EUROPEAN UNION AGENCY FOR RAILWAYS

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FINAL REPORT ERA-REC-122
TO THE RECOMMENDATION OF
THE EUROPEAN UNION AGENCY FOR RAILWAYS

on

Revision 2020-22 of the regulation (EU) 454/2011 concerning the technical specification for interoperability relating to the telematics applications for passengers

Disclaimer:

Contents

1.   Executive summary

The report is the final report for the recommendation ERA-REC-122 concerning the revision of the Regulation (EU) 454/2011 about the Technical specification for Interoperability "Telematics applications for passengers (TAP TSI)". The report explains the achieved results of the working party in 2020 - 2021 . The report is accompanying the recommendation ERA-REC-122 from 20.01.2022.

A previous Recommendation ERA-REC-122 about the revision of the regulation (EU) 454/2011 has been submitted by ERA on 10 January 2020 to the European Commission[1]. However, the recommendation is until today (December 2021) not used, which means that the regulation (EU) 454/2011 concerning the "Telematics applications for passenger services (TAP TSI)" amended by Commission implementing regulation (EU) 2019/775 is still applicable. ERA took therefore into account in the current recommendation the results achieved in the revision cycle 2017-2019 of the TAP TSI together with the results of the Revision cycle 2020 - 2021. The documents of the recommendation ERA-REC-122(2020) have been taken therefore as basis for the further development of the recommendation concerning the revision of the "Telematics applications for passenger services (TAP TSI)".

The development of the recommendation of the revised TAP TSI was mainly driven on the following ingoing requirements:

1.   Digital rail and Green freight TSI revision package (2022 revision)
     o   Merge the TAF and TAP TSI
     o   Take into account the industry-driven Full Service Model initiative
     o   Facilitate the emergence of through-ticketing, integrated ticketing and multi-modal travel information and reservation systems
2.   The request to close the Open points of the TAP TSI

The requirements were further detailed as so called "change requests (CR)", covering each specific topic of the revision. Several change request were shared with the TSI "Telematics application for freight (TAF TSI)" or with other TSI's, addressed as well in the "Digital rail and green freight TSI revision package".

The main topics for the discussion were:

-    Merge of the TAF and the TAP TSI
-    The provision of real-time data according to the rail passenger rights regulation
-    The implementation of standards allowing trough-ticketing

The working party started the discussion about the revision of the TAP TSI with the kick-off meeting on 22 September 2020. The working party finished discussion on 26 November 2021 and provided a recommendation about the revision of the TAP TSI. The recommendation has been submitted to the European Commission and has been published as well on the website of the Agency.

The working party will be continue its work in 2022, mainly focusing on the revision of the technical documents attached to the TSI concerning accessibility, e-ticket check and the open sales and distribution model. Furthermore the application guides for the TAP TSI will be revised.

2.   Introduction

The report displays results achieved after over a year of work on the revision of the commission regulation (EU) 454/2011 Telematics Applications for Passengers TAP TSI, as well as open points still to be solved.

2.1.   Legal basis

The legal basis for the revision of the TAP TSI is described in the following documents:

›   Regulation (EC) No (EU) 2016/796 repealing Agency Regulation (EC) No 881/2004

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[1] https://www.era.europa.eu/sites/default/files/library/docs/recommendation/era_rec122_tap_tsi_revision_recommendation_en.pdf

> › Commission Regulation (EU) No 454/2011 of 5 May 2011 on the technical specification for interoperability relating to the subsystem 'telematics applications for passenger services' of the trans-European rail system, amended by Commission implementing regulation (EU) 2019/775.
> › 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, Article 14
> › Request from EC "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)" on 24/02/2020

2.1.1. Delegated decision (EU) 2017/1474

The delegated decision (EU) 2017/1474 defined in detail the closure of the following topics during the revision of the TAP TSI:

- The geographical scope of the TAP TSI shall be the geographical scope of the TAF TSI.
- 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.
- The TAP TSI 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.
- The TAP TSI 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.
- The TAP TSI shall aim to facilitate the emergence of through-ticketing, integrated ticketing and multi-modal travel information and reservation systems.
- The TAP TSI shall allow the Agency to assess the compliance of the IT tools deployed by the European rail sector with the TSI requirements.

Most of the points were already solved in the revision of the TAP TSI in the previous revision 2017 – 2019. The results of this work are available in the Recommendation ERA-REC-122 from 10 January 2020 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 [2].

However there is one open point to be closed in the revised TAP TSI, the open point concerning the "Standard for European exchange of ticket control and ticket status modification data". This point will be addressed as well in the revision of the TAP TSI.

2.1.2. Digital rail and Green freight TSI revision package (2022 revision)

The European commission submitted on 24 February 2020 a request to ERA to revise the Technical specifications for interoperability in the light of the Digital rail and Green freight TSI revision package. The package requests the Agency to review the TSIs, including the TAP TSI. The revision of the TSIs addresses the following objectives:

> › Ensure TSI revisions fully address **EU policy objectives** – such as the European green deal – and the experts involved in the drafting are aware of those;
> › Ensure **appropriate coordination** between the revisions of various TSIs to ensure legal consistency;
> › Ensure **rapid uptake of innovations and new technologies**;
> › Provide the **predictability of the legal framework** called for by the rail stakeholders;
> › **Streamline the revision process** (ERA new process).

The commission requested the Agency to undergo the following revision steps: In order to meet the above objectives, future TSIs revisions will be carried out in **package** (several TSIs at the same time) to deliver **strategic objectives set in advance** in a way that is **transparent** for Member States and sector. The revision process will consist of **planned revisions** to provide sufficient predictability and stability. The next revision is planned **for 2022** and **the strategic objectives are digital rail and green freight.** TSIs are to remain fit for purpose, thus the package revision will incorporate also standing and recurrent tasks such as correcting deficiencies, updating standards and reviewing specific cases.

EU objectives that drive the revision of TSIs are

(1) a European Green Deal,

(2) an economy that works for people,

(3) a Europe fit for the digital age and

(4) a stronger Europe in the world.

For the revision of the TAP TSI there is a specific requirement *"(3) The next revision must achieve a flexible, efficient and reliable EU rail system, building on digitalisation and innovations developed under the Shift2Rail programme. It must contribute to making rail **more attractive for passengers**."*

Concerning the "Digital rail" the Commission requested ERA: "**Enhance information flows for freight and passengers**. It includes work on multimodal exchange of information and real time data and advanced communication to overcome language regimes. This will also involve changes to TSIs beyond CCS, **TAP** and TAF, for example, OPE TSI, and LOC&PAS for the train interface."

This means the information flows of the TAP TSI toward the passengers have to be improved, especially for the data provision during the trip.

2.2.   Purpose and Scope

The TAP TSI was drafted between 2007 and 2010 and published as Commission regulation (EU) 454/2011 on 12 May 2011 [5]. Due to the developments in the rail sector, especially concerning the railway distribution, the content of some parts of the regulation was revised in the period 2017 – 2019 and sent as recommendation ERA-REC-122 V 1.0 on 10 January 2020 to the European commission. The current revision of the TSI has been driven by the revision package 2022, requested on 24 January 2020 by the European commission in a "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)", where the following objectives were submitted by the European Commission to ERA.

2.3.   Objectives

The main objectives of the project is the revision of the TAP TSI to incorporate changes in the legal text and in the annexed technical documents.

The detailed objectives of the project are described in Table 1 : Detailed objectives for the TAP TSI revision (TSI revision package 2022).

Table 1 : Detailed objectives for the TAP TSI revision (TSI revision package 2022)

Description of actions	Digital rail	Legal basis: Related article in Decision (EU) 2017/1474	
Cyber security	√	7.3	Addressing the technological elements identified in the ERTMS Longer Term Perspective Report (game changers).
Link Real time data and train data (Train position, New Identifiers such as unique Train ID, Train Composition, Wagons, ILU, and e-ETA) to enhance tracking and tracing, connect to terminals and multimodal environment in general to the very last mile	√	13.3	Messages defined in the TAF TSI in relation to combined or multi-modal transport
Take into account the industry-driven Full Service Model initiative - B2B platform for ticketing	√	14.4	Take into account the industry-driven Full Service Model initiative
Analysis of the results of S2R IP4 projects and initiate the update of relevant EN standards (SIRI, NeTEx, Transmodel) or interfacing TAP with semantics via Shift2Rail IP4 IF initiative	√	14.6	Facilitate the emergence of through-ticketing, integrated ticketing and multi-modal travel information and reservation systems
Introduce an interface to submit complaints according to rail passenger rights regulation (e.g. delays, reimbursements)	√	14.6	Facilitate the emergence of through-ticketing, integrated ticketing and multi-modal travel information and reservation systems
Merge TAF and TAP TSIs to ensure consistency in the RU/IM annexes	√	3.1	Cover the whole Union railway system in a way which avoids duplication, provides a more direct correspondence between subsystems, essential requirements and TSIs
Take into account the development of standardised communication methods and protocols, as well as standardised data exchange systems	√	11.3	Take into account the development of standardised communication methods and protocols, as well as standardised data exchange systems

Introduce an interoperable process to inform the RUs of short term temporary infrastructure restrictions	√	11.3	Take into account the development of standardised communication methods and protocols, as well as standardised data exchange systems

3. Workgroups

3.1. Setup of the working party

3.1.1. Setup of the project

The project is derived from several phases. The first phase was the discussion between the European Commission and ERA in autumn 2019 about the TSI revision package 2022. At this stage the key principles of the revision of all TSIs were defined. No further specific obligations were created for the TAP TSI revision.

The discussion between EC and ERA resulted in an official 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)" [1] from EC on 24/01/2020. The letter contains a list of actions concerning the TSI revision, including those applicable for the TAP TSI. Concerning the TAP TSI the actions from "Table 1 : Detailed objectives for the TAP TSI revision (TSI revision package 2022)" were described by the commission for the revision of the TAP TSI.

Based on the list of actions of this letter the ERA telematics team has drafted the Terms of reference (ToR) and submitted the document on 20/04/2020 to the management for internal approval. The ToR for the TAP TSI revision were changed in June 2020 into a service plan to be approved by the service owner 'service standards. It has been decided to reuse the already existing project reference ERA-REC-122. For a better identification of the differences between the recommendations, the version number V2.0 has been introduced. The Service plan was approved by the head of sector on 11/06/2020. Based on this decision the "Call for experts for the working party "Revision of the TAP TSI" has been launched.

3.1.2. Setup of the working party

A working party for the revision of the TAP TSI has been established by ERA.

For the appointment of the experts for the working party, ERA has prepared a call for experts and submitted it to the ERA representative bodies, NSA's and representatives of international organisations on 19 June 2020. The following organisations were invited to respond to the call of experts:

> › NSA`s
> › CER
> › EIM
> › RNE
> › HitRail
> › OTIF
> › UNIFE
> › UIP
> › UITP
> › EPF
> › EU Travel Tech
> › ECTAA
> › ALLRAIL

ERA has received from these organisations until mid-September 2020 the contact details of the appointed speakers and deputy speakers for the working party. New members were appointed until end-November 2020 from UITP. Furthermore one representative of CIT has been appointed as observer for the TAP TSI revision working party to support the group especially for those questions related to the "Convention concerning International Carriage by Rail".

The working party is composed of the following organisations and speakers, as listed in Table 2: Appointed speakers and deputies of the TAP TSI revision working party:

Table 2: Appointed speakers and deputies of the TAP TSI revision working party

Stakeholder / NSA	Official Speaker 1	Role
Hit Rail	Ruiz, Enrique	member
EPF	Smeulders, Willy	deputy
RailNetEurope	Stefanović, Vojkan	deputy
NSA FI	Tyynilä, Une	member
EPF	van der Borgt, Rian	member
NSA SLO	Zemljic, Zdenko	member
CER	WEBER, Christian	deputy
CER	MÖLLMANN, Jan	deputy
CER	Quick, Frauke	member
CER	Ferrari, Sandra	member
CIT	Dobler, Sandra	member
CIT	Vavra, Jan	deputy
EIM	HOLST MØLLER, Jens Peter	member
EIM	KONIX, Patrick	deputy
EIM	JOURDAIN, Eric	deputy
NSA AT	HEINZE, Edeltraud	member
ALLRAIL	Chaplin, Ian	member
ALLRAIL	Brooks, Nick	deputy
ECTAA	Sablong, Sebastian	member
EU TRAVEL TECH	Heuguet, Patrick	member
UIC	Setta, Fabrice	member
UIC	Gantert, Clemens	deputy
UITP	GOUCHA, Fares	member
UITP	Sykes, Francis	deputy

4. Working methods

The Agency is chairing, managing and coordinating the WP for the revision of the TAP TSI. ERA applies relevant internal procedures and guidelines (e.g. procedure on issuing a recommendation or guide for drafting TSIs).

To facilitate exchange of documents, an extranet workspace of the project was established at: https://eraeuropaeu.sharepoint.com/sites/TAP-TSI/SitePages/Revision-of-the-TAP-TSI.aspx. This workspace is accessible for the members of the working party, their deputies and all members of the Agency involved in this discussion.

Furthermore ERA has set-up a management tool for the management of the changes of the TAP TSI legal text and the supporting technical documents. For this purpose ERA is using a change management tool available on the ERA-website https://ccm.era.europa.eu/cqweb/ in the database "TSI_C". In this tool all topics concerning the changes, requested for the revision 2022 package for the TSIs, including the TAP TSI, were logged and published to the working party. All proposed changes were discussed in the working party and the status of the change requests have be changed according to the decisions in the working party.

The representative organisations were required to ensure continuity of their representative members for the duration of the WP. Whenever possible, the representative members were required to express their organisation's position in advance of the WP meetings through written methods, such as commenting on the draft documents or the draft minutes of the WP meetings.

