EUROPEAN UNION AGENCY FOR RAILWAYS

Making the railway system
work better for society.

Application Guide for the European register of authorised types of railway vehicles (ERATV)

In accordance with Commission Implementing Decision 2011/665/EU as amended by Commission Implementing Regulation (EU) 2019/776 and Commission Implementing Decision (EU) 2021/701.

Released by European Union Agency for railways

The present document represents the views of the European Union Agency for Railways and is a non-legally binding document. It does not represent the view of other EU institutions and bodies. Furthermore, a binding interpretation of EU law is the sole competence of the Court of Justice of the European Union.
These guidelines provide explanations to facilitate the implementation and usage of the Commission Implementing Decision 2011/665/EU as amended by Commission Implementing Regulation (EU) 2019/776 and Commission Implementing Decision (EU) 2021/701.
These guidelines are publicly available and will be kept updated.
The reader should refer to the website of the European Union Agency for railways for information about their latest available edition.

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5.7	9 April 2025	Section 4. Parameter 4.12.3.1 comment updated.
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6.4	19 October 2026	Section 9.1. Added new value 360 mm.

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1. Introduction

1.1. Content of the guide

1.1.1.Legal basis

Commission Implementing Decision 2011/665/EU as amended by Commission Implementing Regulation (EU) 2019/776 and Commission Implementing Decision (EU) 2021/701 (hereafter "ERATV Decision"), Article 5 (1) states that "*The Agency shall publish and keep up-to-date an application guide for the European register of authorised types of vehicles. Among other information, this guide shall include for each parameter a reference to the clauses of the technical specifications for interoperability that state the requirements for this parameter.*"

1.1.2.Scope

The guide provides explanation of some provisions contained in the ERATV Decision.

This guide does not contain any legally binding advice. It may serve as a clarification tool without however dictating in any way compulsory procedures to be followed, and without establishing any legally binding practice.

The guide has been prepared by ERA. The reader should refer to the ERA website for information about its latest available edition.

1.1.3.Outside of scope

This Guide does not explain how to use the ERATV IT application, as this is covered by ERATV User Manual.

1.2. Document references

Table 1 - References

Reference	*Title*
[1]	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
[2]	Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union
[3]	Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety
[4]	Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area
[5]	Commission Decision 2010/713/EU of 9 November 2010 on modules for the procedures for assessment of conformity, suitability for use and EC verification to be used in the technical specifications for interoperability adopted under Directive 2008/57/EC of the European Parliament and of the Council
[6]	Decision 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products, and repealing Council Decision 93/465/EEC

Reference	*Title*
[7]	Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93
[8]	Commission Implementing Decision (EU) 2018/1614 of 25 October 2018 laying down specifications for the vehicle registers referred to in Article 47 of Directive (EU) 2016/797 of the European Parliament and of the Council and amending and repealing Commission Decision 2007/756/EC
[9]	Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU Commission Regulation (EU) No 1299/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'infrastructure' subsystem of the rail system in the European Union Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU Commission Implementing Regulation (EU) 2018/868 of 13 June 2018 amending Regulation (EU) No 1301/2014 and Regulation (EU) No 1302/2014 as regards provisions on the energy measuring system and data collecting system Commission Regulation (EU) No 1301/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'energy' subsystem of the rail system in the Union Corrigendum to Commission Regulation (EU) No 1301/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'energy' subsystem of the rail system in the Union Commission Decision 2008/284/EC of 6 March 2008 concerning a technical specification for interoperability relating to the energy sub-system of the trans-European high-speed rail system Commission Decision 2011/274/EU of 26 April 2011 concerning a technical specification for interoperability relating to the 'energy' subsystem of the trans-European conventional rail system
[10]	Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU Commission Regulation (EU) No 1299/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'infrastructure' subsystem of the rail system in the European Union

