and IMs shall be marked with unique identifiers created by the owner of the object in the planning phase. Identifiers exist for the following objects:

- The Train object shall describe the planned train and its entire journey for the purpose of its owner LeadRU/RA. It is transmitted to the IM via the Reference Train Identifier, the object Route and the object Path Request.
- The Route object owned by LeadRU/RA shall contain the minimum set of information about the entire journey of the planned train that an IM needs to perform its duties.
- The Path Request object owned by LeadRU/RA/RRU shall describe the details of the path requested for the planned train on the IM network.
- The Path object owned by the IM shall describe the details of the allocated path coordinated between the involved IMs. The Operational Train Number is an attribute thereof, which might change within the lifecycle of the path or of the linked train.
- The Case Reference object owned by LeadRU/RA/RRU or IM shall gather objects or shall refer to additional information according to a dedicated and bilaterally agreed use case.

Objects for their complete lifecycle shall be linked with messages using a unique and stable Reference Train Identifier.

The objects are described in the technical document ERA-TD-105 'TAF TSI - Annex D.2: Appendix F - TAF TSI Data and Message Model'.

4.2.16. *Path Request and path allocation*

See TAF TSI section 4.2.3.

4.2.17. *Train preparation*

This basic parameter describes the messages which must be exchanged during the train preparation phase until the start of the train.

Train preparation includes compatibility check between the train and the route. This check is done by the ResponsibleRU on the basis of information provided by concerned IMs on infrastructure description and infrastructure restrictions.

4.2.17.1. *"Train ready" message*

The responsible railway undertaking shall send a "train ready" message to the infrastructure manager every time a train is ready to start after train preparation, unless under national rules the infrastructure manager accepts the timetable as a "train ready" message. In the latter case, the railway undertaking shall inform the infrastructure manager and, if applicable, the station manager if the train is not ready as soon as possible.

The definition of the mandatory structure of Train Ready message and the elements to be followed are described in the document TAF TSI — Annex D.2: Appendix F — TAF TSI Data and Message Model' listed in Appendix I of the TAF TSI.

4.2.18. Train running information and Train running forecast

4.2.18.1. General remarks

This basic parameter lays down the train running information and train running forecast. It must prescribe how the dialogue between infrastructure manager, railway undertaking, station manager ticket vendor and tour operator are to be maintained. It prescribes as well how the dialogue between railway undertaking and ticket vendor, tour operator and station manager, are to be maintained in order to exchange train running information and train running forecasts.

This basic parameter lays down how the infrastructure manager must, at the appropriate time, send train running information to the railway undertaking, station manager, ticket vendor and tour operator and the subsequent neighbouring infrastructure manager involved in the operation of the train.

The train running information serves to provide details of the current status of the train at contractually agreed reporting points.

The train running forecast message is used to provide information about the estimated time at contractually agreed forecast points. This message shall be sent from the infrastructure manager to the railway undertaking, station manager and the neighbouring infrastructure manager involved in the run. This message shall in addition be sent upon request from the infrastructure manager to ticket vendors and/or tour operators. The information about the train running forecast shall be delivered to the station manager, ticket vendor and tour operator in due time by the railway undertakings and/or infrastructure managers according to the conditions in article 10 of Regulation (EU) 2021/782.

Contractual agreements shall specify Reporting Points for the train's movement.

This information exchange between RUs and IMs always takes place between the IM in charge and the RU, who has booked the path on which the train is actually running. This applies as well, if the path has been booked by another RU, who has mandated the Responsible RU with the train run. Furthermore, the Responsible RU remains the partner for the message exchange with the IM, if it subcontracts the run of the train to another RU.

For the purpose of dealing with passengers' complaints, the train Running Information data:

- Train identification (train number) and Train ID,
- reporting location, including train location status,
- actual date/time,
- delay
- delay cause, if any

shall be kept available by the Infrastructure manager for Railway Undertakings, ticket vendors, tour operators and Authorised Public Bodies for at least twelve months after the service train termination.

4.2.18.2. Train running forecast message

This message must be issued by the IM to the ResponsibleRU for handover points, interchange points, stations, train destination and other agreed reporting points as described in Chapter 4.2.18.1.

In addition, the message must be issued by the IM to the RU for other reporting points according the RU/IM contracts (e.g. for handling point or station).

Upon request this message must be issued by the infrastructure manager to station manager, ticket vendor and tour operator for contractually agreed reporting points .

A train running forecast can also be sent before the train starts running. For additional delays occurring between two Reporting Points, a threshold has to be contractually defined between the railway undertaking and the infrastructure manager to which an initial or a new forecast has to be sent. If the extend of the delay is not known, the infrastructure manager has to send a 'service disruption message' (see chapter 4.2.19 service disruption information).

The train running forecast message must give the forecast time for agreed forecast points.

Information on the train running forecast, and if relevant on the train delay cause (see section 4.2.18.3), shall be delivered upon request by the railway undertakings and/or infrastructure managers in due time to the station manager, ticket vendor and tour operator for contractually agreed reporting points under the conditions in article 10 of regulation (EU) 2021/782.

The infrastructure manager shall send this message to the next neighbouring infrastructure manager involved in the train run.

The definition of the mandatory structure of Train Running Forecast message and the elements to be followed are described in the document 'TAF TSI — Annex D.2: Appendix F — TAF TSI Data and Message Model' listed in Appendix I of the TAF TSI.

4.2.18.3. Train running information message and Train Delay Cause message

The 'Train Running Information message' must be issued by the IM to the ResponsibleRU upon:

- Departure from departure point, arrival at destination,
- Arrival and departure at handover points, interchange points and at agreed reporting points based on contract (e.g. stations and handling points).

As soon as a cause of delay is known (first assumption), and in case of update on the cause of delay, it should be provided by the IM to the ResponsibleRU to the station manager, ticket vendor and tour operator.

Information on the train delay cause shall be delivered by the railway undertakings and/or infrastructure managers in due time to the station manager, ticket vendor and tour operator under the conditions in article 10 of regulation (EU) 2021/782.