In order to achieve a common and agreed position of their organisation, the members should have shared pre- and post- meeting information within their organisations. The organisations were expected to facilitate the internal exchange of opinions and the elaboration of their position, for instance through 'mirror groups'.

The text of the recommendation – based on the current state of the discussion – is always available to the members of the working party through the TAP TSI revision working party extranet.

4.1. Meetings of the working party

The working party had the following meetings:

Table 3: Meetings of the TAP TSI revision working party

Meeting	Date
TAP TSI Revision working party Kick-off	23.09.2020
1st meeting TAP TSI Revision working party	07.10.2020
TAP/TAF REV WPs intermediate meeting on TSIs merge	19.11.2020
2nd meeting TAP TSI Revision working party	02.12.2020
3rd meeting TAP TSI Revision working party	27.01.2021
4th meeting TAP TSI Revision working party	24.02.2021
5th meeting TAP TSI Revision working party	31.03.2021
6th meeting TAP TSI Revision working party	19.05.2021
fine-tuning of the text of the TAP TSI before submitting the proposal to the social consultation	01.06.2021
7th meeting TAP/TAF TSI Revision working party (concerning the comments from social consultation)	26.11.2021

The participation in the meetings of the TAP TSI revision working party:

Table 4: Working party meetings participation

Stakeholder	Kick-Off	1st meeting	2nd meeting	3rd meeting	4th meeting	5th meeting	6th meeting	7th meeting
ALLRAIL	Y	Y					Y	Y
CER	Y	Y	Y	Y	Y	Y	Y	Y
CIT		Y	Y	Y	Y	Y	Y	Y
EC				Y	Y	Y	Y	Y
ECTAA	Y			Y				
EIM		Y	Y	Y	Y	Y	Y	Y
EPF	Y	Y	Y	Y	Y	Y	Y	Y
EU TRAVELTECH	Y	Y	Y	Y	Y	Y	Y	Y
HITRAIL	Y	Y	Y	Y	Y		Y	
NCP AT	Y	Y	Y	Y	Y	Y	Y	
NCP CZ	Y	Y		Y	Y	Y	Y	Y
NCP DE	Y	Y	Y	Y	Y	Y	Y	Y
NCP FR					Y			Y
NCP SE	Y	Y		Y	Y			
NSA FI	Y	Y	Y	Y	Y	Y	Y	Y
NSA PL	Y	Y						
NSA SI				Y				
OTIF	Y		Y	Y		Y	Y	
RNE	Y	Y	Y	Y	Y	Y	Y	Y
UIC	Y	Y	Y	Y		Y	Y	Y
UITP					Y			
UNIFE	Y	Y	Y	Y	Y	Y	Y	Y

The working party was very active. The members prepared the meetings thoroughly and proposed as well elaborated proposals concerning the topics under discussion during the revision of the TAP TSI.

5.   Initial aspects covered

Based on the Terms of Reference, the initial set of change requests has been created in the change request management tool IBM ClearQuest. The CRs are shown in the **Error! Reference source not found.**. The change include as well the preconditions for the needed prerequisites to be delivered before the discussion can be continued. The changes have been discussed and prioritised during the TAP TSI revision working party.

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Table 5: Initial change requests of the TAP TSI revision working party

Description of actions	CR TSI	WG in charge (when relevant)	Lead WP	Target TSI revision	Prerequisite / Risks of delay	Comments
Cyber security	0337			2022		Transversal for all TSIs Priority only for the CRs relative to ERTMS
Link Real time data and train data (Train position, New Identifiers such as unique Train ID, Train Composition, Wagons, ILU, and e-ETA) to enhance tracking and tracing, connect to terminals and multimodal environment in general to the very last mile	0317	- TWG TAF / TAP revision - CCM WP	- WP TAF / TAP TSIs - CCM Board	2022	Target is to have all ready for 2022 package. If IoT for WAG not ready for 2022 package, the other aspects should not be delayed. They should be integrated in the package in any case.	Include IoT on freight wagon to enable cost efficient fleet and operation management. Based on ITTS standard or similar. ERA comment: Some elements (e.g. unique TrainID) relevant for TAP TSI as well. CCM involved only if changes will affect ERA Technical Documents.

Description of actions	CR TSI	WG in charge (when relevant)	Lead WP	Target TSI revision	Prerequisite / Risks of delay	Comments
Take into account the industry-driven Full Service Model initiative - B2B platform for ticketing	0320	- TWG TAF / TAP revision - CCM WP	- WP TAF / TAP TSIs - CCM Board	2022	ERA to closely follow-up the different initiatives to ensure that they are in line and progressing on time for integration in 2022 package	Assess FSM development and market by 2021 and take a decision ERA Comment: topic to be discussed between ITS Unit at DG MOVE, ERA and MSs CCM involved only if changes will affect ERA Techical Documents.
Analysis of the results of S2R IP4 projects and initiate the update of relevant EN standards (SIRI, NeTEx, Transmodel) or interfacing TAP with semantics via Shift2Rail IP4 IF intiative	0322	- TWG TAF / TAP revision - CCM WP	- WP TAF / TAP TSIs - CCM Board	2022	ERA to closely follow-up the different initiatives to ensure that they are in line and progressing on time for integration in 2022 package	ERA comment: linked to previous topic, to be treated together CCM involved only if changes will affect ERA Techical Documents.
Introduce an interface to submit complaints according to rail passenger rights regulation (e.g. delays, reimbursements)	0323	- TWG TAF / TAP revision	- WP TAF / TAP TSIs	Target date to be confirmed after Nov 2020 conference (DG MOVE Unit B.5)	ERA to closely follow-up the different initiatives to ensure that they are in line with TAP requirements. Coordination needed with revision of Passenger Rights Regulation.	Analysis of the existing solutions/proposals is a prerequisite / EU Conference planned in November 2020 / deadline to be defined after the conference

Description of actions	CR TSI	WG in charge (when relevant)	Lead WP	Target TSI revision	Prerequisite / Risks of delay	Comments
Merge TAF and TAP TSIs to ensure consistency in the RU/IM annexes	0325	- TWG TAF / TAP revision, CCM WP	SteCo TAP/TAF, - CCM board	2022	Target structure not yet clear. First step: developing a consistency table between the 2 TSIs. Timing and priority to be confirmed (needs vs resources).	CCM involved only if changes will affect ERA Technical Documents.
Take into account the development of standardised communication methods and protocols, as well as standardised data exchange systems	0326	- TWG TAF / TAP revision - CCM WP	- WP TAF / TAP TSIs - CCM Board	2022	Partly dependent on S2R outcomes. Complete harmonisation/ standardisation may not be possible until 2022.	Main issue related with the communication with the driver, in particular language issues. Partly dependent on S2R outcome (Translate4Rail) In relation to open point of Annex I to OPE TSI: additional terms to be harmonised as far as possible, what is not possible to harmonise shall be listed in Appendix I. CCM involved only if changes will affect ERA Technical Documents.
Incorporation of the requirements for accessibility for PRM in TAP/PRM TSI	0327	- TWG TAF / TAP revision - CCM WP	- WP TAF / TAP TSIs - CCM Board	2022	1. User cases to be identified based on inputs from sectors. 2. To be discussed and pushed with the stakeholders during the revision.	CCM involved only if changes will affect ERA Technical Documents.

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5.1. Input documents

For the revision of the TAP TSI the following input documents were taken into account:

- Commission regulation (EU) No 454/2011 of 11 December 2014 on the technical specification for interoperability relating to the telematics applications for passenger services subsystem of the rail system in the European Union, amended by Commission implementing regulation (EU) 2019/775
- Regulation (EC) No (EU) 2016/796 repealing Agency Regulation (EC) No 881/2004
- 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
- Digital rail and Green freight TSI revision package (2022 revision)
- Recommendation ERA-REC-122 of the European Union Agency for Railways on the revision of technical specification for interoperability relating to the telematics applications for passengers subsystem of the rail system in the European Union, European Union Agency for Railways, 10th of January 2020
- annexed technical documents of the Recommendation ERA-REC-122, see Table 6: Technical documents of the TAP TSI

Table 6: Technical documents of the TAP 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

- during the revision the following documents have been provided by UIC as input documents for the drafting of the technical documents B.13 and B.14, see Table 7: International railway solutions delivered by UIC

Table 7: International railway solutions delivered by UIC

Reference	Label
IRS 90918-10	Open Sales and Distribution Model OSDM
IRS 90918-4	e-Ticket Exchange for Control

- during the revision the following document has been provided by ERA as input document to be used in the TAP TSI working party: Guide for the application of the TSI Telematics applications for passengers – accessibility

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5.2. Results of the discussions in the TAP TSI revision working party

5.2.1. Expectations of the working party members on the revision

In the kick- off meeting of the TAP TSI revision working party the following organisations presented their point of view concerning the revision of the TAP TSI and the most important topics to be discussed within the working party.

EPF presented the following important topics:

- › incorporation of PRM
- › taking into account FSM
- › analyse results of S2R IP4 projects / update relevant EN standards
- › interface to submit complaints.

CER underlined the following important topics for the revision working party:

- › TAP/TAF RU-IM and chapter 7 merger (as first idea) into one TSI and all retail parameters into TAP TSI
- › Cyber security (could be important game changer for TAP TSI too)
- › FSM with possible contribution to ERA Technical Documents
- › interfacing TAP with semantics via S2R IP4 IF
- › the use of standards (with possible means of compliance)
- › remove multiple options for basic parameters
- › cost efficient interface to submit complaints.

ALLRAIL explained in its presentation that on top of timetable data the ticket vendors also need per se real time data, load factors and availability. These data should be made available by the all railway undertakings including market dominant actors. Access to datasets should not lead to competitive advantage.

EU TravelTech is focusing on opening the market, increased rail distribution efficiency and multi-modality. Moreover EU TravelTech would like to see in the TAP revision 2022 practical focus and outcomes for journey planning, standard harmonization and new functionalities (PRM, complaint management). All Rail and EU TravelTech stressed that TAP TSI is in force since more than 10 years but not really bringing data access and added value to passengers and ticket vendors.

5.2.2. CR's overview and prioritization discussion

The expectations of the from the kick-off meeting have been used for the further prioritisation of the change requests. Further input has been gathered from the participating organisations and ERA to refine the prioritisation of the change requests.

5.2.3. CR 320 – Taking into account the industry driven full service mode initiative – B2B platform for ticketing

The specification Full-Service model initiative is in place since 2013. The initiative driven by the rail sector and ticket vendors has developed, on request of the European Commission, a requirements specification as part of the TAP TSI phase 1 [5]. The project has been developed further by the rail sector in the following years, refining the requirements of the railway distribution. The document has been published and further developed and published on the website[2].

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[2] https://tsga.eu/fsm

The project FSM has been presented by UIC in the working party meeting on 2 December 2020. UIC explained that a new International Railway solution has been created, incorporating the results of several projects, such as FSM or the UIC project new Tariff Model (nTM). The following projects have been merged into OSDM, including their requirements:

- › From FSM
    - o timetable inquiries
    - o simple standard sales API
- › From UIC IRS 90918-10 version 1 (new tariff model)
    - o replacing TAP-TSI B.1 / 2 / 3
    - o flexible data structure to define fares beyond B1,2,3
    - o Option to replace B.5
    - o Including the complete set of conditions
    - o multimodal fares (zones, regions, ...)
    - o through fare construction
    - o offline and online booking capabilities
    - o yield managed fares and dynamic pricing

This means that the project results of FSM are now integrated in the document OSDM. The impact for the revision of the TP TSI is, that the change request had to take into account the wider standard OSDM, instead of the FSM specification.

The vision of OSDM is to facilitate the distribution

- › Powerful fare combination, It must be possible to combine fares according to existing fare combinations (e.g. TAP TSI B.1 fares) as well as new fares and combination models.
- › Fares must be defined completely
- › It must be easily possible to distribute existing and new products.
- › for a customer it must be easily possible to find and book and – if needed – refund a booking.
- › for the rail sector as a whole the complexity of distribution must be reduced to save costs both for development as well as distribution.

The document for OSDM has been provided by UIC to ERA and presented to the working party in January 2021. The document IRS 90918-10 is publicly available[3] under the open source license Apache-2.0.

The structure of OSDM is explained as shown in Figure 1 - Main parts of OSDM

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[3] https://github.com/UnionInternationalCheminsdeFer/OSDM
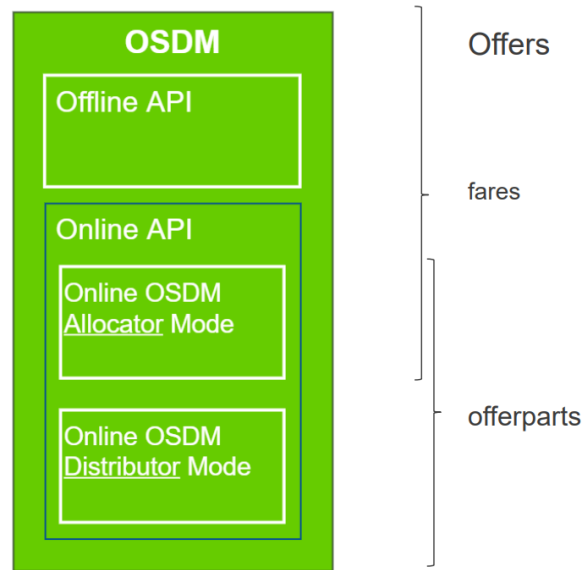
Figure 1 - Main parts of OSDM

The main discussion about the content of the document were focused on the questions:

1. What is the scope of the OSDM?
2. How the use cases fit into the TAP TSI?
3. How to respect the applicable rules of the Apache 2.0 license?