Reference	*Title*
[11]	Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU Commission Implementing Regulation (EU) 2018/868 of 13 June 2018 amending Regulation (EU) No 1301/2014 and Regulation (EU) No 1302/2014 as regards provisions on the energy measuring system and data collecting system Commission Regulation (EU) No 1302/2014 of 18 November 2014 concerning a technical specification for interoperability relating to the rolling stock locomotives and passenger rolling stock subsystem of the rail system in the European Union Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specification for interoperability relating to the control-command and signalling subsystems of the rail system in the European Union Corrigendum to Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specification for interoperability relating to the control-command and signalling subsystems of the rail system in the European Union Commission Decision 2008/232/EC of 21 February 2008 concerning a technical specification for interoperability relating to the rolling stock sub-system of the trans-European high-speed rail system Commission Decision 2011/291/EU of 26 April 2011 concerning a technical specification for interoperability relating to the rolling stock subsystem — 'Locomotives and passenger rolling stock' of the trans-European conventional rail system
[12]	Commission Regulation (EU) No 1304/2014 of 26 November 2014 on the technical specification for interoperability relating to the subsystem 'rolling stock — noise' amending Decision 2008/232/EC and repealing Decision 2011/229/EU Commission Implementing Regulation (EU) 2019/774 of 16 May 2019 amending Regulation (EU) No 1304/2014 as regards application of the technical specification for interoperability relating to the subsystem 'rolling stock noise' to the existing freight wagons Commission Decision 2011/229/EU of 4 April 2011 concerning the technical specifications of interoperability relating to the subsystem 'rolling stock – noise' of the trans-European conventional rail system Commission Decision 2006/66/EC of 23 December 2005 concerning the technical specification for interoperability relating to the subsystem 'rolling stock — noise' of the trans-European conventional rail system

Reference	*Title*
[13]	Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU Commission Regulation (EU) No 321/2013 of 13 March 2013 concerning the technical specification for interoperability relating to the subsystem rolling stock — freight wagons of the rail system in the European Union and repealing Decision 2006/861/EC Commission Regulation (EU) No 1236/2013 of 2 December 2013 concerning the technical specification for interoperability relating to the subsystem 'rolling stock - freight wagons' of the rail system in the European Union and amending Regulation (EU) No 321 Commission Regulation (EU) 2015/924 of 8 June 2015 amending Regulation (EU) No 321/2013 concerning the technical specification for interoperability relating to the 'rolling stock — freight wagons' subsystem of the rail system in the European Union Appendix G - List of fully approved composite brake blocks for international transport Commission Decision 2006/861/EC of 28 July 2006 concerning the technical specification of interoperability relating to the subsystem 'rolling stock — freight wagons' of the trans-European conventional rail system Commission Decision 2009/107/EC of 23 January 2009 amending Decisions 2006/861/EC and 2006/920/EC concerning technical specifications of interoperability relating to subsystems of the trans-European conventional rail system Commission Decision 2012/464/EU of 23 July 2012 amending Decisions 2006/861/EC, 2008/163/EC, 2008/164/EC, 2008/217/EC, 2008/231/EC, 2008/232/EC, 2008/284/EC, 2011/229/EU, 2011/274/EU, 2011/275/EU, 2011/291/EU and 2011/314/EU
[14]	Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU Commission Regulation (EU) 2016/912 of 9 June 2016 correcting Regulation (EU) No 1303/2014 concerning the technical specification for interoperability relating to 'safety in railway tunnels' of the rail system of the European Union Commission Regulation (EU) No 1303/2014 of 18 November 2014 concerning the technical specification for interoperability relating to 'safety in railway tunnels' of the rail system of the European Union Commission Decision 2008/163/EC of 20 December 2007 concerning the technical specification of interoperability relating to safety in railway tunnels in the trans-European conventional and high-speed rail system

Reference	*Title*
[15]	Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specification for interoperability relating to the 'control-command and signalling' subsystems of the rail system in the European Union Corrigendum to Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specification for interoperability relating to the 'control-command and signalling' subsystems of the rail system in the European Union Commission Implementing Regulation (EU) 2017/6 of 5 January 2017 on the European Rail Traffic Management System European deployment plan Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU
[16]	Commission Implementing Regulation (EU) 2019/772 of 16 May 2019 amending Regulation (EU) No 1300/2014 as regards inventory of assets with a view to identifying barriers to accessibility Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility Commission Decision 2008/164/EC of 21 December 2007 concerning the technical specification of interoperability relating to persons with reduced mobility in the trans-European conventional and high-speed rail system
[17]	Commission Implementing Regulation (EU) 2019/773 of 16 May 2019 on the technical specification for interoperability relating to the operation and traffic management subsystem of the rail system within the European Union and repealing Decision 2012/757/EU Commission Regulation (EU) 2015/995 of 8 June 2015 amending Decision 2012/757/EU concerning the technical specification for interoperability relating to the 'operation and traffic management' subsystem of the rail system in the European Union Commission Decision 2012/757/EU of 14 November 2012 concerning the technical specification for interoperability relating to the operation and traffic management subsystem of the rail system in the European Union and amending Decision 2007/756/EC