The definition of the mandatory structure of Train Running Information message and Train Delay Cause Message and the elements to be followed are described in the document 'TAF TSI — Annex D.2: Appendix F — TAF TSI Data and Message Model' listed in Appendix I of the TAF TSI.

4.2.19. Service disruption information

4.2.19.1. General remarks

This basic parameter lays down how service disruption information is handled between the railway undertaking and the infrastructure manager.

When the ResponsibleRU learns about a service disruption during the train running operation, it must immediately inform the IM concerned (this may be done orally by the ResponsibleRU). If train running is interrupted, the infrastructure manager shall send a 'train running interruption' message to the contracted RU and the next neighbouring IM involved in the train run.

If the length of the delay is known, the infrastructure manager shall send a 'train running forecast' message.

4.2.19.2. Train Running Interruption message

If train running is interrupted, the IM issues this message to the next neighbouring IM involved in the train run and to the ResponsibleRU.

Additionally the infrastructure manager has to deliver the Train Running Interruption message to the railway undertakings, station manager, ticket vendor and tour operator under the conditions in article 10 of regulation (EU) 2021/782.

The definition of the mandatory structure of Train Running Interruption message and the elements to be followed are described in the document 'TAF TSI — Annex D.2: Appendix F — TAF TSI Data and Message Model' listed in Appendix I of the TAF TSI.

4.2.20. *The quality of the data and information used in this TSI*

4.2.20.1. *The requirements*

In order to meet the requirements of this TSI, the following shall be applied as regards data and information quality throughout the whole TSI:

All those to whom this TSI is addressed shall be responsible for making available up-to-date, coherent, accurate and complete data at the appropriate time and in the appropriate format to other railway undertakings, or to infrastructure managers, or to a third party. Each actor addressed by this TSI shall be responsible for publishing up-to-date, coherent, accurate and complete information at the appropriate time and in the appropriate content to the customers (passengers), or to other railway undertakings, or to infrastructure managers, or to a third party.

Where data or information are used in order to meet the requirements of several basic parameters of this TSI at the same time, the actors to whom this TSI is addressed shall ensure that the data or information shared between those basic parameters is used in a coherent manner (e.g. coherence i) between timetable and tariff information or ii) between tariff and reservation information shall be ensured).

Where information or data are provided by several actors addressed by this TSI, the actors shall together ensure that the parts of the common data or information provided are up-to-date, coherent, accurate, complete and compatible (example: deliveries of timetable information for railway undertaking A and railway undertaking B must be coherent in order to ensure that they match at the border, etc).

Where reference data or reference information is used in order to meet the requirements of this TSI, the actors addressed by this TSI shall guarantee the coherence between the reference data or reference information and the data or information used in the basic parameters of this TSI (examples: coherence i) between location reference codes and train running information or ii) between railway undertaking reference codes and fulfilment shall be ensured, etc).

The quality of data or information provided by the actors for the purposes of this TSI shall be such that it enables the actors to whom this TSI is addressed to issue tickets as set out in Article 10 of the Regulation on Rail Passengers' Rights and Obligations.

The quality of data or information provided by the actors for the purposes of this TSI shall achieve a level which makes it possible for the actors addressed by this TSI to provide the information as set out in Article 10 and in Annex II of the Regulation on Rail Passengers' Rights and Obligations.

4.2.21. *Various reference files and databases*

4.2.21.1. *Reference files*

For the operation of passenger trains on the European network, the following reference files must be available and accessible to all service providers (infrastructure managers, railway undertakings, authorised third parties and station managers). The data must represent the actual status at all times.

The Agency will centrally store and maintain unique codes for the following reference data:

- reference file of the coding for all infrastructure managers, railway undertakings, station managers, service provider companies,

The Agency will save a copy of the Reference File for the Locations Codes, Retail location codes and Company Codes. On individual request and without prejudice to intellectual property rights, this data shall be available for public consultation

- reference file(s) of the coding of locations (primary and subsidiary) used for Retail communications and for RU/IM communications,
- reference file for European reservation systems,
- reference file of codes for timetable exchange purposes,
- reference file of codes for tariff exchange purposes,
- message-dataset catalogue,
- passenger Code List,
- any other files and code lists that are needed for the use of the technical document(s) in the annexes.

Where a reference file is in common use with the TAF TSI, its development and use shall be as close as possible to the implemented TAF TSI in order to achieve optimum synergies.

The above process and the information used for it shall be compliant with the following technical document(s):

- B.8 (see Annex IV)
- B.9 (see Annex IV),

4.2.21.2. Additional requirements concerning databases

Every system (Database) must be able to support a clearly defined system and data accessibility and/availability rules by enforcing the data consistency.

4.2.22. Electronic transmission of documents

The description in Chapter 4.2.23 – Networking and communication – presents the communication network to be used for data exchange. This network and the described security handling allow any type of network transmission, such as e-mail, file transfer (Ftp, Http), etc. The parties involved in the information exchange can then decide on the type to choose, thereby ensuring the electronic transmission of documents, for example, via FTP.

4.2.23. Networking and communication

4.2.23.1. General architecture

See TAF TSI section 4.2.12.1.

4.2.23.2. Network and Security

See TAF TSI section 4.2.12.2.

4.2.23.3. Protocols

See TAF TSI section 4.2.12.6.

4.2.23.4. Encryption

See TAF TSI section 4.2.12.3.

4.2.23.5. Central repository

The central repository must be able to handle:

- metadata - structured data describing the content of messages,
- Public Key Infrastructure (PKI),
- Certification Authority (CA),

The management of the central repository should be under the responsibility of a non-commercial co-European organisation.

- list of electronic addresses where the actors addressed by this TSI allow other actors to obtain information or data according to the provisions of this TSI,
- directory (phonebook) - it contains all necessary information on those participating in exchanging messages and data.

Where the Central Repository is in use in conjunction with the TAF TSI, development and changes shall be performed as closely as possible to the implemented TAF TSI in order to achieve optimum synergies.

The management of the central repository should be under the responsibility of a non-commercial co-European organisation. Where the Central Repository is in use in conjunction with the TAF TSI, development and changes shall be performed as closely as possible to the implemented TAF TSI in order to achieve optimum synergies.