The working party discussed the document and came to the following conclusions:

1. The scope of the OSDM is focused on the booking and the fare exchange of fares intended for international and foreign sales, already defined in the TAP TSI technical documents B.1. The usage of OSDM for the full range of domestic tariffs could not be confirmed.
2. For the use cases supported by OSDM, it has been decided that the use cases for the exchange of tariff data for international and foreign sales and the availability and booking of several services are supported by OSDM. For the use case "timetable information" the approaches of OSDM and TAP TSI are different. Whereas OSDM provides an interface to obtain a timetable for a concrete request e-g-day, time, traveller profile), the TAP TSI requires to provide the timetable dataset, construct a timetable based on the data provided.
3. A legal question solved, was the question about the inclusion of a document, based on an open source license into a legally binding document. The Apache-2.0 license allows a modification of the original document, however the impact on the legislation has to be checked. ERA discussed the question with the legal department. The conclusion is that ERA can take use of the Apache-2.0-licensed document OSDM and modify this according to their needs. Modifications can be reshuffling of the document, change of titles, deletion of chapters, new chapters. In this case the modified parts can be put under a different license, than Apache-2.0.

The supported option is transfer of the relevant parts of UIC IRS 90918-10 (OSDM) to the new TAP TSI technical document B13. The detailed scope of those parts is to be determined. It has been underlined by the working party, that the solution shall be futureproof, especially as regards existing European standards and the expected deliverables from S2R IP4. In terms of legal aspects the way of working already practiced between UIC and ERA concerning the modifications of the technical documents shall be reused for simplification and convenience, as much as possible .

It has been decided by the working party to modify the following basic parameters and to include the new created technical document B.13 as technical annex:

> › 4.2.2.1 - The railway undertaking makes available its own tariffs to other railway undertakings, authorised public bodies and third parties (only for international tariffs)
> › 4.2.7. - Handling of information concerning the carriage of bicycles
> › 4.2.8. - Handling of information concerning the carriage of cars
> › 4.2.9. - Handling of availability/reservation
> › 4.2.10.1. - Attributing system creates security element for electronic delivery

5.2.4.   CR 325 - Alignment of TAP RU/IM related BPs with TAF

The alignment of the TAF and TAP TSI has been already addressed in the revision 2017 – 2019 of the TAP TSI and the revision of the TAF TSI, running in parallel between 2018 and 2020. During these revision working parties all basic parameters linked with the RU/IM communication were harmonised as much as possible between both TSIs. Based on this work ERA has analysed further the remaining differences between TAP and TAF TSI. The differences between the TSIs have been compiled by ERA in a common document as input for the working party.

5.2.4.1. Ingoing positions

In the meeting on 7th October 2020 CER and ERA presented their proposals for the harmonization of the TAF and TAP TSI. The Joint Sector group (JSG) proposed to define the RU/IM basic parameters in the TAF TSI, but refer to them from the TAP TSI annex, as described in Figure 2: Sector proposal for the split / merge of the TAP and TAF TSI

Figure 2: Sector proposal for the split / merge of the TAP and TAF TSI

ERA presented the available set of options for such a split / merge of the TAF and TAP TSI, described in Figure 3: ERA Proposal for the option for the split / merge of the TAP and TAF TSI
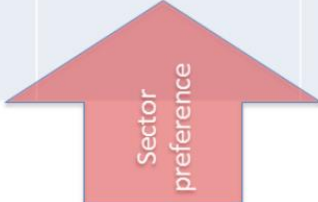
	Baseline: TAF and TAP TSI remain unchanged	RU/IM text in TAF and cross-reference in TAP TSI	RU/IM/WK/TM/Freight Client TSI and Passengers Retail TSI	RU/IM text in TAF and RU/IM BPs as Appendix in TAP TSI	Create a single telematics TSI for TAF and TAP
+	Simple solution	Simplifies the current situation for RU/IM alignment	Common parts (RU/IM and IT) in one document TAP TSI dedicated to Retail (Passengers RU/IM BPs in the RU/IM TSI only) Governance simple to describe in chapter 7 of RU/IM TSI and Retail TSI	Simple solution Governance seems simple to describe in chapter 7 RU/IM TSI and Retail TSI	Simplifies the current situation for RU/IM alignment
-	Governance remains complex	Governance remains complex (unless simplified in chapter 7)	Interface RU/IM with Retail to manage	Interface RU/IM with Retail to manage	Governance simple, but large stakeholder groups

Sector preference

Slide 3

Figure 3: ERA Proposal for the option for the split / merge of the TAP and TAF TSI

During the discussion in the working party it was agreed to have a separate discussion about this merge / split in a preparatory meeting.

5.2.4.2.   *Discussion about the refined proposals*

The preparatory meeting took place on 19 November 2020 and the meeting of the working party on 02.12.2020. In these meetings CER presented a detailed list of basic parameters of both TSIs and their proposal to split / merge them, described in Figure 4: Refined CER proposal for the split / merge of TAP and TAF TSI.

Telematics Planning & Operation TSI
Based on TAF TSI (Rec. 006REC1128 V 1.0)

4.2.2 Path Request and path allocation
- Very slight adaptation (quite 100% aligned)

4.2.3 Train Preparation
- Slight adaptation for passenger specific P&O (e.g. information of SM)

4.2.4 Train Running Information and Forecast
- Adaptation for passenger specific P&O

IM duties
- **Adaptation to requirements of revised PRR** e.g. : 'Unless the data is already provided by the RU through the NAP under delegated regulation 2017/1926 [MMTIS], the IM shall distribute real-time data relating to arrival and departure of trains to RUs, TVs, tour operators and SMs. This distribution applies only when technically feasible.
The IM may require the conclusion of a contract or other arrangement and the IM may require a compensation in accordance with Article 9.a (3) of PRR.'

Draft proposal to be further discussed (depending on final revised PRR)

4.2.5 Service Disruption Information
- Slight adaptation for passenger specific P&O

Slight mention in TPR TSI of IM duty with reference to TPO TSI

Telematics Passenger Retail TSI
Based on TAP TSI (Rec. ERA-REC-122 V 0.1)

4.2.13. Handling of information provision in the station area – kept in TPR TSI as SM duty

4.2.14. Handling of information provision in the vehicle area – kept in TPR TSI as RU duty

4.2.15. Path request
4.2.16. Train Preparation
4.2.17. Train running information and forecast
4.2.18. Service disruption information
- **4.2.15 to 4.2.18 shifted to TPO TSI (4.2.2 to 4.2.5)**

4.2.i. Travel information requested by PRR

RU duties
- RUs, tour operators and TVs shall provide the passenger, upon request, with at least the information set out in PRR Annex II, Part I and Part III.
- RUs and, where possible, TVs and tour operators, shall provide the passenger during the journey with at least the information set out in PRR Annex II, Part II.
- Where a station manager has such information, it shall also provide the information to the passengers.
- The RU may require the conclusion of a contract or other arrangement and the RU may require a compensation in accordance with Article 9.a (3) of PRR.'
- Unless the data is already provided by the RU through the NAP under delegated regulation 2017/1926, the IM distributes the real-time data according to section 4.2.4 in TPO TSI.

Figure 4: Refined CER proposal for the split / merge of TAP and TAF TSI

In this meeting it was discussed how the split between the TAF and TAP TSI, especially for the basic parameters related to the provision of real-time data for the passenger information, shall be further developed:

› The provision of data in station area and provision of data within the train to the passenger has to be based on the provision of real-time data

› EU Travel tech requested that real-time data, e.g. TrainRunningMessage shall be available for ticket vendors as well. If the BPs are moved to the TAF TSI, the access to the real-time data shall be guaranteed as well in the TAP TSI.

› The participants raised the question, if the management of the location coding for retail and for operational purposes has to be discussed in the revision of TAF /TAP TSI. ERA reminded that the structure of the location coding is not in scope of the revision of TAF or TAP TSI

› The participants supported the approach that the operational functions (e.g. Path Request, Train Running Information) have to be handled on the TAF TSI

› ERA clarified that the TAF TSI can be seen as a Business-to-Business TSI, whereas the TAP TSI covers the Business-to-Customer aspects

› ERA proposed to harmonize the reference files in one TSI and to recommend a shared single database. CER argued that some reference files are for operational purposes and some reference files for retail purposes. Therefore, a migration to one single TSI would be difficult. The approach to have a "Master database" for reference data was supported.

Within this scope the joint WP supported the sector proposal of a split merge of the TAF and TAP TSI as shown in the Figure 5: Overview about the state split / merge of the TAF and TAP TSI.
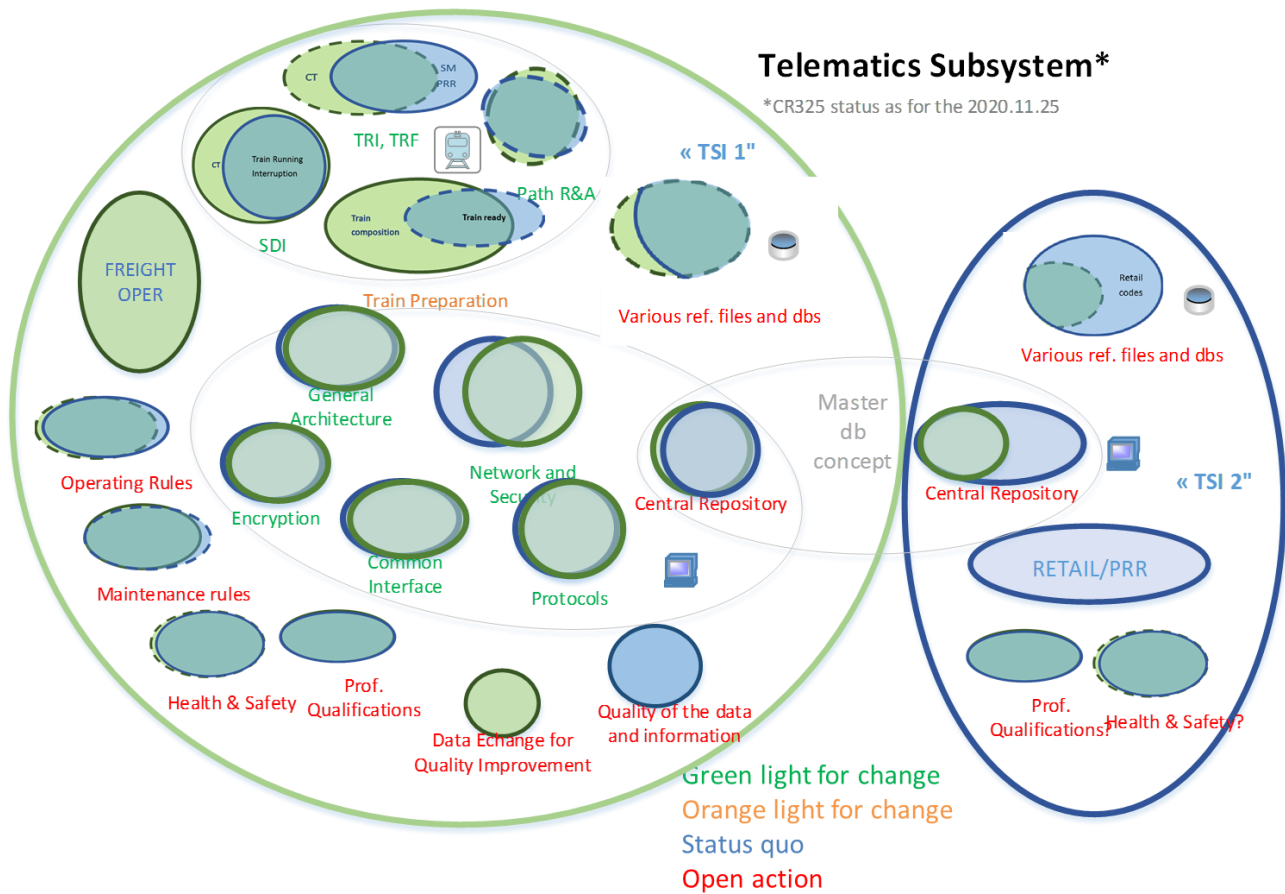
Figure 5: Overview about the state split / merge of the TAF and TAP TSI

The discussion has shown, that the split in two TSI's - one for the operational and one for the retail basic parameters - would be feasible, but needed a more careful analysis. However the following problems of this split have been identified:

- There were some doubts about the validity of the ERA mandate / eligibility to deliver recommendation in case the names of the both telematics TSIs will be changed to the proposed ones during the revision. The analysis of ERA legal department has shown that there might be legal obstacles to change the names:
  o *"… the **main legal obstacle to a change of title and a change of scope is the Interoperability Directive** itself which describes two distinct telematics applications for each of passenger services and freight services (section 2.6 of annex II on 'subsystems'), even if the essential requirements for each of such subsystems are largely (but not entirely) the same under section 2.7 of annex III ('ER') of the Interoperability Directive.*
  o *If the **Commission would be prepared to change the titles of the TAF/TAP TSIs and their scope, it would be necessary to modify the Interoperability Directive (EU) 2016/797 concerning the description of the telematics applications subsystems**. Such an amendment would require a directive adopted by the Parliament and the Council upon a proposal from the Commission, as was done in May 2020 to amend the Interoperability Directive and the RSD 2016/798 "as regards the extension of their transposition periods ".*
- The access to real time data may be most difficult aspect in the merge aspects. Due to the intent to shift of the RU/IM basic parameters to the TAF TSI the TAP TSI basic parameters for real-time information (e.g. TrainRunningInformation), the access to those data and the involved actors in the data exchange had to be clearly specified. This was mainly driven by the revision of the rail passenger

rights regulation[4] to provide ticket vendors and tour operators with the access to real-time data. The latter actors are not addressed in the TAF TSI.
- The storage and maintenance of the reference data has to be reviewed to avoid inconsistencies between TAF and TAP TSI. For historical reasons the primary location codes for the RU/IM communication have a different format, than the location codes used for the retail information. Whereas the TAF TSI uses code in the format *ISO country code + 5 digits*, the location codes of the TAP TSI are created as *2-digit numeric country code + 5 digits*. Both codes are incompatible, but are needed by the data provider and the data receiver. The WP discussed the use cases of the different retail location codes, primary and subsidiary codes, included in the ERA Technical Documents B.9. EU Travel Tech commented that one way to handle retail station codes is a mapping with the unique reference code, supported by CER. The concept of a Master Database is supported by the WP as option. The topic of reference data management for the provision of real-time data (RU/IM messages) and the related retail reference data, encoded with different values, has been identified as an important topic for the split/merge of the TAF and TAP TSI.