Reference	*Title*
[18]	Commission Implementing Regulation (EU) 2019/775 of 16 May 2019 amending Regulation (EU) No 454/2011 as regards Change Control Management Commission Regulation (EU) 2016/527 of 4 April 2016 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 Commission Regulation (EU) 2015/302 of 25 February 2015 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 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 Commission Regulation (EU) No 665/2012 of 20 July 2012 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 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
[19]	Commission Implementing Regulation (EU) 2019/775 of 16 May 2019 amending Regulation (EU) No 454/2011 as regards Change Control Management Commission Regulation (EU) No 1305/2014 of 11 December 2014 on the technical specification for interoperability relating to the telematics applications for freight subsystem of the rail system in the European Union and repealing the Regulation (EC) Commission Implementing Regulation (EU) 2018/278 of 23 February 2018 amending the Annex to Regulation (EU) No 1305/2014 as regards the structure of the messages, data and message model, Wagon and Intermodal Unit Operating Database
[20]	Commission Implementing Decision 2011/665/EU on the European register of authorised types of railway vehicles
[21]	Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU
[22]	Commission Implementing Decision (EU) 2021/701 of 27 April 2021 correcting Implementing Decision 2011/665/EU on the European register of authorised types of railway vehicles.

1.3. Definitions and abbreviations

Table 2 - Definitions

Term	*Definition*
Basic parameter	Any regulatory, technical or operational condition which is critical to interoperability and is specified in the relevant TSIs (Article 2(12) of Directive (EU) 2016/797)
Conformity assessment	Process demonstrating whether specified requirements relating to a product, process, service, subsystem, person or body have been fulfilled (Article 2(41) of Directive (EU) 2016/797)
Conformity assessment body	Body that has been notified or designated to be responsible for conformity assessment activities, including calibration, testing, certification and inspection; a conformity assessment body is classified as a 'notified body' following notification by a Member State; a conformity assessment body is classified as a 'designated body' following designation by a Member State (Article 2(42) of Directive (EU) 2016/797)
European Register of Authorised Types of Vehicles (ERATV)	Register of types of vehicles authorised by the Member States for placing in service. It contains the technical characteristics of vehicles' types as defined in the relevant TSIs, the manufacturer's name, dates, references and Member States granting authorisations, restrictions and withdrawals (Article 48 of Directive (EU) 2016/797)
Harmonised standard	European standard adopted on the basis of a request made by the Commission for the application of Union harmonising legislation (Article 2(1)(c) of Regulation (EU) No 1025/2012)
Infrastructure Manager	Anybody or firm responsible for the operation, maintenance and renewal of railway infrastructure on a network, as well as responsible for participating in its development as determined by the Member State within the framework of its general policy on development and financing of infrastructure (Article 3(2) of Directive 2012/34/EU)
Non-application of a TSI	Certain circumstance, by which projects can be exempted from having to comply with all or part of a TSI or TSIs (Article 7 of Directive (EU) 2016/797)
Open point	Certain technical aspect corresponding to the essential requirements, which cannot be explicitly covered in a TSI(Article 4(6) of Directive (EU) 2016/797)
Placing in service	All the operations by which a subsystem is put into its operational service (Article 2(19) of Directive (EU) 2016/797)
Placing on the market	First making available on the Union's market of an interoperability constituent, subsystem or vehicle ready to function in its design operating state (Article 2(35) of Directive (EU) 2016/797)
Railway Undertaking	Railway undertaking as defined in point (1) of Article 3 of Directive 2012/34/EU, and any other public or private undertaking, the activity of which is to provide transport of goods and/or passengers by rail on the basis that the undertaking is to ensure traction; this also includes undertakings which provide traction only (Article 2(45) of Directive (EU) 2016/797)