4.2.23.6. Common interface for RU/IM communication

See TAF TSI section 4.2.12.5.

4.2.24. Management of connection with other modes of transport

In order to manage the connection with other modes of transport, the following standard should be applied for the provision of information to and exchange of information with other modes of transport:

- For the exchange of timetable information between railway undertakings and other modes of transport: norms EN 12896 ("Transmodel") and CEN/TS 16614-2:2020 (NeTEx); and subsequent versions; or any machine-readable format fully compatible and interoperable with those standards or technical documents.
- For the exchange of specific timetable data, the XML technical standards and protocols based on Transmodel, in particular norm EN 15531 ("SIRI") for the exchange of real-time timetables ; norm CEN/TS 16614-1:2020 and EN 28701 (IFOPT) for the exchange of "stop/station" data; and subsequent versions; or any machine-readable format fully compatible and interoperable with those standards or technical documents.
- For the exchange of tariff data between railway undertakings and other modes of transport: The technical standard CEN/TS 16614-3:2020 and subsequent versions or any machine-readable format fully compatible and interoperable with those standards or technical documents should be used.

4.3. Functional and technical specifications of the interfaces

From the standpoint of technical compatibility, the interfaces of the subsystem 'telematics applications for passenger services' with the other subsystems are as described in the following paragraphs.

4.3.1. Interfaces with the Rolling Stock Subsystem

Table 1 : Interfaces with the Rolling Stock subsystem

Interface	Reference Telematics Applications for passengers TSI	Reference Rolling Stock - Locomotives and Passengers TSI
Board device display	4.2.13 Handling of information provision in vehicle area	4.2.5 Customer information (PRM)
Automatic voice announcement	and 4.2.13 Handling of information provision in vehicle area	4.2.5 Customer information (PRM) 4.2.5.2 Audible communication system

4.3.2. Interfaces with the Telematics Applications for Freight Subsystem

Table 2 : Interfaces with the Telematics Applications for Freight subsystem

Interface	Reference Telematics Applications for passengers TSI	Reference Telematics Applications for Freight TSI
Train ready	4.2.17.1 "Train ready" message	4.2.4.3 Train ready message
Train running forecast	4.2.18.2 Train running forecast message "Train running forecast" message	4.2.5.2 Train running forecast message
Train running information	4.2.18.3 Train running information message and Train Delay Cause message	4.2.5.3 Train running information and Train Delay Cause message
Train running interrupted to RU	4.2.19.2 Train Running Interruption message	4.2.5.2 Train running interrupted
Central Repository	4.2.23.5. Central repository	4.2.12.4 Central repository
Reference Files	4.2.21.1 Reference files	4.2.11.1 Reference files

4.4. Operating rules

4.4.1. Data quality

See TAF TSI section 4.4.1.

4.4.2. Operating the central repository

The functions of the Central Repository are defined in Chapter 4.2.23.5 Central repository. For the purpose of data quality assurance, the entity operating the Central Repository shall be responsible for the updating and quality of the Metadata and the directory, and also for the administration of the access control. The quality of the Metadata in terms of completeness, consistency, timeliness and accuracy shall enable appropriate functioning for the purposes of this TSI.

4.5. Maintenance rules

See TAF TSI section 4.5.

4.6. Professional qualifications

See TAF TSI section 4.6.

4.7. Health and safety conditions

See TAF TSI section 4.7.

5. INTEROPERABILITY CONSTITUENTS

5.1. Definition

See TAF TSI section 5.1.

5.2. List of constituents

See TAF TSI section 5.2.

5.3. Constituents' performances and specifications

See TAF TSI section 5.3.

6. ASSESSMENT OF CONFORMITY AND/OR SUITABILITY FOR USE OF THE CONSTITUENTS AND VERIFICATION OF THE SUBSYSTEM

6.1. Interoperability constituents

6.1.1. Assessment procedures

Not relevant for the TSI Telematics Applications for passenger services.

6.1.2. Module

Not relevant for the TSI Telematics Applications for passenger services.

6.2. Subsystem Telematics Applications for passenger services

According to Annex II to Directive (EU) 2016/797, the subsystems are broken down into structural and operational areas. The conformity assessment is obligatory for TSIs in the structural area. The subsystem Telematics Applications for passenger services belongs to the functional area and this TSI does not determine any modules for conformity assessment.

6.2.1. Assessment of compliance of IT tools

Project in charge of IT tools deployed by the European rail sector may request the Agency to assess the compliance of those against the TSI requirements with reference to Art. 64 2(d) of regulation (EU) 2016/769.

The application for such request shall at least contain the following information:

- (1) Use Case document including:
 - TAP TSI function covered
 - Reference to TAP TSI chapter
 - List and documentation of functions and messages (including their sequence) to be tested
 - Description of IT System, which uses TAP messages or data sets
 - Description of communication interface of IT System
 - Information if request is for milestone of an EU funded project
 - TAP TSI release version number
- (2) TAP TSI data set
- (3) TAP TSI messages

The Agency performs TAP TSI compliance test and issues compliance assessment report to the applicant. The Agency will deliver a compliance assessment report within three months after confirming completeness:

- If the Message(s) or dataset carries all mandatory elements from TAP TSI,
- If the Message(s) or dataset complies with the TAP TSI technical documents,
- If the Messages sequence is compliant with TAP TSI.

Other than the TAP TSI datasets or messages can also be delivered for test to determine whether they carry mandatory elements from the TAP TSI. In such case instead of TAP TSI message or data set of the IT System it shall be delivered a message structure description with description of the data elements/fields, mentioning when applicable the applied standard(s) and their version.

7. IMPLEMENTATION

7.1. Introduction

This TSI concerns the subsystem telematics applications for passenger services. This subsystem is functional according to Annex II to Directive (EU) 2016/797. The application of this TSI therefore does not rely on the notion of new, renewed or upgraded subsystem, as is customary in the case of TSIs related to structural subsystems, except where it is specified in the TSI.

(a) Project governance

The development and deployment is put under governance of the Telematics (TAF & TAP) Advisory Committee.