It has been decided to separate the discussion about the merge split of the TAF and TAP TSI into two separate discussions: provision of real-time data from the overall discussion of the split/merge of the TAF and TAP TSI. ERA suggested as well to arrange separate meetings to prepare discussions on the "Retail location coding" vs. RU/IM primary location codes and to discuss the aspects of their management including the setup of a master database for retail.

Concerning the remaining basic parameters of the TAF and TAP TSI to be harmonised, it has been decided to follow the following principles:

1. Keep all basic parameters in the TAP TSI, including those shared with the TAF TSI
2. Decide for each basic parameter, if there are specific requirements of the TAP TSI to be taken into account (e.g. specific actors, specific data elements to be shared)
   a) Each TAP TSI basic parameter with specific requirements of the TAP TSI has been kept in the TSI
   b) Any other basic parameter has been replaced by a simple reference to the TAF TSI

For the case 2a) the following basic parameters have been kept in the TAP TSI, by using phrases as close as possible to the corresponding ones in the TAF TSI, but respecting the specific requirements of the TAP TSI:

- 4.2.17. Train preparation
- 4.2.18. Train running information and Train running forecast
- 4.2.19. Service disruption information
- 4.2.21. Various reference files and databases
- 4.2.22. Electronic transmission of documents
- 4.2.23.5.   Central repository

For the case 2b) the content of the following basic parameters has been replaced by a simple reference to the TAF TSI:

- 4.2.16.   Path Request and path allocation
- 4.2.23.1.   General architecture
- 4.2.23.2.   Network and Security
- 4.2.23.3.   Protocols
- 4.2.23.4.   Encryption
- 4.2.23.6.   Common interface for RU/IM communication
- 4.4.   Operating rules
- 4.5.   Maintenance rules

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[4] *REGULATION (EU) 2021/782 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2021 on rail passengers' rights and obligations (recast)*

- 4.6   Professional qualifications
- 4.7   Health and safety conditions
- 5.   INTEROPERABILITY CONSTITUENTS

The approach and the changes of the basic parameters above have been accepted by the working party in the meeting on 19 May 2021.

5.2.5.   CR 432 - Provision of real-time data according to the revised rail passenger rights regulation

For the discussion about the provision of the real-time data by infrastructure managers and railway undertakings according to the revised rail passenger rights regulation to ticket vendors and tour operators, it has been decided in the working party on 24 February 2021 to create a separate change request. The CR has been created as CR 432 "Provision of real-time data according to the revised rail passenger rights regulation".

The discussion has been mainly addressed two questions:

- How to interpret the obligations of the "Article 10 - Access to traffic and travel information" of rail passenger rights regulation, that the infrastructure manager and the railway undertaking shall provide real time data to ticket vendors and tour operators?
- Which real-time messages have to be provided by the infrastructure managers especially to station managers, ticket vendors and tour operators?
- Which technical means shall be used to provide the data to ticket vendors and tour operators?

The basis for the provision of real-time data is the articles 9 and 10 of the regulation (EU) 2021/782 defining the following obligations for railway undertakings, infrastructure managers, station managers, ticket vendors and tour operators:

Article 9 - Travel information

1. Railway undertakings, tour operators and ticket vendors offering transport contracts on behalf of one or more railway undertakings shall provide the passenger, upon request, with at least the information set out in Annex II, Part I in relation to the journeys for which a transport contract is offered by the railway undertaking concerned.

2. Railway undertakings and, where possible, ticket vendors and tour operators shall provide the passenger during the journey with at least the information set out in Annex II, Part II. Where a station manager has such information, he or she shall also provide the information to the passenger.

3. The information referred to in paragraphs 1 and 2 shall be provided in the most appropriate format, where possible based on real-time travel information, including by using appropriate communication technologies. Particular attention shall be paid to ensuring that this information is accessible in accordance with the provisions of Directive (EU) 2019/ 882 and Regulations (EU) No 454/2011 and (EU) No 1300/2014.

Article 10 - Access to traffic and travel information

1. Infrastructure managers shall distribute real-time data relating to the arrival and the departure of trains to railway undertakings, ticket vendors, tour operators and station managers.

2. Railway undertakings shall provide other railway undertakings, ticket vendors and tour operators that sell their services with access to minimum travel information set out in Annex II, Parts I and II, and to the operations on reservation systems referred to in Annex II, Part III.

3. Information shall be distributed and access shall be granted in a non-discriminatory manner and without undue delay. A one-off request shall be sufficient to have continuous access to information. The infrastructure manager and the railway undertaking obliged to make available

information in accordance with paragraphs 1 and 2 may request the conclusion of a contract or other arrangement on whose basis information is distributed or access is granted.

The terms and conditions of any contract or arrangement for the use of the information shall not unnecessarily restrict possibilities for its reuse or be used to restrict competition.

Railway undertakings may require from other railway undertakings, tour operators and ticket vendors a fair, reasonable and proportionate financial compensation for the costs incurred in providing the access, and infrastructure managers may require compensation in accordance with the applicable rules.

4. Information shall be distributed and access shall be provided by appropriate technical means, such as application programming interfaces.

5. To the extent that the information covered by paragraphs 1 or 2 is provided in accordance with other Union legal acts, in particular Commission Delegated Regulation (EU) 2017/1926, the corresponding obligations under this Article shall be deemed to have been complied with.

Real-time messages are already part of the TAP TSI regulation (EU) 454/2011. In the chapters *4.2.15. Train running information and forecast* and *4.2.16. Service disruption information*, the handling of real-time data is already covered for the data exchange between the railway undertaking and the infrastructure manager. The messages TrainRunningInformation, TrainRunningForecast and TrainRunningInterruption are specified and widely implemented and used in the European Rail sector. On the other hand, other actors solely addressed in the TAP TSI, such as ticket vendors or tour operators, are not entitled to receive these real-time data under the current regulation. According to the requirements of the rail passenger rights regulation, the TAP TSI has to be modified to allow those actors to have access to the real-time data.

The ingoing proposal from ERA to implement the requirement concerning the provision of real-time data is not to change the technical means to provide real-time data to other actors, but to extend the group of actors entitled to receive those messages by ticket vendors and tour operators. The proposal of ERA was that the messages TrainRunningInformation, TrainRunningForecast and TrainRunningInterruption have to be sent to the station managers, ticket vendors and tour operators as well.

CER and EIM argued that :

- For a railway undertaking all TAP TSI real time messages (TrainRunningInformation, TrainRunningForecast) are necessary to fulfil rail passenger rights regulation obligations by a railway undertaking to ticket vendors and tour operators.
- For an Infrastructure Manager: Only TrainRunningInformation message would be necessary to fulfil the obligation of the rail passenger rights regulation of Infrastructure managers to TV/TO.
- So both IM and RU will need to send TrainRunningInformation messages to TV/TO, but the timing and frequency of these messages is different:
  - IM will need to send to TV/TO (with whom they have a commercial agreement) TRI messages for all of the arrivals and all of the departures for all the trains on their network (perhaps a limitation is possible to certain trains if desired by TV/TO).
  - RU will need to send to TV/TO (with whom they have a commercial agreement) TRI messages when a train is delayed.
- TV/TO will receive TRI messages from both IM and RU when a delayed train arrives at the station and when it departs, but for correct passenger information, TVs/TOs can suffice with only making a connection with RUs.
- The infrastructure managers would not have all the necessary data, used for retail such as locations ad timings, to provide the information to the ticket vendor

The conclusion is therefore that there is only an agreement necessary between the railway undertaking and the TV/TO to receive the real-time data, because they would be more accurate and contain the necessary data for station managers, tour operators and ticket vendors.

ERA argued that:

- the article 10 of the rail passenger rights regulation (EU) 2021/782 gives clear guidelines for the provision of real-time data to ticket vendors and tour operators by infrastructure managers and railway undertakings: A simple-on-off request is necessary to receive the data, the data content is specified in Annex II of the rail passenger rights regulation (EU) 2021/782 and a contract to receive the data may be requested.
- No additional burdens for the IM, RU to implement additional messages, because the existing ones can be reused
- The messages TrainRunningInformation, TrainRunningForecast are already in scope of the TAF/TAP TSI and there is a significant progress in the implementation of those messages by the European rail sector. The last TAF TSI implementation report 2020 reported, that 24 infrastructure managers have already implemented the message.
- Only additional actors (such as ticket vendors, tour operators) may receive on request the existing messages
- The conclusion of a contract to receive the real time data is optional in case of data provided by an infrastructure manager, but a contract is mandatory to receive the data from a railway undertaking

These arguments were supported by an internal analysis by the ERA's legal department.

Concerning the technical means of the provision of real-time data to additional actors such as ticket vendors and tour operators, the following questions were identified:

- Which data are necessary to provide to the ticket vendors and tour operators to allow them to process the real-time data?
- Which technical means are the most suitable ones to provide real-time data?

EU TravelTech underlined several times in the meetings of the working party, that for them the delivery of real-time data shall be based on identifiers and times already known to them, usually provided by the railway undertakings in the timetable data. This is a precondition to fulfil their requirements according to the rail passenger rights regulation. This affects namely the retail location codes, the train number used for the sales processes and the timings, which are dedicated to passenger information. Those data might be different from the data used by the infrastructure manager, who is as well obliged to deliver those data.

ERA analysed these requirements. Based on the current specification of the messages TrainRunningInformation or TrainRunningForecast the requirements mentioned above can be covered using the current specifications.

Concerning the timing there are two main subjects: Are the times in the messages an operational one, e.g. to be used to follow the train run from the perspective of the signalling or are they dedicated to inform the passengers? Both times have different requirements, such as the accuracy. The messages for the path management are already specified in a way to provide the times uses for operational purposes and those times, used for passenger information in parallel.

The second question are the locations used to identify the locations, where the real-time data are intended to be used for. Due to historical reasons both location codes for operational messages and for passenger information about timetable have a different format, e.g. concerning the coding of the country here the locations is located. However to fulfil the requirements of the rail passenger rights regulation, the infrastructure manager has to be able to provide both codes to station managers, ticket vendors and tour operators.

ERA has shown, that the specifications are already prepared to host the locations and timings for operational use and for passenger information, see Figure 6: timing and location codes for real-time data.

public timing already stored in the train path at IM (See sector handbook RU/IM chapter 12.14.8 Timing at location)

For the purpose of publication of the timings (e.g. on the stations), the Public location arrival and Public location departure is specified. The public location time may differ from the actual location time. This is relevant only for TAP.

```
<PathRequestMessage …>
…
<TrainInformation>
        <PlannedJourneyLocation>
                <CountryCodeISO>FI</CountryCodeISO>
                <LocationPrimaryCode>1</LocationPrimar…
                <LocationSubsidiaryIdentificati…
                        <LocationSubsidiaryCode
LocationSubsidiaryTypeCode="66">1000001</LocationSubsidiaryCode>
                        <AllocationCompany>0001</AllocationCompany>
                </LocationSubsidiaryIdentification>
                <TimingAtLocation>
                        <Timing TimingQualifierCode="PLA">
                                <Time>14:00:00</Time>
                        </Timing>
                        <Timing TimingQualifierCode="ELA">
                                <Time>13:59:30</Time>
                        </Timing>
                </TimingAtLocation>
        </PlannedJourneyLocation>
```

Passenger location

Passenger timing (public location arrival)

operational timing (earliest location arrival)
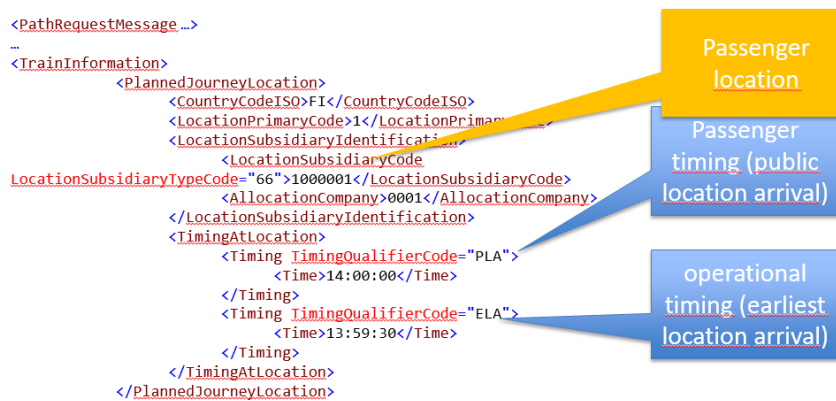
Figure 6: timing and location codes for real-time data

A question raised during the discussion about the provision of real-time data to the station managers, ticket vendors and tour operators is the governance of the retail location data, the locations codes according to chapter Reference data of the TAP TSI. The codes for the RU/IM communication are managed in the Central refence database (CRD), operated by RailNetEurope, whereas the codes used for retail purposes are managed by TSGA in the retail reference database.

For the preparation of the discussions in the working party, preparatory meetings took place on 15.01.2021 and 19.02.2021. For the discussion in the working party ERA prepared a document analysing the common parts and concepts of the reference data management for RU/IM and retail location data.