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Term	*Definition*
Register of infrastructure (RINF)	Register of infrastructure indicates the main features of fixed installations, covered by the subsystems: infrastructure, energy and parts of control-command and signalling. It publishes performance and technical characteristics mainly related to interfaces with rolling stock and operation (Article 49 of Directive (EU) 2016/797)
Specific case	Any part of the rail system which needs special provisions in the TSIs, either permanent, because of geographical, topographical or urban environment constraints or those affecting compatibility with the existing system, in particular railway lines and networks isolated from the rest of the Union, the loading gauge, the track gauge or space between the tracks and vehicles strictly intended for local, regional or historical use, as well as vehicles originating from or destined for third countries (Article 2(13) of Directive (EU) 2016/797)
Upgrading	Any major modification work on a subsystem or part of it which results in a change in the technical file accompanying the 'EC' declaration of verification, if that technical file exists, and which improves the overall performance of the subsystem (Article 2(14) of Directive (EU) 2016/797)

Table 3 - Abbreviations

Abbreviation	*Full text*
AC	Alternating Current
CCS	Command Control and Signalling
CR	Conventional Rail
DC	Direct Current
DeBo	Designated Body
DMI	Driver-Machine Interface
EC	European Commission
EEA	European Economic Area
EEC	European Economic Community
EEIG	European Economic Interest Group
EIM	European Rail Infrastructure Managers
EIRENE	European Integrated Radio Enhanced Network
EMC	Electro Magnetic Compatibility
EN	European standard
ERA	European Union Agency for Railways also called "the Agency"
ERADIS	Interoperability and Safety database managed by the European Union Agency for railways
ERATV	European Register of Authorised Types of Vehicles

Abbreviation	*Full text*
ERTMS	European Rail Traffic Management System
ESO	European Standardisation Organisation
ETCS	European Train Control System
ETS	European Telecommunications Standard
ETSI	European Telecommunications Standards Institute
EU	European Union
FFFIS	form fit functional interface specification
FFFS	form fit functional specification
FIS	functional interface specification
GSM-R	Global System for Mobile communications - Railway
HD	Harmonisation Document
IC	Interoperability Constituent
IEC	International Electrotechnical Commission
IM	Infrastructure Manager
INF	Infrastructure
ISO	International Organisation for Standardisation
ISV	Intermediate Statement Verification
MS	EU or EEA Member State
NoBo	Notified Body
NB-Rail	Coordination group of notified bodies for railway products and systems
NNTR	Notified National Technical Rule
NSA	National Safety Authority
NSR	National Safety Rule
NTR	National Technical Rule
OJ	Official Journal of the European Union
PRM	Person with Disabilities or Person with Reduced Mobility
QMS	Quality Management System
RAMS	Reliability, Availability, Maintainability and Safety
RFU	Recommendation for Use
RINF	Register of Infrastructure
RR	Revision Request
RRA	Revision Request Author
RS	Rolling Stock

Abbreviation	*Full text*
RU	Railway Undertaking
SC	Standard Committee
SRT	Safety in Railway Tunnels
SS	Subsystem
STM	Specific Transmission Module
TS	Technical Specification
TSI	Technical Specification for Interoperability

2. Overview of ERATV

2.1. Introduction

The European register of authorised types of vehicles (ERATV) contains data on the types of vehicle authorised.

2.2. Configuration of ERATV

ERATV is hosted by ERA. No data are stored locally at the NSAs.

According to article 50 of Regulation (EU) 2018/545, the ERATV shall be completed by the authorising entity using the information provided by the applicant as part of the vehicle type authorisation application. The applicant shall be responsible for the integrity of the data provided to the authorising entity. The authorising entity shall be responsible for checking the consistency of the data provided by the applicant and making the ERATV entry available to the public.

The data are made public, by ERA, after submission by the Authorising Entity.

ERATV is public. It may be accessed by means of a standard internet connection. Neither user account nor any other kind of registration is necessary for accessing published vehicle type authorisations in ERATV.

2.3. Implementation of ERATV

The ERATV Decision is applicable from 15 April 2012 (according to Article 6 of the ERATV Decision). This means that Authorising Entities have to record in ERATV all type authorisations they have granted that from this date on.