The Telematics (TAF & TAP) Advisory Committee is organised as follows:

- Telematics RU/IM Advisory Committee
- Common Telematics Retail and RU/IM Advisory Committee
- TSGA Advisory Committee:
 - regulatory services
 - other TAP TSI activities

The Telematics Advisory Committee shall contribute to the work of the European Institutions to efficiently manage and coordinate the implementation of the TAF and TAP-TSIs at the European level. This shall involve setting the policy, the strategic direction and prioritisation.

The Telematics Advisory Committee, co-chaired by the European Commission and a person nominated by the rail sector representative bodies, shall be composed of:

- the representative bodies from the railway sector acting on a European level as defined in Article 5(3) of Regulation (EU) 2016/796 ('the rail sector representative bodies');
- the Agency;
- the European Commission,
- the TAP TSI Services Governance Association (TSGA) and,
- other organisations proposed to the Telematics Advisory Committee to be included as observers where there are sound technical and organisational reasons for doing.

For TSGA services, the project governance structure is described in ERA TAP technical document B.61 in order to guarantee the appropriate development of the system.

(b) Development of the system

All railway stakeholders concerned shall deploy the system following the Master Plan published at the public website of the Agency.

(c) Deployment and operation monitoring process

The monitoring of the deployment and operation is managed by the TAF and TAP Implementation Cooperation Group (ICG) for Retail related implementation. TAF ICG and TAP ICG shall cooperate to establish the reporting process of common basic parameters.

Established and managed by ERA the TAP ICG is composed by:

- the Agency;
- the National Contact Points (see Annex VII);
- the Representatives Bodies;
- the TAP TSI Services Governance Association (TSGA)

- other organisations designated by the Agency and having relevant technical and organizational experience.

The ICG is made responsible for:

- establishing and updating the Master Plan published at the public website of the Agency;
- assessing the progress of implementation and operation, analysing the deviations from the Master Plan and proposing improvement actions;
- assisting the NCPs to follow-up the TAF and TAP TSI implementation and operation at national level;
- approving the reports about the TAF and TAP TSI implementation and operation;
- reporting via the Agency to the European Commission, and to the Telematics Advisory Committee;
- Discuss and agree with NCPs any need for additional supporting actions from ERA, Member States or NCPs from the annual TAF TSI or TAP TSI implementation reporting.

The implementation related to RU/IM communications is monitored by the TAF ICG

7.2. Change Management

7.2.1. Change Management Process

Change management procedures shall be designed to ensure that the costs and benefits of change are properly analysed and that changes are implemented in a controlled way. These procedures shall be defined, put in place, supported and managed by the European Railway Agency and shall include:

- the identification of the technical constraints underpinning the change;
- a statement of who takes responsibility for the change implementation procedures;
- the procedure for validating the changes to be implemented;
- the policy for change management, release, migration and roll-out.
- the definition of the responsibilities for the management of the detailed specifications and for both its quality assurance and configuration management.

The Change Control Board (CCB) shall be composed of the European Railway Agency, rail sector representative bodies, a ticket representative body, a passenger representative body and Member States. Such an affiliation of the parties shall ensure a perspective on the changes that are to be made and an overall assessment of their implications. The CCB ultimately shall be brought under the aegis of the European Railway Agency.

7.2.2. Specific Change Management Process for technical documents published by the European Railway Agency

Technical documents quoted in chapter 4 of this TSI (except for the standards which are linked to open issues) and listed in Annex IV to this Regulation are technical documents published by the European Railway Agency pursuant to Article 4(8) of Directive (EU) 2016/797.

The change control management for these technical documents shall be established by the European Railway Agency in accordance with the following criteria:

1. The change requests affecting the technical documents are submitted either via the National Safety Authorities (NSA), or via the representative bodies from the railway sector acting on a European level as defined in Article 38(4) of Regulation (EU) 2016/796, or the ticket vendors' representative, or via the body which originally developed the specifications that were the forerunners of the technical documents.
2. The European Railway Agency shall gather and store the change requests.

3. The European Railway Agency shall present change requests to the dedicated ERA working party, which will evaluate them and prepare a proposal accompanied by an economic evaluation, where appropriate.
4. Afterwards the European Railway Agency shall present the change request and the associated proposal to the change control board that will or will not validate or postpone the change request.
5. If the change request is not validated, the European Railway Agency shall send back to the requester either the reason for the rejection or a request for additional information about the draft change request.
6. If the change request is validated, the technical document shall be amended.
7. If no consensus about the validation of a change request can be reached, the Agency shall submit to the Commission a recommendation to update the documents listed in Appendix III together with the draft new version of the document, the change requests and their economic evaluation and shall make these documents available on their web site.
8. The new version of the technical document and the validated change request shall be made available at the site of the Agency. The Agency will keep the Member States informed via the Committee established in accordance with Article 51(1) of Directive (EU) 2016/797.
9. If a change request would require a change of the legal text of the TAP TSI, the Agency shall send a recommendation to the European Commission to request a revision of the TAP TSI and/or request a technical opinion from the Agency

Where change control management affects elements which are in common use within the TAF TSI, the changes shall be made so as to remain as close as possible to the implemented TAF TSI in order to achieve optimum synergies.

7.3. Specific cases

7.3.1. Introduction

The following special provisions are permitted in the specific cases below:

- (a) "P" cases: permanent cases;
- (b) "T" cases: temporary cases, where it is planned that the target system is reached in the future.
- (c) "T1" cases: temporary cases, where it is planned that the target system shall be reached by 31 December 2025.

7.3.2. List of specific cases

7.3.2.1. Specific case Company code ("P")

For actors exchanging data with actors located outside EEA, company codes with 4 digits shall be allocated

7.3.2.2. Specific case Company code ('T1')

The usage of numerical codes according to the reference file of the coding for all IM, RUs, logistic providers and fleet managers (chapter 4.2.10.1), so called company codes, is mandatory. The Agency will allocate, store and maintain Company codes from 1 January 2026.

ANNEX II – GLOSSARY

The definitions in this glossary refer to the use of terms in this TSI.