The key findings of the analysis were:

› No clear master database for retail reference data; retail master data can be accommodated in different places (RRD, CRD, TSDUPD)
› No documented processes for the code allocation for some retail codes applied
› No documented use cases for the maintenance of location data (as it's the case for the TAF TSI - ANNEX D.2, APPENDIX C - REFERENCE FILES technical document)
› Only partial publication of retail reference data at ERA (e.g. Subsidiary Location identification for frontier and transit points)
› Primary retail reference data are not published on ERA website

The following questions have been raised by ERA:

1. Which database is the retail reference data database?
2. Who is responsible for the retail reference file maintenance?
3. How are the reference database management procedures?

4. How the publication of the retail reference data at ERA should be ensured?
5. How the coherence between TAP TSI primary location data and CRD location data can be maintained?

The discussion was focused on the discussion about the governance and the storage for the retail location codes. Those codes have to be available for the infrastructure managers and railway undertakings, but are managed by separate allocation organisations in a dedicated database. This database, the retail reference database, is not accessible for infrastructure managers. A synchronisation between the CRD and RRD in place. So for railway undertakings the access to the data is possible, but not for infrastructure managers. ERA proposed therefore the following measures:

- Create a governance involving the already appointed National allocation Entities for the TAF TSI
- Use the already existing database CRD to feed the necessary data to the infrastructure manager.

The discussion in the working party has shown, that only few modifications in the legal text are necessary. Most of the discussions should be held in the change control management.

ERA has received comments concerning the appointment of the national allocation entity. The discussion and the results are explained in chapter 6 - Results of the social consultation.

Overall a common agreement how to manage the provision of real-time data according to the rail passenger rights regulation could not be achieved in the TAP TSI working party. According to the rules laid down int the document Rules - Working methods for workgroups providing input for Agency activities, V 3.0 [3] the Agency announced in the meeting of the TAP TSI revision working party on 19 May 2021 that, since agreement could not be reached after several WP meetings, ERA has to decide about a solution for the real-time data provision. ERA announced therefore, that both sector and ERA proposals on the provision of real-time data will be included in the final ERA recommendation. The proposal from ERA has been included in the recommendation text, whereas the proposal from CER/EIM/UNIFE has been attached to the accompanying report, available in Annex 4: Proposal CER/EIM/UNIFE concerning real-time data.

The agency requests the European Commission to determine the preferred solution how to provide real-time data from the infrastructure manager to station managers, ticket vendors and tour operators according to the rail passenger rights regulation during the further discussions within EC and with the member states.

5.2.6. CR 439 – Description of the new object identifiers in TAF and TAP TSIs

The TAF TSI has introduced new object identifiers to identify the train unambiguously from the planning until operation. These identifiers allow as well the identification of the train if operating cross-border, including the changes on the timetable during the usual yearly timetable. The identifiers are relevant to the TAP TSI as well, to support the use case of the provision of real-time data to station managers, ticket vendors and tour operators The path planning is affected as well, but covered in detail in the basic parameters of the TAF TSI refenced in TAP TSI.

For these identifiers a new basic parameter has been introduced in the TAP TSI: 4.2.15. Objects Identifiers

5.2.7. CR 314 - Incorporation of the requirements for accessibility for PRM in TAP

The essential requirement "Accessibility" has been already addressed in the revision of the TAP TSI between 2017 and 2019. The main changes are already incorporated in the TAP TSI. It has been agreed in the previous revision working party to use the European standard CEN/TS 16614-1:2015 (NeTEx) for the exchange of accessibly data for stations, covered in the TAP TSI basic parameter "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 open point is to define a so called profile – a subset of elements to be exchanged to describe the accessibility of a train station – of the standard NeTEx. Such a profile contains a description of the mandatory elements, the optional ones and their use of a given standard. ERA presented a first draft of such a profile in the working party on 2nd December 2020.

ERA proposed to outsource discussion on this aspect to the separate discussion and proposed to the WP to postpone the discussion after social consultations and form common working party with TSI PRM and TAP experts. The only decision in the TAP TSI working party shall be to decide between the usage of an application guide or Technical Document for the accessibility.

The working party decided on 24 February 2021, that the discussion shall be followed by a specific group, discussing the details of the technical document or application guide.

During the discussions in the Agency it was decided, that such a working party PRM TSI/TAP TSI might not be necessary. The requirements concerning the data to be provided for the accessibility for railway stations are not specified in detail in the PRM TSI. This has been proposed in the recommendation ERA-REC-128[5] in the appendix O, which is not anymore part of the Commission Implementing Regulation (EU) 2019/772 of 16 May 2019 amending Regulation (EU) No 1300/2014 (PRM TSI).

The task of the working party to decide about the technical document has been therefore taken b the TAP TSI revision working party. Three options were available: a direct reference the standard CEN/TS 16614-1, an application guide explaining the usage of the standard for the exchange of accessibility data or a new technical document referring to the standard NeTEx and explaining the usage of them. In the discussion in the working party on 16 December 2021 the working party decided, that a technical document would fit to the requirements of the data provision and the flexibility to adapt the document to the needs in the established change control process.

For this purpose a new technical document B.15 – European Passenger Information Railway Station Accessibility Profile will be proposed to specify the interoperable data exchange for accessibility data.

5.2.8.   CR 323 - Interface needed to submit passenger complaints

The change was discussed in the meeting on 02 December 2020. The legal basis for the revision is the proposed revision of the rail passenger rights regulation, PRR Article 16(5) and 17(4a-a). CER and CIT presented their view on this requirement.

The developments of the rail sector have been presented in March 2021 by CIT. They presented the concept of common claim form on paper or PDF. CIT explained that it's not about common EU interface or program but common EU form. The form contains the information needed for RU to handle complaints, and avoid "ping pong" type of exchanges. Form wise it is based on analysis of many claim forms, in particular from airways. Following aspects were pointed out by the WP: Form is developed for both paper and electronic use. Aim is that form is technologically neutral. Electronic use is seen as a priority for TAP.

After as discussion within EC with their experts for the rail passenger rights it was concluded in the working party to include such a requirement in the TAP TSI. A new basic parameter has been included as basic parameter 4.2.12.2 The railway undertaking or ticket vendor sends a reimbursement and compensation request to the attributing system. The technical specifications will be integrated in the corresponding technical document B.13 – Open sales and distribution model.

5.2.9.   CR 322 - Analysis of the results of S2R IP4 projects and initiate the update of relevant EN standards (SIRI, NeTEx, Transmodel)

The topic was discussed in the TAP TSI working party on 27 January 2021. Shift2Rail representatives presented the scope and the goals of the Shift2Rail IP4 - Digital services. The IP4 intends to provide solutions and demonstrators for the following topics:

- Complete door-to-door multimodal travel across Europe
- Access through a travel Companion all travel services (planning, shopping, ticketing, navigating, tracking, aftersales)
- Open framework providing full interoperability to all Travel Service Providers

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- More value from data. Decision making to Passengers and Operators > Business Analytics platform

In more detail the goals of the work package "TD4.1 – Interoperability Framework" were presented and discussed. This work package is aiming at the development of an Interoperability Framework, the component that allows interoperability in the ecosystem for the passenger information and ticketing:

- Allows exchanges among heterogeneous systems using different interfaces that guarantees the interoperability
- Access point for the services of the transport service providers that are available to the ecosystem
- Provide components that simplify the connection among the different actors, applications and transport service providers
- transport service providers do not need to adapt their interfaces to the Interoperability Framework (IF)

The work package TD4.1 has a strong link to the revision of the TAP TSI, due to the requirement *"Analysis of the results of S2R IP4 projects and initiate the update of relevant EN standards (SIRI, NeTEx, Transmodel) or interfacing TAP with semantics via Shift2Rail IP4 IF initiative"*.

Shift2Rail presented as well the schedule for the publication of the releases of the Shift2Rail ontologies for the interoperability framework:

- 1st version that includes Infrastructure Static Data Module – April 2021
- 2nd version adds Tariffs as part of Ticketing & Services Module – July 2021
- 3rd version adds Real Time Module – October 2021
- 4th version adds Online Distribution Services as part of Ticketing & Services Module – January 2022

The Shift2Rail ontologies define the terms and their usages for the data exchange between the involved parties and would facilitate the data exchange between them due to the usage of an unified vocabulary.

The working party discussed the input from S2R. The key concerns concerning the input from S2R were, that TAP TSI is part of the landscape but not considered as input for S2R IP4. The schedule of the deliverables is not compatible with the schedule foreseen for the TAP TSI revision. When the last deliverables are available in January 2022, the recommendation concerning the revised TAP TSI has already ended.

It has been recognized by the working party, that the last meeting for the discussion about the content of the TAP TSI is planned for May 2021, whereas the last S2R output relevant for the TAP TSI will be available in January 2022.

Based on the discussion in the working party ERA developed a proposal for the TAP TSI revision concerning this change request: S2R should further liaise with CEN to bring their expertise into the standardization process for Transmodel, NeTEx and SIRI.

ERA recommended to postpone the CR due to non-synchronized schedule of the S2R deliverables and the revision of the TAP TSI. ERA recommended to S2R to liaise with CEN to bring their expertise into the standardisation process. Proposal from ERA was approved by the working party on 24 February 2021.

5.2.10. CR 333 - Take into account open source and open data architecture requirements

The topic has been discussed further for the chapter 4.2.11.5 - Common Interface in the TAFTSI. For the TAP TSI the topic has been postponed for the next revision and logged in the CR 440.

5.2.11. CR 363 - Closing of the open point "Standard for European exchange of ticket control and ticket status modification data"

The open point concerning the standard for an interoperable exchange of ticket control and ticket annotation data is an open point, introduced in the previous version 1.0 of the recommendation ERA-REC-122 from 10 January 2020 about the revision of the TAP TSI.

For the indirect fulfilment, the exchange of ticket control data is an important aspect. Due to the nature of these travel documents to be printed on plain paper or displayed on mobile phone screens, the authenticity can be checked only through a backend system, checking the security elements. This task is fulfilled by the ticket control organisation (TCO). For the resulting control data no common message exchange nor structure is in place. The check of the ticket can be done solely based on bilateral agreements resulting in a significant increased risk concerning ticket fraud. ERA proposed to introduce a new basic parameter "4.2.12. Handling of ticket control and ticket state modification data". The closing of this open point was part of the discussion in the working party.

The ingoing proposal from ERA addressed the following questions :

› Who has to send to whom them ticket check data ?
› Who has to provide annotations to whom?
› What kind of messages are needed for after sales transactions ?

It has been decided in the working party that no additional actors are needed, because the actors such as railway undertaking, ticket vendor or ticket control organisation (TCO) are already addressed in the TAP TSI. It was agreed to create a new basic parameter, covering both ticket check and ticket annotation. Annotation means, that additional to ticket check the transactions to enhance the ticket with additional information, such as confirmation of delays or re-routings have been added. This facilitates the implementation of the rail passenger rights regulation as well.

For the technical details of the solution it has been proposed by UIC to use the already existing IRS 90918-4 and transform the necessary parts for interoperability into a Technical Document.

It has been decided by the working party to introduce a new basic parameter "4.2.12. Handling of ticket control and ticket state modification data" in the TAP TSI, defining the involved actors and processes for the ticket annotation and ticket check. It has been proposed as well to draft a new technical document "B.14 e-Ticket Exchange for Control" and to attach it to the TAP TSI.

The working party will continue the work on the proposed technical document B.14 e-Ticket Exchange for Control in 2022.

5.2.12. CR 368 - Implementation reporting from 2022

The chapter 7 had to be modified to include the changed requirements of the TAP TSI implementation and the monitoring of the implementation progress of the TAP TSI. The ingoing proposal was presented by CER in the meeting on 19 May 2021. The proposal has been aligned as much as possible with the TAF TSI. The key question discussed in this basic parameter was the definition of implementation deadlines. The WP considered options to further boost TAP SI implementation levels:

› set fixed deadlines,
› set individual masterplans & monitor through implementation reporting,
› "mixed solution" with fixed time constraints taking into account the obligations of the regulation (EU) 2021/782 (Rail passenger rights regulation) and individual master plans & reporting .

Based on the decision of the working party the chapter 7.1 has been modified. Based on the input stemming from the social consultation, the chapter has been further modified.

5.2.13. CR 370 - NCP role update - Appendix III

The ingoing proposal was presented by CER in the working party meeting on 19 May 2021. The WP took special care to align these TAF RU/IM basic parameters with the RU/IM basic parameters in the TAF TSI.

During the social consultation ERA received comments concerning the role of the NCP, especially concerning the appointments of the national allocation entity (NAE).

5.2.14.   CR 382 - Revision of TAF and TAP glossaries

These changes were discussed at the meetings of the TAP TSI revision working party. The WP took special care to align these TAF glossary items with those in the TAP TSI.

The revision of the glossary has been prepared by a working party of JSG and UNIFE. The existing glossaries for the TAF and TAP TSI have been evaluated in this group and divided into items into 4 categories:

- 1st forwarded to rail sector Technical experts group (TEG) for opinions

- 2nd not used in TAP

- 3rd to check due to inconsistencies or doubts,

- 4th proposals for deletions or changes

The final results were presented in the working party on 19 May 2021. The working party agreed with the changes and agreed further to leave up to ERA decision if there's a need to define additional items such as PLC (Primary Location Codes) & RLC (Retail Location Codes) in the glossary.

During the social consultation ERA received comments concerning the glossary, which were partially taken into account.

6.   Results of the social consultation

According to the internal procedures for the drafting of recommendations, a social consultation had to be performed to inform the passenger organisation, social partners and OTIF about the results of the revision of the TAP TSI. For this purpose a dedicated website[6] including a functional mailbox[7] has been made available by ERA, where the drafted TAP TSI version from 01 June 2021, containing all agreed changes until this date, has been made available to the public.