Term	Description
Accessibility data	Accessibility data consists of the information related to the accessibility of passenger railway stations that needs to be collected, maintained and exchanged, that is to say, of a description of the characteristics and equipment of the passenger railway stations.
Allocation body (AB)	Body responsible for path allocation, which is independent in its legal form, organisation and decision-making from any railway undertaking (Directive 2012/34/EU).
Arrival date/time, actual	Means the actual date (And time) of arrival of means of transport
Applicant	A railway undertaking or an international grouping of railway undertakings or other persons or legal entities, such as competent authorities under Regulation (EC) No 1370/2007 of the European Parliament and of the Council and shippers, freight forwarders and combined transport operators, with a public-service or commercial interest in procuring infrastructure capacity (Directive 2012/34/EU (3)
Arrival date/time, estimated	Means the date (And time) of arrival of means of transport based on the current forecast
Arrival date/time, planned	Means the date (And time) of arrival of means of transport in the timetable
Arrival delay, expected	Means the time difference between the arrival date/time Estimated and the arrival date/time Planned
Arrival delay, actual	Means the time difference between the arrival date/time actual and the arrival date/time Planned
At the discretion of	Means that the railway undertaking can decide based on its experience and its needs
Attributing system	Means an electronic system hosting the catalogue of transport services for which a transport service provider authorises distributors to issue travel documents
Contributor	Means a company managing an attributing system. May be a carrier
Authorised Public Body	Means a public authority having a statutory obligation or right to provide members of the public with travel information and also refers to the public authority which is responsible for the enforcement of Regulation (EU) 2021/782 pursuant to Art. 31 (1) of the Regulation
Availability	Means the information (transport service, type of offer, tariff, other service) that can actually be obtained by a passenger at a given point in time, for a specific train. Not to be confused with offer, indicating that a (transport service, type of offer, tariff, other service) is offered in the initial planning, but could be sold out and is therefore not obtainable by a passenger at a given time point, for a specific train

Term	Description
Basic parameter	Means any regulatory, technical or operational condition which is critical to interoperability and requires a decision in accordance with the procedure laid down in Article 21(2) before any development of draft TSIs by the joint representative body
Booking (selling)	Means the selling of a ticket with or without a reservation
Carrier	Means the contractual carrier with whom the passenger has concluded the contract of carriage pursuant to Uniform Rules (CIV), or a successive carrier who is liable on the basis of this contract.
Carrier, Successive Carrier	Means a carrier in a chain of carriers who perform the contract of carriage with the passenger and who are liable for the performance of that contract.
Carrier, Sole	Means a carrier that operates a transport service independently of other carriers
Channel	Means the method (such as ticket office machine, on-train media, public web services, telesales, mobile ticketing) by which a service (information, ticket sale, ticket refund, response to complaints etc) is provided to the passenger by a railway undertaking or ticket vendor
CIV	Uniform Rules concerning the Contract of International Carriage of Passengers by Rail (CIV)
Coach ID	Means the unique identification number of a coach
Commission	Means the European Commission
Company Code (CC)	Company Codes (CCs) identify railway stakeholders for the purpose of telematic application services.
Competent authority	A public authority, agency or other body which is competent to perform tasks pursuant to the legal acts referred to in Article 2(1) and for which access to regulatory information is necessary, such as checking, enforcing, validating or monitoring compliance on the territory of a Member State
COTS-product	Means commercial off-the-shelf products
Customer	Means a person who intends to buy, is buying, or has bought a railway product for him/herself or for other person(s). May therefore be different from passenger (see passenger)
Decryption	Means the converting of encrypted data back into their original form
Delay	Means the time difference between the time the passenger was scheduled to arrive according to the published timetable and the time of his/her actual or expected arrival
Delta deviation	Means the operational "lateness or earliness" in relation to the booked scheduled time
Departure date/time, actual	Means the actual date (And time) of departure of means of transport
Departure date/time, estimated	Means the date (And time) of departure of means of transport based on current forecast

Term	Description
Departure date/time, planned	Means the date (And time) of departure of means of transport in the timetable
Directive (EU) 2016/797	Means Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union
Departure delay, actual	Means the time difference between the actual departure date/time and the Planned departure date/time
Departure delay, expected	Means the time difference from the departure date/time
Display	Means any dynamic visual device located either in Stations or on the inside / outside of trains for the purpose of informing passengers
Distributor	Means an undertaking providing legal and technical capacity to issuers to sell rail products or to provide on line-facilities to customers to buy rail products. Besides, the distributor can offer services to issuers by assembling O-Ds carried out by different carriers into complete journeys as required by the traveller. The distributor may be a carrier
Domestic journey	Means a passenger journey by rail whereby a passenger does not cross a border of a Member State
Domestic rail passenger service	Means a rail passenger service which does not cross a border of a Member State
Encryption	Means the encoding of data
ETA	Means the Estimated time of arrival (of the train at the station)
ETH	Means the Estimated time of Handover (of a train from one infrastructure manager to another)
ETI	Means the Estimated time of Interchange (of the train from one railway undertaking to another)
European Union Agency for Railways	Means the Agency established pursuant to Regulation (EU) 2016/796 of the European Parliament and of the Council of 11 May 2016 establishing a European Union Agency for Railways
Fare	Means a charge to be paid for transportation or service
Forecast time	estimated time of arrival, departure or passing time of a train.
Forecast point	Means a location for which the forecast is generated. It may relate to arrival, departure, passage or handover
Foreign rail passenger service	Means a rail passenger service which was purchased by the passenger in a country, but is performed in a country different from the country of purchase
Foreign sale	Means the sale of a train ticket by an issuer which is not (one of) the carrier(s) operating the train where the ticket will be used. The issuer is located in a country different from the country of the carrier(s)
Fulfilment	Means the process which delivers the Product to the customer after its purchase