The consultation was published on 01 August 2021 on the website of the agency. The organisations were asked to provide their opinion concerning the revised TAP TSI to ERA. A direct communication to the organisations and a broader communication via the social media channels of the agency has been launched.

ERA has received until 31 October 2021 feedback from the following organisations:

› Agencia Estatal de Seguridad Ferroviaria (AESF)
› ANSFISA (NSA IT as NCP IT)
› Banedanmark
› EPF
› Ferrovie del Sud Est e Servizi Automobilistici S.R.L.
› JSG/CSG
› JSG-CSG by EIM
› NCP Austria
› NCP Switzerland
› NCP Germany
› OTIF

For all received comments ERA has created corresponding change requests proposals. The latter were processed at the 7th meeting of the working party on 26 November 2021. Most of the organisations, which have provided comments for the draft recommendation, participated in this meeting. ERA explained the comments received and justified the decisions, how to take the into consideration in the revised TAP TSI.

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[6] https://www.era.europa.eu/library/consultations_en#consultation1388

[7] ERA-REC-122@era.europa.eu

The main discussion in the meeting was dedicated to the following questions stemming from the social consultation:

1. The role and the appointment of the National allocation entity
    The role and the tasks of the national allocation entity (NAE) were discussed in the working party. The key question addressed in the social consultation was the question, how the National allocation entities are appointed, and which tasks should be assigned to them. This is especially important, when the NAE has to allocate location codes for RU/IM communication and codes for the retail locations in the TAP TSI. ERA explained that there should be "a" National allocation entity per member state, distributing – if needed – the allocation tasks to specific entities for RU/IM and or retail code allocation. This would facilitate the unique code allocation for RU/IM and retail codes.
    CER and several NCP's argued that the code allocations for RU/IM and retail location codes are too different and should be separated. Additionally, needed retail location codes for bus stations or ferries have no link to locations on the railway network and cannot be allocated with their primary location code (PLC).
    The following change was proposed by the working party:

    TAF TSI: proposal "Each Member State shall ensure that one or more National Allocation Entit(ies) are 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." vs. "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."

    TAP: A National Allocation Entity (NAE) allocates ~~Primary~~ Location Codes and maintains a list of unique location codes within a country.

    It was agreed, that ERA will ask for clarification from the legal department, if this is acceptable to appoint more than one national allocation entity.

2. Definition of the subsystem in art 7.1:
    Regarding the revised TAF TSI - it was discussed how the item 19 "Delete the mention to passengers in the first sentence to align with the wording in TAP : This TSI concerns the subsystem telematics applications for freight/passenger." ERA explained there is no mistake - both parts of the subsystem telematics applications are concerned by this TSI since several basic parameters of the current TAP TSI have been moved to this one. Consequently, they apply to the passenger RU/IM communication. For the sake of the renewed scope of the TAF (aligned with the purpose of the CR 325) current phrase it is accurate as it applies to both parts of the subsystem.
    ERA will consult the legal department and reflect their feedback in the recommendation.

3. The fixed deadline for the implementation of the TAP TSI functions, in case the railway undertaking did not provide any master plan
    ERA's proposal for the fixed deadline to implement the TAP TSI by 7 June 2023 was widely rejected by the working party. The deadline – stemming from the rail passenger rights regulation (EU) 2021/782 – would have as well an impact on the TAF TSI implementation. It was agreed in conjunction with the TAP TSI to add "- establishing and updating the Master Plan published at the public website of the Agency" to the tasks of the ICG for TAF and TAP.

The comments including the results of the discussion are included in Annex 5: Results of the social consultation.

7. Next steps

The work plan for the TAP TSI revision including the next meetings of the working party and the milestones are planned as described in the following table:

Table 8: Next meetings and milestones

Date	Actions
Q1-2 2022	Revision of the technical documents: - B.13 – Open sales and distribution model - B.14 – e-Ticket check for control Drafting of the technical document B.15 - European Passenger Information Railway Station Accessibility Profile
30.06.2022	Submission of the updated technical documents to EC
Q3-4 2022	CR364 final review application guides

8. Annex 1: Definitions and abbreviations

8.1. Definitions

Table 9: Table of definitions

Definition	Description
Agency	The European Railway Agency (ERA) such as established by the Regulation (EU) 2016/796 repealing (EC) No 881/2004 of the European Parliament and of the Council of 29 April 2004.

8.2. Abbreviations

Table 10: Table of abbreviations

Abbreviation	Description
CER	Community of European Railway and Infrastructure Companies
CIT	International rail transport committee
CR	Change Request
CRD	Central Reference Database
EC	European Commission
EIM	European Rail Infrastructure Managers
EPF	European passenger federation
ERA	European Agency for Railways (also referred to as Agency)
ETTSA	European Technology and Travel Services Association
IA	Impact assessment
IM	Infrastructure Manager
IoA	PRM TSI Inventory of assets
IRS	International Railway Solution
RISC	Rail Interoperability and Safety Committee
RNE	Rail Net Europe
RRD	Retail reference database
RU	Railway Undertaking
SM	Station manager
SO	Strategic objective
TAF	Telematics Applications for Freight
TAP	Telematics Applications for Passengers

Abbreviation	Description
TEN	Trans European Network
ToR	Terms of Reference
TSGA	TAP TSI Governance association
TSI	Technical Specification for Interoperability
UIC	Union Internationale des Chemins de fer
UIP	International Union of Wagon Keepers
UNIFE	Association of the European Rail Industry
WK	Wagon Keepers
WP	Working Party organised by ERA

9. Annex 2: Reference documents

Table 11 : Table of reference documents

N°	Title	Reference	Version
[1]	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)	Ares(2020)452283	24/01/2020
[2]	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 (https://www.era.europa.eu/sites/default/files/library/docs/recommendation/era_rec122_tap_tsi_revision_recommendation_en.pdf)	ERA-REC-122	10/01/2020
[3]	Rules - Working methods for workgroups providing input for Agency activities, V 3.0	RUL_WGM_002	03/10/2016
[4]	Report - Retail location code management for TAP TSI		17/02/2021
[5]	Full Service Model- Requirements Document		13 May 2012

10. Annex 3: Reference legislation

Table 12 : Table of reference legislation

N°	Title	Reference	Version
[1]	Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system (Recast)	OJ L 138, 26.5.2016, p. 44.	N.A.

N°	Title	Reference	Version
[2]	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	OJ L 138, 26.5.2016, p. 1.	N.A.
[3]	Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety (Recast)	OJ L 138, 26.5.2016, p.102.	N.A.
[4]	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	OJ L 210/5, 15.8.2017.	N.A.
[5]	COMMISSION REGULATION (EU) No 454/2011 of 5 May 2011 on the technical specification for interoperability relating to the subsystem 'telematics applications for passenger services' of the trans-European rail system	OJ L 123, 12.5.2011, p. 11–67	N.A.
[6]	COMMISSION REGULATION (EU) No 1273/2013 of 6 December 2013 amending Regulation (EU) No 454/2011 on the technical specification for interoperability relating to the subsystem 'telematics applications for passenger services' of the trans-European rail system	OJ L 328, 7.12.2013, p. 72–78	N.A.
[6]	Commission Implementing Regulation (EU) 2019/775 of 16 May 2019 amending Regulation (EU) No 454/2011 as regards Change Control Management	OJ L 139I , 27.5.2019, p. 103–107	N.A.

11.   Annex 4: Proposal CER/EIM/UNIFE concerning real-time data

CER/EIM/UNIFE recommends to further specify appropriate technical means to ensure access to real-time pre-journey information and information during the journey **through the conclusion of a contract or other arrangements between concerned stakeholders**, but not through additional specifications in the TAP TSI regulation.

TAP TSI Basic Parameter 4.2.18 'Train Running Information and Train Running Forecast'

ERA draft recommendation (11.06)	CER proposal
4.2.18 'Train running information and Train Running Forecast'	
4.2.18.1 General remarks	
[...] The train running forecast 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. The message shall be sent upon request as well from the infrastructure manager to ticket vendors and 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 a contractual agreement the conditions in article 10 of regulation (EU) 2021/782.	[...] **To the extent that the information covered by Train Running Information message and Train Running Forecast message is provided in accordance with Commission Delegated Regulation (EU) 2017/1926 or any other obligations, the corresponding obligations under this clause shall be deemed to have been complied with.** The train running forecast 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. The message shall be sent upon request as well from the infrastructure manager to ticket vendors and 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 **whose services they sell** and/or infrastructure managers **by appropriate technical means, and** according to a contractual agreement the conditions in article 10 of regulation (EU) 2021/782. [...]

[…]	

4.2.18.1.2 'Train running forecast message'

[…]	[…]
Information on the train running forecast, and if relevant on the train delay cause (see section 4.2.17.2 4.2.18.3), shall be delivered by the railway undertakings and/or infrastructure managers in due time to the station manager , ticket vendor and tour operator under a contractual agreement the conditions in article 10 of regulation (EU) 2021/782. […]	Information on the train running forecast, and if relevant on the train delay cause (see section 4.2.17.2 4.2.18.3), shall be delivered by the railway undertakings and/or infrastructure managers in due time **and by appropriate technical means** to the station manager , ticket vendor and tour operator **selling railway undertaking services, and** under a contractual agreement the conditions in article 10 of regulation (EU) 2021/782. […]

4.2.18.2.3 'Train running information message and Train Delay Cause message'

[…]	[…]
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 a contractual agreement the conditions in article 10 of regulation (EU) 2021/782. […]	Information on the train delay cause shall be delivered by the railway undertakings and/or infrastructure managers in due time **and by appropriate technical means** to the station manager, **and** ticket vendor and tour operator **selling railway undertaking services, and** under a contractual agreement the conditions in article 10 of regulation (EU) 2021/782. […]

4.2.19.2 'Train Running Interruption message'

[…]	[…]

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. […]	Additionally the infrastructure manager has to deliver the Train Running Interruption message **by appropriate technical means** to the railway undertakings, station manager, **and** ticket vendor and tour operator **selling railway undertaking services** under the conditions in article 10 of regulation (EU) 2021/782. […]

12. Annex 5: Results of the social consultation

N°	Reference (e.g. Art, §)	Type	Reviewer	Reviewer's Comments, Questions, Proposals	Reply	Proposal for the correction or justification for the rejection
1	4.2.18.2	P	NCP Germany	Delete the 3rd paragraph as the requirement is described in the 6th paragraph : 3rd paragraph to be deleted: ~~Upon request this message must be issued by the infrastructure manager to station manager, ticket vendor and tour operator for contractually agreed reporting points .~~ 6th paragraph sufficiently addressing the issue: Information on the train running forecast, and if relevant on the train delay reason (see section 4.2.18.3), 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 infrastructure managers need to have flexibility to decide how to ensure the most effective and efficient way to inform passengers.	A	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.
2	4.2.19.2	P	NCP Germany	Adjust the way of addressing the duties (using the meaning in the wording of 4.2.18.3) "Additionally the infrastructure manager has to ensure the provision of information on the train running interruption ~~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 wording may prevent the infrastructure manager from choosing the most efficient and effective solution under the conditions in article 10 of regulation (EU) 2021/782.	NWC	The phrase could not be identified in the draft proposal, used for the social consultation.
3	7.1(b)	P	NCP Germany	Delete the date 07/06/2023 and adjust the wording. The date of implementation for stakeholders without individual master plan is fixed by ERA to 07/06/2023, corresponding to the	A	See item 62

				application date of rail Passenger Rights Regulation (EU) 2021/782. The logic of this date is understood concerning rail PRR requirements but : • Rail PRR mentions already this date. Thus, repeating it for rail PRR requirements described in TAP TSI brings no added value as the rail PRR is mandatory in any case. • It applies also to RU/IM BPs non linked to rail PRR, some of them involving IMs, e.g. BP 4.2.16 (Path request and path allocation) or BP 4.2.17.1 (Train ready). Such decision was taken by the TAF Revision WP. It is fully inacceptable - that PRR determines timelines of non-PRR related subjects - not to take into account originally agreed time schedules without consultation of the sector Only a proposal with legal and economic impact assessment can be deemed acceptable. National implementation deadlines on the part of the infrastructure managers are of particular relevance for train path requests. Linked to this are the implementation deadlines of the railway undertakings. - The topic is too extensive and complex to be introduced completely by a fixed deadline, so the German sector advocates for an individual and gradual introduction. - For the German sector there is only one logical date for changes, being the new timetable year.		
4	7.1(c)	P	NCP Germany	In the enumeration of ICG tasks, the 4th bullet is included in the 5th bullet. 4th bullet to be deleted: The ICG is made responsible for: – 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 to the European Commission and to the TAF/TAP Steering Committee. – reporting via the Agency who reports to the European Commission, and to the Telematics Advisory Committees. – Discuss and agree with NCPs any need for additional supporting	A	See item 62

				actions from ERA, Member States or NCPs from the annual TAF TSI or TAP TSI implementation reportings. The implementation related to Retail is monitored by the TAP ICG. The proposed changes have not been discussed properly and have not been agreed with the NCPs. The proposal needs to be adjusted.		
5	ERA-REC-122 Art 7.1(b)	P	NCP AT	· No direct adoption of a fixed end date of another regulation (potential for change, possibility of influencing this regulation?) · The naming of a fixed date does not guarantee the implementation date, in fact it carries the risk of postponing planned, other TAP implementations. · A period of time is necessary in order to guarantee realistic conditions for the different companies; This gives companies the chance to implement them efficiently and in a resource-saving manner (leads to faster implementation) · It is also important to define which TAP functionality is affected	A	See item 62
6	Section 7.1 (c)	P	AESF (Spanish NSA)	The monitoring of the deployment and operation is managed by the TAP Implementation Cooperation Group (ICG) for Retail related implementation Is this figure (TAP ICG for Retail related implementation) responsible for the monitoring of the deployment and operation of TAF TSI? In TAF TSI 'document' appears 'TAP and TAP ICG'. Both figures have the same composition. In case they are the same we propose to harmonise the denomination in both TSIs (TAF & TAP). Same comment in public consultation to TAF TSI (#2).	A	See TAF item 4
7	Section 7.1 (c)	M	AESF (Spanish NSA)	· Reporting to the European Commission and to the ~~TAP/TAF Steering Committee~~ Telematics Advisory Committee.	A	The ICG is made responsible for: • 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 reportings.
8	Section 7.1 (c)	U	AESF (Spanish NSA)	The implementation related to RU/IM communications is monitored by the TAF ICG. We do not understand this sentence within the TAP TSI regulation.	NWC	This means that the implementation of the RU/IM functions has to be monitored by the TAF TSI ICG.