Term	Description
General Conditions of Carriage	Means the conditions of the carrier in the form of general conditions or tariffs legally in force in each Member State and which have become, through the conclusion of the contract of carriage, an integral part of it
IRT train	Means a train that a passenger can board only having purchased an IRT ticket.
Handover point	Location of train's journey or between two paths where the responsibility for planning (including allocation) and/or operation changes from one IM to another. In the context of Planning it's called as Planning handover point, and in the context of Operations, it's called as Operational handover point.
Infrastructure Manager (IM)	Means some body or firm responsible in particular for establishing, managing and maintaining railway infrastructure, including traffic management and control-command and signalling; the functions of the infrastructure manager on a network or part of a network may be allocated to different bodies or firms. Where the infrastructure manager, in its legal form, organisation or decision-making functions, is not independent of any railway undertaking, the functions referred to in Sections 2 and 3 of Chapter IV shall be performed respectively by a charging body and by an allocation body that are independent in their legal form, organisation and decision-making from any railway undertaking. (Directive 2012/34/EU (3)). An IM can assume the roles ResponsibleIM and/or PlanningIM
IRT	Integrated Reservation Tickets – Means a kind of train ticket restricted to a specific train on a specific date/time. A IRT ticket can only be sold by means of an on-line transaction between the sales terminal and the attributing system where the relevant train is hosted
Interchange	Means the transfer of control from one railway undertaking to another for practical operational, safety and liability reasons.
Interchange between Carriers	Means the transfer of control from one carrier to another for practical operational, safety and liability reasons. Examples are: <ul style="list-style-type: none"> – successive carriers, – trains with substitute carriers, – the transfer of information between different carriers
Interchange point	Location of train's journey or of a path where the transfer of responsibility for the whole train from one ResponsibleRU to another ResponsibleRU takes place.
Intermediate point	Location which defines a the start or end point of a train's journey section or path between its start (origin) or end (destination) point. This may be e. g. an interchange, handover or handling point.
International rail passenger service	Means a rail passenger service which crosses a border of at least one Member State
International journey	Means a passenger journey by rail crossing the border of at least one Member State

Term	Description
International sale	Means the sale of a train ticket for an international journey
Interoperability constituent	Means any elementary component, group of components, subassembly or complete assembly of equipment incorporated or intended to be incorporated into a subsystem upon which the interoperability of the Trans-European rail system directly or indirectly depends. The concept of a constituent covers both tangible objects and intangible objects, such as software
Issuer	Means an undertaking selling the ticket and receiving payment. May be a carrier and/or a distributor. The issuer is the undertaking indicated on the ticket with its code and possibly its logo
Journey	means the carriage of a passenger between a station of departure and a station of arrival;
Journey planner	Means an IT system able to propose journey solutions A journey solution is a set of one or more commercial transport services answering at least the question “How can I go from location A to location B at a given departure/arrival date And time?”. The question could contain more complex additional criteria, such as “in the fastest way”, “in the cheapest way”, with no changes”, etc. The passenger can build the journey solutions by him/herself, consulting different information sources, or the solution can be offered to him/her by a journey Planner
Keeper	The legal entity who being the owner or having the right to dispose of it, exploits an asset economically in a permanent manner as a means of transport and is registered as such in the respective registers.
Make available	Means the publishing of information or data where access control may be applied
Manifest on list	Means a fulfilment method where the customer makes its purchase in advance (e.g. at home) and receives only a confirmation, usually with a reference code. The undertaking performing this kind of sale provides the TCO with a list of all passengers (and reference codes) admitted on the specific train. The passenger simply manifests his/her desire to be admitted on the train before/after departure at the TCO. TCO checks whether the passenger is allowed to embark/stay on the train
Market price	See IRT
Metadata	This term simply means data about data. It describes data, software services, and other components contained in the enterprise information systems. Examples of the types of Metadata include standard data definitions, location and routing information, and synchronisation management for distributing shared data
National Allocation Entity (NAE)	The National Allocation Entity (NAE) allocates Primary Location Codes and maintains a list of unique location codes within a country
Notified bodies	Means the bodies which are responsible for assessing the conformity or suitability for use of the Interoperability Constituents or for appraising the EC procedure for verification of the subsystems

Term	Description
NRT train	Means a train that a passenger can board having bought a NRT ticket, in the case of international or foreign sales
NRT	Non integrated reservation tickets – This is a way of selling train tickets meant for international or foreign sales, where the issuer can produce the ticket locally, without any on-line transaction with an attributing system. The NRT tickets are always open tickets, i.e. the contract of carriage is valid on any NRT train serving the route marked on the ticket, within a defined validity period. To issue a NRT ticket the issuer needs a list of OD's ("series") and one or more tables of prices corresponding to distance ranges. Reservations can (in some cases must) be purchased together with the ticket
Offer	See availability
Official website	Means the company's public website where commercial information is released to the customer. The website shall be machine readable by respecting web content accessibility guidelines
One stop shop	An international partnership between rail infrastructure managers providing a single point of contact for rail customers for the purposes of: ordering specified train paths in international freight traffic, monitoring the movement of the entire train, generally also invoicing track access charges on behalf of infrastructure managers
Passenger	Means a person who intends to make, or is making, or has made a journey using the transport services and other services of one or more railway undertakings May be different from customer (see customer)
Path	Means the infrastructure capacity needed to run a train between two places over a given time-period (route defined in time and space)
Payment	Means the transfer of wealth from one party (such as a customer) to another (such as a distributor). A payment is usually made in exchange for the provision of transport or service
Peer-to-Peer	Means a class of systems and applications that employ distributed resources to perform a critical function in a decentralised manner
Person with reduced mobility (PRM)	Means any person whose mobility when using transport is reduced due to any physical disability (sensory or locomotory, permanent or temporary), intellectual disability or impairment, or any other cause of disability, or as a result of age, and whose situation needs appropriate attention and adaptation to its particular needs of the service made available to all passengers
Platform	Means the area at a station to alight from/board trains
Primary data	Means the basic data as reference data input for messages or as the basis for functionality and calculation of derived data