9	ERA-REC-122 Art 7.1(b)	P	NCP CH	Article 7.1(b) …. Deploy the system….until 7 June 2023: This article must be changed or clarified in the sense, that there is nothing like "the system" as the TSI TAP consists of many functions and systems and the TAP Regulation is a constantly changing regulation underlying by this current revision process. To put a final date into the regulation opens the door for unnecessary legal disputes which cannot be in the interest of any party of the rail sector. The date shall be repaced by a road map, by dates for each function or amended that this date is valid only for TAP retail functions related to the PRR regulation. In case the date must remain in the text a proposal shall be added, how future CR or revision cycles will be treated under this "final" date.	D	See item 62
10	4.2.18.1. General remarks	M	Banedanmark	The requirement: 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 puts obligations on the IM which cannot be met because the TAF/TAP messaging infrastructure is point to point and the Ticket vendors or Tour operators cannot be enumerated. Moreover, the role Station Manager is not widely used nor standardised in any way.	R	The message exchange of the real-time messages is already implemented in several IM's to send those data to the RU's and station managers. This is already an implementation of a 1:n-communication, depending on the amount of actors to be adressed by those messages. The regulations enhances this requirement only ba addtioal actors - ticket-vendors and tour operators - to allow them to receive the same data to fulfil their legal pobligations, stemming from the article 10 of the rail passenger rights regulation (EU) 2021/782.

Furthermore the actors may chose another communication if needed. According to the BP "4.2.23.6. Common interface for RU/IM communication See TAF TSI section 4.2.12.5.", the parties might use "Any combination of any communication technologies is possible if there is a specific agreement between the involved parties as long it is aligned with the Common Interface specifications." Furhtermore the article 10(5) of the regulation (EU) 2021/782 (Rail PRR) allows ("To the extent that the information covered by paragraphs 1 or 2 is provided in accordance with other Union legal acts, in particular Commission Delegated Regulation (EU) 2017/1926 (14), the corresponding obligations under this Article shall be deemed to have been complied with".) the usage of other data exchange formas such as CEN TS 15531.

Ticket vendors can be enumerated, if they request a company code.

The station manager is defined in the rail passenger rights regulation (EU) 2021/782, Article 3: 'station manager' means an organisational entity in a Member State, which has been made responsible for the management of one or more railway stations and which may be the infrastructure manager; |
| 11 | 4.2.18.2. Train running | M | Banedanmark | The obligations on the IM cannot be met because the TAF/TAP messaging infrastructure is point to point and the Ticket vendors or | R | The message exchange of the real-time messages is already implemented in several IM's to send those data to the RU's and station managers. This is already an implementation of a 1:n-communication, depending on the |

	forecast message			Tour operators cannot be enumerated. Moreover, the role Station Manager is not widely used nor standardised in any way.		amount of actors to be adressed by those messages. The regulations enhances this requirement only ba addtioal actors - ticket-vendors and tour operators - to allow them to receive the same data to fulfil their legal pobligations, stemming from the article 10 of the rail passenger rights regulation (EU) 2021/782. Furthermore the actors may chose another communication if needed. According to the BP "4.2.23.6. Common interface for RU/IM communication See TAF TSI section 4.2.12.5.", the parties might use "Any combination of any communication technologies is possible if there is a specific agreement between the involved parties as long it is aligned with the Common Interface specifications." Furhtermore the article 10(5) of the regulation (EU) 2021/782 (Rail PRR) allows ("To the extent that the information covered by paragraphs 1 or 2 is provided in accordance with other Union legal acts, in particular Commission Delegated Regulation (EU) 2017/1926 (14), the corresponding obligations under this Article shall be deemed to have been complied with".) the usage of other data exchange formas such as CEN TS 15531. Ticket vendors can be enumerated, if they request a company code. The station manager is defined in the rail passenger rights regulation (EU) 2021/782, Article 3: 'station manager' means an organisational entity in a Member State, which has been made responsible for the management of one or more railway stations and which may be the infrastructure manager;
12	4.2.18.3. Train running information message and Train Delay Cause message	M	Banedanmark	The obligations on the IM cannot be met because the TAF/TAP messaging infrastructure is point to point and the Ticket vendors or Tour operators cannot be enumerated. Moreover, the role Station Manager is not widely used nor standardised in any way.	R	The message exchange of the real-time messages is already implemented in several IM's to send those data to the RU's and station managers. This is already an implementation of a 1:n-communication, depending on the amount of actors to be adressed by those messages. The regulations enhances this requirement only ba addtioal actors - ticket-vendors and tour operators - to allow them to receive the same data to fulfil their legal pobligations, stemming from the article 10 of the rail passenger rights regulation (EU) 2021/782. Furthermore the actors may chose another communication if needed. According to the BP "4.2.23.6. Common interface for RU/IM communication See TAF TSI section 4.2.12.5.", the parties might use "Any combination of any communication technologies is possible if there is a specific agreement between the involved parties as long it is aligned with the Common Interface specifications." Ticket vendors can be enumerated, if they request a company code.

					R	The station manager is defined in the rail passenger rights regulation (EU) 2021/782, Article 3: 'station manager' means an organisational entity in a Member State, which has been made responsible for the management of one or more railway stations and which may be the infrastructure manager;
13	4.2.19.2. Train Running Interruption message	M	Banedanmark	The obligations on the IM cannot be met because the TAF/TAP messaging infrastructure is point to point and the Ticket vendors or Tour operators cannot be enumerated. Moreover, the role Station Manager is not widely used nor standardised in any way.	R	The message exchange of the real-time messages is already implemented in several IM's to send those data to the RU's and station managers. This is already an implementation of a 1:n-communication, depending on the amount of actors to be adressed by those messages. The regulations enhances this requirement only ba addtioal actors - ticket-vendors and tour operators - to allow them to receive the same data to fulfil their legal pobligations, stemming from the article 10 of the rail passenger rights regulation (EU) 2021/782.

Furthermore the actors may chose another communication if needed. According to the BP "4.2.23.6. Common interface for RU/IM communication See TAF TSI section 4.2.12.5.", the parties might use "Any combination of any communication technologies is possible if there is a specific agreement between the involved parties as long it is aligned with the Common Interface specifications." Furhtermore the article 10(5) of the regulation (EU) 2021/782 (Rail PRR) allows ("To the extent that the information covered by paragraphs 1 or 2 is provided in accordance with other Union legal acts, in particular Commission Delegated Regulation (EU) 2017/1926 (14), the corresponding obligations under this Article shall be deemed to have been complied with".) the usage of other data exchange formas such as CEN TS 15531.

Ticket vendors can be enumerated, if they request a company code.

The station manager is defined in the rail passenger rights regulation (EU) 2021/782, Article 3: 'station manager' means an organisational entity in a Member State, which has been made responsible for the management of one or more railway stations and which may be the infrastructure manager; |
| 14 | Art 7, 7.2.2 (point 7) | U | Ferrovie del Sud Est e Servizi Automobilistici S.R.L. | Definition of the timing for the process described (Definizione delle tempistiche per il processo descritto) | R | The timing is described in the process description for the change control management. |
| 15 | Art 7, 7.2.2 (point 8) | U | Ferrovie del Sud Est e Servizi | Definition of the methods of communication with the Member States (Definizione delle modalità di comunicazione con gli Stati Membri) | R | The member states will be informed via the Committee established in accordance with Article 51(1) of Directive (EU) 2016/797. |

			Automobilis tici S.R.L.			
16	Art 7, 7.2.2 (point 9)	U	Ferrovie del Sud Est e Servizi Automobilis tici S.R.L.	Definition of the timing for the process described (Definizione delle tempistiche per il processo descritto)	R	The timing is described in the process description for the change control management.
17	Art 7, 7.3	U	Ferrovie del Sud Est e Servizi Automobilis tici S.R.L.	Definition and example of specific cases (Definizione ed esempio di casi specifici)	R	The specific cases are defined in the document.
18	4.2.18.3	U	JSG-CSG by EIM	Text is not clear and sections seems to be contradicting each other The sentence below is quite hard to understand and does not clearly clarify which stakeholder sends the TrainDelayCause message to SM, TV and TO. 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 by the separate Train Delay Cause Message to the station manager, ticket vendor and tour operator. Although next section is clarifying the previous section and would be sufficient: 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. **Proposal:** Delete the end of the sentence of the first paragraph as follow which is only a very unclearl repeatition of the content of the next parapgrah: 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 by the separate Train Delay Cause Message 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	A	

19	TAP 4.3.2 Table 2	M	JSG-CSG by EIM	In Table 2 line "TrainRunningInformation", the reference to TAF TSI should be completed as follow: 4.2.5.3 Train running information and Train Delay Cause message To be consistently corrected in both TAF TSI and TAP TSI.	A	
20	TAP 4.3.1 Table 1	M	JSG-CSG	In Table 1, title of the L&P TSI should be updated and changed to Reference Conventional Rail Rolling Stock TSI's Reference Rolling Stock - Locomotives and Passengers TSI	A	
21	TAP 4.2.1.1	M	JSG-CSG by EIM	Describing the main content of the Time Table, it is refered to PRM TSI clause 4.2.4 for "Accessibility of the train". Although, clause 4.2.4 doesn't exist in the PRM TSI. Note that reference to PRM TSI:2022 should be made taken into account revised text of ERA REC-128-2.	A	– Accessibility of the train (including scheduled existence of priority seats, wheelchair spaces, universal sleeping compartments – see PRM TSI 4.2.2
22	Implementation 4	U	ANSFISA (NSA IT as NCP IT)	"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." Therefore, there are at least two NAEs, one for CRD (e.g., Primary Location Codes), one for RRD (e.g., Retail Location Codes). Are there other NAEs? It could be useful to identify and define in Appendix II different NAEs with different names (e.g., NAE for CRD, NAE for RRD).	A	See TAF item 6
23	Appendix VII, point (6)	U/M	ANSFISA (NSA IT as NCP IT)	"Work with the Member State to ensure that an National Allocation Entity is appointed". How do many NAEs have to be appointed? Only one? This sentence is not consistent with "Implementation 4".	A	See TAF item 6
24	Appendix II	U	ANSFISA (NSA IT as NCP IT)	"National Allocation Entity (NAE): The National Allocation Entity (NAE) allocates Primary Location Codes and maintains a list of unique location codes within a country" The definition is related to a specific NAE, that is the NAE for CRD. It should be necessary to define all the NAEs (see also comment n°1), the definition of only one NAE is not consistent with "Implementation 4".	A	See TAF item 6
25	Appendix II	U/M	ANSFISA (NSA IT as NCP IT)	"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." The definition is not clear: • Considering that more than one NAE exist, which is this NAE?	A	- one NAE per MS shall be appointed, internal split of the tasks possible - the tasks to be undertaken by the NAE are the code allocation and maintenance within the member state - the member state can decide who will be appointed for the code allocation of all railway locations (e.g. the incumbent RU)

				The NAE for RRD? • An IM (not a NAE) owns a railway network. Do this mean that a NAE shall be an IM? • According to the definition of the NAE, a NAE allocates codes. Does a NAE manage the codes too?		
26	New appendix	P	ANSFISA (NSA IT as NCP IT)	It could be useful to create a new appendix for NAE (like appendix VII for NCP). This appendix should clarify some aspects related to NAE, for example: • How do many NAEs exist? • The tasks to be undertaken by each NAE. • If there are some restrictions about the identification of a NAE. For example, could the incumbent railway undertaking be appointed as NAE for RRD?	A	- one NAE per MS shall be appointed, internal split of the tasks possible - the tasks to be undertaken by the NAE are the code allocation and maintenance within the member state - the member state can decide who will be appointed for the code allocation of all railway locations (e.g. the incumbent RU) No additional appendix for the NAE will be created, but the detailed definition of the tasks and responsibilties will be accomodated in the technical document B.8 and B.9, similliar to the technical document Appendix E - Reference files of the TAF TSI. Proposed change to the chapter 4.2.21.1 - Reference files: 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),
27	Appendix II - Glossary	P	NCP Germany	Proposal of a slight update of the definition (to be copied in TAF where it is missing). The National Allocation Entity (NAE) ~~allocates Primary~~ ensures the uniqueness of Location Codes ~~and maintains a list of unique location codes~~ within a country. The NAE should be measured solely by the uniqueness of primary location codes as well as the capability to follow its own processes. Moreover, it should have the greatest possible freedom in carrying out its mission.	R	~~The~~ A National Allocation Entity (NAE) allocates ~~Primary~~ Location Codes and maintains a list of unique location codes within a country. To be further elaborated with ERA legal department.
28	Annex II	M	EPF	"Market price" refers to "Global price" but there is no entry for Global price.	A	
29	Annex IV	M	EPF	Several articles in the main text refer to Annex IV for technical document B.13. However, Annex IV does not mention technical document B.13.	A	B.13 Open Sales and Distribution Model OSDM B.14 e-Ticket Exchange for Control
30	4.2.2.1	U	EPF	Since the new technical document B.13 (OSDM) can be the only standard used, it should be thoroughly checked if there are no omissions or missing use cases. We suppose this will be part of the discussion on the further development of the technical documents.	NWC	
31		P	EPF	Information on train occupancy has in recent times become even more important. To improve the information to passengers, it would	NWC	

				seem a good idea to include in the TAP TSI: • Information on the train occupancy (as normally expected, based on experience, booking situation, etc.) • Information on the real-time occupancy, possibly per coach. • Information of which coaches will be located where on the station platform.	D	
32		G	OTIF	Open Sales and Distribution Model is the new architecture developed by the UIC that will be included in the revised TAP-TSI as a system for transport ticket booking. The architecture is in outline based on retailers looking to allocators/inventory holders for prices and availability on services provided by rail and other carriers. It would appear that the way that allocators/inventory holders are chosen by retailers for specific passenger journey enquiries needs further work. Particularly in urban cases, the organisation responsible for prices and services will be a public transport authority, not normally involved as a party directly participating in rail ticketing systems. In addition, carriers may provide third parties with inventory for them to sell on their own account, much like in the air industry. For passengers to be offered the best and cheapest tickets for their journey and circumstances, especially multi-modal end-to-end journeys, it is vital that these allocators/inventory holders can be accommodated in OSDM and a data driven mechanism developed to ensure that they can be asked for prices when they have prices to offer.	NWC	TO be verified in the discussion about OSDM
33		G	OTIF	The architecture for ticket control needs to be federated, so railways and communities of railways can decide for themselves, using the ERA Technical Document specs, how to organise their control databases. There should be no assumption of a single control database. In addition, while there will be common key management for EU RUs, the process for getting and using keys across the EU border in both directions needs consideration.	NWC	TO be discussed in the revision of the technical document B.14
34		G	OTIF	The railways have promoted the use of AZTEC 2D barcodes as they in earlier days were better read on moving trains. However, most industries now use QR 2D barcodes and mobile phones generally have QR barcode decoders as standard, not the case for AZTEC. The current TAP-TSI revision is a good time to change from specialised AZTEC to universal QR encoding.	NWC	If the usage of QR codes is envisaged by railway undertakings, this can be discussed in the change control management of the TAP TSI technical document B.12
35	4.2.1.2	P	OTIF	Request that the 12-month time frame for meeting compliance is removed, as compliance should align with Member States' existing plans.	D	The deadline is set by the rail passenger rights regulation. If the actor has published a own master plan, he has to comply with this master plan.

36	4.2.2.1, 4.2.7.2, 4.2.7.3, 4.2.9.1, 4.2.9.2, 4.2.10.1, 4.2.12.2	G/U	OTIF	Technical document B.13 (see Annex IV) is cited although Annex IV does not include B.13 on the 'list of technical documents referenced in this TSI'. The content of B.13 is unknown. Request clarification regarding the reference to B.13 and that B.13 be made available for review. It is not possible at this stage to fully assess the impact of these clauses.	A	Annex IV modified accordingly
37	4.2.11.3, 4.2.11.4	U	OTIF	The wording of the clauses makes reference to 'fulfilment on one of the following methods', but no methods are described. It is therefore unclear how the requirement is to apply. Clarification regarding which methods are being referred to by the requirement is requested. This needs to be clearer in the TSI text.	R	The fulfilment methods are defined in the legal text: – Rail combined ticket 2 (RCT2) and Rail Credit card size ticket (RCCST) or – 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
38	4.2.12.1	G/U	OTIF	Technical document B.14 (see Annex IV) is cited although Annex IV does not include B.14 on the 'list of technical documents referenced in this TSI'. The content of B.14 is unknown. Request clarification regarding the reference to B.14 and that B.14 be made available for review. It is not possible at this stage to fully assess the impact of these clauses.	A	Annex IV modified accordingly; Technical document B.14 under discussion in the TAP TSI revision working party
39	4.2.23.5	U/P	OTIF	The draft does not state the functions that shall employ PKI and the use of a CA. It is therefore not possible to determine how the new requirements are to be complied with. It is expected that this relates to the context of communication with other parties, but this should be stated. Propose that ERA clarifies for what functions PKI and the use of a CA should be employed.	A	The PKI is needeed for the data exchange for the RU/IM communication and for the ticketing. The WP agreed that no TSI change is needed.
40	6.2.1	U	OTIF	Please confirm that this clause is not intended to require entities to seek assessment. Clause should be reworded accordingly.	NWC	This clause allows ERA to check the compliance of IT-tool. The assessment may be requested by the entities, but it is not mandatory.
41	4.1	G/U	OTIF	The text under the **'general remarks on the RU/IM message structure'** subheading is poorly worded, in particular the control data bullet point does not make sense. Request clarification regarding the RU/IM message structure requirements.	R	Wording is in the regulation since the beginning.
42	4.3.1.2	G/M	OTIF	There is a typo for the word 'station'. The pronoun 'he' is used which is inconsistent with the rest of the document where no pronouns are used. The last sentence of paragraph 1 is worded poorly. The last sentence of paragraph 5 doesn't read well, the word 'the' is	A	The comments were taken into account for the paragraph 4.2.1.2

				used twice, and the word 'enforcement' is misspelt. The first sentence in paragraph 6 includes a typo for 'therefore' and the text does not make clear where to find the technical document that is cited.		
43	4.2.2.1	G/M	OTIF	Paragraph 6 does not read well as it is too wordy and the requirement is difficult to understand. Clarification required regarding tariff data exchange requirements.	R	
44	4.2.6.2	U/M	OTIF	Bullet point 1 about the conditions of access does not make sense - 'whether it is staffed for PRM support' would read better. The clause refers to the CEN/TS 16614-1:2014. All other references to this standard are to the 2020 revision. Is it intentional that two different versions of the same standard are referenced in the draft TSI.	A	Reference updated to CEN/TS 16614-1:2020
45	4.2.12	U	OTIF	Paragraph 2 is poorly worded and difficult to understand. Clarification required about the handling of ticket control and ticket state modification data requirements.	NWC	
46	4.2.17	M	OTIF	Paragraph 2 missing the word 'the' for 'on the basis of' Paragraph also poorly phrased.	A	The word 'the' has been added.
47	4.2.18.1	U	OTIF	The second sentence of paragraph 6 is poorly worded. Further clarification regarding the information exchange between the RU and IM required.	R	The wording has been used since the beginning in the regulation.
48	4.2.18.3	U	OTIF	Paragraph 2 is poorly worded. Request clarification regarding the procedure for issuing the train delay message.	R	The wording has been used since the beginning in the regulation.
49	4.2.21.2	U	OTIF	The sentence is difficult to understand, and the requirement is unclear. Request clarification regarding additional requirements concerning databases	R	The wording has been used since the beginning in the regulation.
50	4.2.24	U/M	OTIF	Bullet points 1 and 3 have two full stops. Poor phrasing throughout.	A	
51	4.3	M	OTIF	Refers to Conventional Rolling Stock TSI which has been superseded. Clarification required.	A	
52	6.2.1	U	OTIF	Final paragraph is poorly worded.	NWC	
53	7.1	U/M	OTIF	Section (a) in paragraph 2 includes a typo and should read 'as follows'. Section (b) is poorly worded and ends with two full stops.	A	
54	7.2.2	M	OTIF	Paragraph 1 does not make sense as it refers to technical documents in Annex III which is incorrect as Annex IV is the list of technical documents. The sentence is poorly worded and is confusing as a result.	A	
55	Annex IV	M	OTIF	Technical documents B.6 and B.7 are listed in the annex but are not cited at all in the main body of text.	A	

56	Annex VI	M/U	OTIF	Annex VI is not referred to in the main body of text and neither is B.60. B.61 is mentioned on page 33 under section 7.1. (a) as the 'ERA TAP technical document B.61' although the reader must assume that this is referring to the document listed in Annex VI despite not citing the annex.	A	
57	General	G	OTIF	Multiple references to TAF TSI throughout document is this correct? (e.g. throughout 4.2.23 Networking and communication and from 4.4 onwards)	NWC	References have been checked.
58	4.2.18.2	P	JSG/CSG	Delete 'who is running the train' in the first sentence as it is the role of the responsible RU and to align with TAF : This message must be issued by the IM to the ResponsibleRU, ~~who is running the train~~, for handover points, interchange points, stations, train destination and other agreed reporting points as described in Chapter 4.2.18.1.	A	
59	4.2.18.2	P	JSG/CSG	Delete the 3rd paragraph as the requirement is described in the 6th paragraph : 3rd paragraph to be deleted: ~~Upon request this message must be issued by the infrastructure manager to station manager, ticket vendor and tour operator for contractually agreed reporting points .~~ 6th paragraph sufficiently addressing the issue: Information on the train running forecast, and if relevant on the train delay reason (see section 4.2.18.3), 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 infrastructure managers need to have flexibility to decide how to ensure the most effective and efficient way to inform passengers.	A	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.
60	4.2.19.1	P	JSG/CSG	To handle passengers complaints according to PRR the storage of Train Running information is sufficient. The storage of "service disruption" is useless to deal with passengers' complaints. Relevant information is provided via "Train running information" which is already proposed to be stored in ERA Recommendation clause 4.2.18.1. The ERA TAP Revision WP (01.06.2021) agreed/decided to delete the paragraph : ~~For the purpose of dealing with passengers' complaints, service disruption data shall be kept available by the infrastructure~~	A	Clause 4.2.18.1 to read: 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

				~~manager for railway undertakings, ticket vendors and/or authorised public bodies for at least twelve months after such data has expired.~~ Clause 4.2.18.1 already addresses efficiently the need to store information for the purpose of passengers' complaints: 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.		Undertakings, ticket vendors, tour operators and Authorised Public Bodies for at least twelve months after the service train termination.
61	4.2.23.5	P	JSG/CSG	In the TAP Revision WP (01.06.2021) it was agreed/decided to indicate who is responsible of the management of the central database. This sentence disappeared in the TAP TSI for social consultation. It should be added as follow: 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.	A	
62	7.1(b)	P	JSG/CSG	The date of implementation for stakeholders without individual master plan is fixed by ERA to 07/06/2023, corresponding to the application date of rail Passenger Rights Regulation (EU) 2021/782. The logic of this date is understood concerning rail PRR requirements but : • Rail PRR mentions already this date. Thus, repeating it for rail PRR requirements described in TAP TSI brings no added value as the rail PRR is mandatory in any case. • It applies also to RU/IM BPs non linked to rail PRR, some of them involving IMs, e.g. BP 4.2.16 (Path request and path allocation) or BP 4.2.17.1 (Train ready). Such decision was taken by the TAF Revision WP. In addition, during the TAP Revision WP (01.06.2021) it was NOT agreed/decided that the individual master plan will be published by ERA The paragraph in TAF TSI and TAP TSI must be aligned by using the TAF TSI wording ensuring consistency of requirements for RU/IM communication described in TAF TSI, but also referenced in TAP TSI. If text should be changed in TAP TSI compared to TAF TSI text, request	R	7.1(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 agreed in conjunction with additional comment to the 7.1c adding to the list of tasks of the ICG: The ICG is made responsible for : (...) - establishing and updating the Master Plan published at the public website of the Agency

				for a joint TAF & TAP WP meeting dedicated to the revision of the TSI text related to 'Development of the system'. Also, "master plan" should be replaced by "TAF/TAP implementation reporting as described in 7.1(c)". Today, the implementation reporting is the tool for stakeholders to update their masterplan, also fostering the participation to the reporting, the implementation reporting could be used by stakeholders to create their master plan for those with any. Revised text should be as follow: 7.1(b) Development of the system All railway stakeholders concerned shall deploy the system following their individual ~~master plan~~ **TAF/TAP implementation reporting as described in 7.1(c)** ~~or, if no individual master plan has been submitted, until 7 June 2023. The individual master plan shall be published on the website of the Agency.~~		
63	7.1(c)	M	JSG/CSG	In the enumeration of ICG tasks, the 4th bullet is included in the 5th bullet. 4th bullet to be deleted: The ICG is made responsible for: – 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 to the European Commission and to the TAF/TAP Steering Committee.~~ – reporting via the Agency ~~who reports~~ to the European Commission, and to the Telematics Advisory Committees. – 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 reportings. The implementation related to Retail is monitored by the TAP ICG.	A	The ICG is made responsible for: • 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 reportings.
64	Annex IV	G	JSG/CSG	Complete the list with ERA TD B.13 and B.14.	A	
65	Appendix II - Glossary	G	JSG/CSG	The Glossary should be checked vis-à-vis the output of CR 382. Hereafter some proposals on the Glossary, not exhaustive.	NWC	
66	Appendix II - Glossary	P	JSG/CSG	Proposal of a slight update of the definition (to be copied in TAF where it is missing). The National Allocation Entity (NAE) ~~allocates Primary~~ ensures the	D	The task of the code allocation of unique codes is the key task of the National allocation entity as laid down already in the point 4 of the decision part as well as the technical document process (as reflected also in the name). To ensure only the uniqueness of the codes would trigger the

				uniqueness of Location Codes ~~and maintains a list of unique location codes~~ within a country.			question about the code allocation and the responsibility as well. The TSI alignment is needed as well. To be further elaborated with ERA legal department.
67	Appendix II - Glossary	P	JSG/CSG	Update the definition of Primary Location Code Primary Location Codes (PLCs) identify locations on a railway network. ~~The Infrastructure Manager owning the railway network manages the PLCs.~~ 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.**	A		Primary location code to be deleted from the TAP TSI glossary
68	Appendix II - Glossary	P	JSG/CSG	Add a definition of Subsidiary Location Code as it is quoted in the core text. **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).**	A		Subsidary location code to be deleted from the TAP TSI glossary.

13.   Annex 6: Economic impact assessment

The economic impact assessment is available in the document "Light Impact Assessment TAPTSI 2022 Revision; 07/10/2021", attached to this recommendation.