Term	Description
Primary Location Code (PLC)	Primary Location Codes (PLCs) identify locations on a railway network. These are normally important locations, where trains start, end, stop, run through or change line. A Primary location is identified by a single and unique Primary Location Code.
PRM	See Person with reduced mobility
Product	Means a type of train with determined types of services (e.g. high speed, bicycle storage places, PRM accommodation, couchette and/or sleeping cars, dining cars, take-away facilities, etc.) which are linked to relevant prices and may be linked to specific conditions
Public arrival time	Time when a passenger is allowed to disembark from the train.
Public departure time	Time when the access to the train, platform or station will be closed in preparation for departure. A boarding for the passenger has to be allowed until the time given
Publish	Means the publishing of information or data where no access control shall be applied
Rail system	Means (as in "Union rail system") the structure, as described in Annex I (Directive (EU) 2016/797), composed of lines and fixed installations, of the Union rail system, plus the rolling stock designed to travel on that infrastructure
Railway undertaking	Railway undertaking (Directive (EU) 2016/798): means railway undertaking as defined in point (1) of Article 3 of Directive 2012/34/EU, and any other public or private undertaking, the activity of which is to provide transport of goods and/or passengers by rail on the basis that the undertaking must ensure traction; this also includes undertakings which provide traction only. A RU can assume the roles Lead RU and/or Applicant and/or Responsible RU
Regular vs. Short Term processes	Regular means a process when performed within a period which is equal to or more than seven days Short term means a process when performed within a period which is less than seven days
ResponsibleApplicant (RA)	The RA is the applicant/customer and contractor as well as the single point of contact for respective IM (infrastructures manager) in the whole planning process phase. The main task of the role RA is to request the booking of capacity to an IM. The RA does not need to be a Railway Undertaking, it can also be another entity, which is able and permitted to book capacity.
ResponsibleIM	The ResponsibleIM (RIM) is the Infrastructure Manager who is the owner of the respective network and responsible for all operational handling of trains and paths on its network.
ResponsibleRU (RRU)	The RRU is responsible for the run of the train in operation phase, for the whole journey or a section of the journey. If more than one RRU is involved in operating the train, the responsibility is transferred from one RRU to the next RRU at the interchange point.

Term	Description
Retail location code	Retail location codes identify locations on a railway network used for retail purposes (e.g. passenger information). The National allocation entity owning the railway network manages the retail location codes.
Reporting point	A location where the responsible IM provides reports about the train run
Repository	Means the storage of data similar to a database and data dictionary; however, it usually encompasses a comprehensive information management system environment. It must include not only descriptions of data structures (i.e. entities and elements), but also Metadata of interest to the enterprise, data screens, reports, programs, and systems
Reservation	Means an authorisation on paper or in electronic form giving entitlement to a service (transportation or assistance) subject to a previously confirmed personalised transport arrangement
Reservation system	Means a computerised system used to store and retrieve information and conduct transactions related to travel. A reservation system is capable of keeping inventory correct in real time, and is accessible to agents/retailers around the world
Retailer	Means a person or an undertaking that sells to the customer a ticket without or with a reservation for a rail service. A retailer can be a railway undertaking (agent) or an accredited travel agent
Route	Means the geographical line to be taken from a starting point to a point of destination
Route section	Means a part of a route
RU	See Railway undertaking
Selling	See Booking
Service	See Transport service
Service Disruption	Means the unplanned stop of a train during operation, without any information regarding the continuation of the journey
Service provider	Means the responsible entity providing any services linked to the transport of passengers
Shall	Means that the definition is an absolute requirement of the specification
Short Term processes	See Regular vs. Short Term processes
Short notice path request	Means the individual request for a path according to Article 23 of Directive 2001/14/EC due to additional transport demands or operational needs
Stakeholders	Means any person or organisation with a reasoned interest in train service delivery.
Station	Means a railway location where a passenger train can start, stop or end
Station manager	Means an organisational entity in a Member State, which has been made responsible by the member state for the management of a railway station and which may be the infrastructure manager

Term	Description
Subsidiary Location Code	A Subsidiary Location must be linked to, and be part of a single Primary Location. It may specify in a more detailed way a point, attributes or an usage of Primary location. A Subsidiary Location is identified by a unique Subsidiary Location Code (SLC).
Substitute carrier	Means a carrier, who has not concluded the contract of carriage with the passenger, but to whom the carrier has entrusted, in whole or in part, the performance of the carriage by rail.
Tariff	Means a specific set of fares available on a given train, on a given day for a given O-D leg of the journey. Tariffs may be grouped in different categories (such as public fares, Group fares etc)
TCO	Means Ticket Controlling Organisation. This is an organisation empowered to inspect passenger tickets. Mostly a carrier. If necessary, the TCO is to deliver security certificates for ticketing and to deliver ticket control data / ticket status modifications to the ticket issuer
Technical Document	Means any technical document published by the European Railway Agency pursuant to Article 5(8) of Directive (EU) 2016/797
Technical Specification for Interoperability	Means a specification adopted in accordance with Directive (EU) 2016/797 and defined in Article 2(11) of such directive by which each subsystem or part subsystem is covered in order to meet the Essential Requirements and ensure the interoperability of the rail system
TETA	See train Estimated time of arrival
Third party	Means any public or private undertaking, which is not a railway undertaking or infrastructure manager and provides services ancillary to, or in connection with, the services/transport services
Through ticket	Means a ticket or tickets representing a transport contract for successive railway services operated by one or more railway undertakings
Ticket	Means valid evidence, regardless of its form, of the conclusion of a transport contract.
Ticket On departure	Means a fulfilment method where the customer makes its purchase in advance (e.g. at home) and collects the ticket in the departure Station, at a ticket counter or vending machine
Ticket vendor	Means any retailer of rail transport services selling tickets, including through-tickets, on the basis of a contract or other arrangements between the retailer and one or more carriers.
Timetable	Means the list of commercial transport services offered by a railway undertaking during a given time interval
TOD	See Ticket On Departure
Tour Operator	means an organiser or retailer as defined in points (8) and (9) respectively of Article 3 of Directive (EU) 2015/2302 of the European Parliament and of the Council (11) other than a railway undertaking;
Train	A train is defined as (a) traction unit(s) with or without coupled railway vehicles with train data available operating between two or more defined points.

Term	Description
Train Estimated time of Arrival	Means the Estimated time of arrival of a train at a specific point, e.g. handover point, interchange point, train destination
Train path	see path
Train running interrupted	Means that the continuation of the train is unknown based on local circumstances at the time and in the opinion of the parties involved. If the Delay is known, the infrastructure manager sends a train running forecast message
Transport contract	Means a contract of carriage for consideration or free of charge between a railway undertaking or a ticket vendor and the passenger for the provision of one or more transport services
Transport mode	Means a generic type of vehicle capable of transporting passengers (train, plane, bus, etc.)
Transport service	Means a commercial transport service or transport service under public service contract linking two or more locations, offered by a railway undertaking according to a published timetable. A transport service is normally performed with a specific transport mode
Transport service provider	Means any private or public company authorised to transport people in domestic or international passenger traffic. A "transport service provider" accepts travel documents issued by the accredited sales points of its distributors. It plays the role of the contractual carrier with which the passenger has entered into a contract of carriage. Execution of the transport service may be entrusted, in part or in full, to a substitute carrier
TSI	See Technical Specification for Interoperability
Union rail network	Means the rail network as described in Annex 1 to Directive (EU) 2016/797

ANNEX III – LIST OF OPEN POINTS

In accordance with Article 5(6) of Directive (EU) 2016/797, the following open points are identified.

There are no open points.

ANNEX IV – LIST OF TECHNICAL DOCUMENTS REFERENCED IN THIS TSI

Reference	Label
B.1.	Computer generation and exchange of tariff data meant for international or foreign sales – NRT tickets
B.2.	Computer generation and exchange of tariff data meant for international and foreign sales – Integrated Reservation Tickets (IRT)
B.3.	Computer generation and exchange of data meant for international or foreign sales – Special offers
B.4.	Implementation guide for EDIFACT messages covering timetable data exchange
B.5.	Electronic reservation of seats/berths and electronic production of travel documents - Exchange of messages
B.8	Standard numerical coding for railway undertakings, infrastructure managers and other companies involved in rail-transport chains
B.9	Standard numerical coding of locations
B.10	Electronic reservation of assistance for persons with reduced mobility - Exchange of messages
B.11	Layout for electronically issued rail passenger tickets
B.12	Digital security elements for rail passenger ticketing
B.13	Open Sales and Distribution Model OSDM
B.14	e-Ticket Exchange for Control
B.15	European Passenger Information Railway Station Accessibility Profile

ANNEX V – LIST OF TARIFFS MEANT FOR INTERNATIONAL OR FOREIGN SALES**C.1. NRT Tariffs**

The main content of NRT tariff data shall be:

- Series,
- Products,
- Services,
- Carrier codes,
- Fare tables,
- Station list.

NRT tariffs shall be made available in advance according to their sales conditions.

C.2. IRT Tariffs

The main content of SCIC-IRT tariff data shall be:

- tariffs,
- tariff ranges,
- Cards used with market prices,
- Exclusion types,
- Sales conditions,
- After sales conditions,
- Fare tables,
- Station/zone list.

IRT tariffs shall be made available in advance according to its sales conditions.

C.3. Special Tariffs

The main content of the special tariff data shall be:

- The offer and its conditions,
- Fares,
- Supplements,
- Authorisations,
- Number of passengers/accompanying passengers and their categories,
- Reduction types,
- Exclusion types,
- Sales conditions,
- After-sales conditions,
- Reservation fees,
- Series,
- Trains including their categories and facilities.

Special tariffs shall be made available in advance according to its sales conditions.

ANNEX VI – List of technical documents for retail architecture and governance

Reference	Label
B.60 (V1.0)	TAP Retail Architecture
B.61 (V1.0)	TAP Governance

ANNEX VII - Tasks to be undertaken by the TAF/TAP National Contact Point (NCP)

- (1) Act as point of contact between ERA, the telematics Advisory Committee and railway stakeholders and relevant associations in the Member State in order to ensure that the railway stakeholders are engaged with TAF and TAP and are aware of general developments and decisions of the Telematics Advisory Committee.
- (2) Communicate the TAF/TAP TSI implementation and relevant operation concerns, views and issues of the railway stakeholders in the Member State to the ERA TAF and TAP Implementation Cooperation group for analysis, and to be reported to the Telematics Advisory Committee via the co-chairs.
- (3) Liaise with the Member State Railway Interoperability and Safety Committee (RISC) member ensuring that the RISC member is briefed on national issues relating to TAF and TAP prior to each RISC meeting and ensuring that RISC decisions relating to TAF and TAP are communicated appropriately to affected railway stakeholders.
- (4) The Member State ensures that NCP details are made publicly available to all railway stakeholders and relevant associations.
- (5) To the extent that railway stakeholders in the Member State are known, make them aware of their obligations under the TAF and TAP regulations and that they must comply with them (regarding TAP/TAF TSI implementation and operation).
- (6) Work with the Member State to ensure that an National allocation Entity is appointed. The NCP shall report the contact details of the appointed entity to ERA for appropriate distribution among railway stakeholders and relevant associations.
- (7) Facilitate information sharing between the railway stakeholders and relevant associations in the Member State.

ANNEX VIII – additional article concerning the TAP TSI implementation

Implementation

1. The Agency shall assess and oversee the implementation of this Regulation to determine whether the agreed objectives and deadlines have been achieved and shall provide an assessment report to the European Commission via Telematics Advisory Committee referred to in Section 7 of the Annex.
2. The Telematics Advisory Committee referred to in Section 7 of the Annex shall assess the implementation of this Regulation, based on the assessment report provided by the Agency, and the information provided by the Representative Bodies about further actions to be taken by the sector. On this basis, it shall advise the European institutions about appropriate follow-up actions to be taken.
3. Member States shall designate a National Contact Point for the follow-up of the implementation of TAF & TAP TSI Regulations as respectively described in TAF TSI Appendix III, and TAP TSI Annex VII.
4. Each Member State shall ensure that a National Allocation Entity is appointed to be responsible for allocating unique location codes for each reference database and notifying all involved reference databases (e.g. Central Reference Database (CRD), Retail Reference Database (RRD)) of the update. Where appropriate, Member State may delegate so that one single National Allocation Entity takes the responsibility for all reference databases.