The ERATV IT system is in operation since January 2013 and can be reached at the url:

https://eratv.era.europa.eu

2.4. Potential users of ERATV

ERATV is public, so any person has access to it. Following are the most likely users of ERATV:

- Railway undertakings
- Infrastructure managers
- Vehicle keepers

- Vehicle owners (incl. potential vehicle procurers, leasing companies)
- Manufacturers
- Entities in charge of maintenance
- Notified bodies (NoBos)
- Designated bodies (DeBos)
- National safety authorities (NSAs)
- National investigation bodies
- Registration entities in charge of the vehicle registers
- European Union Agency for Railways
- European Commission

2.5. ERATV and other registers

ERATV is intended to be used in combination with other registers and databases. In particular it has the following interfaces:

- The vehicle registers referred to in Article 47 of Directive (EU) 2016/797.
- Register of infrastructure (RINF) set up according to Article 49 of Directive (EU) 2016/797.

2.6. Interface with the vehicle registers

When a vehicle is registered in a Vehicle Register, its identification in ERATV (Type ID) of the authorised vehicle type (or version or variant) the vehicle is in conformity to, must be indicated (compulsory when available).

By means of this ERATV reference (Type ID), the technical characteristics of a vehicle may be retrieved from ERATV.

2.7. Interface with the Register of Infrastructure

Some of the ERATV parameters are indicated for technical compatibility between Vehicle and the network(s) of area of use. These parameters are indicated in the ERATV Decision, table 2, with a 'Y' in column "*Parameters for technical compatibility between Vehicle and the network(s) of area of use*".

Their corresponding parameters in RINF are detailed in Annex 2.

3. Actors

Table 4 - Actors

Actor	*Roles and responsibilities*
Applicant for an authorisation of type of vehicle	Submits the set of data required for ERATV to the relevant Authorising Entity

Actor	*Roles and responsibilities*
Authorising Entity (NSA or ERA acting as Authorising Entity)	Creates the draft record in ERATV and reserves, if needed, a type ID. Complements the data submitted by the applicant in the draft record with the data related to the issued type authorisation (Authorisation section of the ERATV record) Submits the data for publication.
ERA	Hosts the ERATV IT system. Publish the data transmitted by the Authorising Entity in compliance with the ERATV specification.

4. Registration of types of vehicles in ERATV under registration regime "exceptional mode"

ERATV is a register to record issued vehicle type authorisations, in accordance with the following legal base:

- Directive (EU) 2016/797, Article 24 (7): "*7. The authorisation of vehicle types shall be registered in the European register of authorised vehicle types referred to in Article 48.*"
- Directive (EU) 2016/797, Article 48 (1): "*1. The Agency shall set up and keep a register of authorisations to place vehicle types on the market issued in accordance with Article 24*".
- ERATV Decision (Commission Implementing Decision 2011/665/EU as amended by Commission Implementing Regulation (EU) 2019/776 and Commission Implementing Decision (EU) 2021/701), Article 2(3): "*3. Types of vehicle authorised by a Member State before 19 July 2010 for which one or more vehicles have been authorised in one or more Member States pursuant to Article 22 or 24 of Directive 2008/57/EC after 19 July 2010 are deemed to fall under provisions of Article 26 of Directive 2008/57/EC and shall be registered in ERATV. In this case, data to be recorded may be limited to the parameters that have been verified during the type authorisation process.*"
- ERATV Decision, Article 2(4): "*4. The types of vehicles which can be registered voluntarily are those set out in Section 1 of Annex I.*"
- Regulation (EU) 2018/545, Article 14(1)(c): "*extended area of use: the vehicle type authorisation and/or the vehicle authorisation for placing on the market issued by the relevant authorising entity for an already authorised vehicle type and/or vehicle in order to extend the area of use without a change of the design, pursuant to Article 21(13) of Directive (EU) 2016/797*"
- Regulation (EU) 2018/545, Article 14(1)(d): "*new authorisation: the vehicle type authorisation and/or vehicle authorisation for placing on the market issued by the authorising entity after a change of an already authorised vehicle and/or vehicle type, pursuant to Articles 21(12) or 24(3) of Directive (EU) 2016/797;*"
- Regulation (EU) 2018/545, Article 15(3): "*Changes to an already authorised vehicle type. 1. Any changes to an authorised vehicle type shall be analysed and categorised as only one of the following changes and shall be subject to an authorisation as provided below: 3. When a change falls under point (c) of paragraph 1 the holder of the vehicle type authorisation shall create a new vehicle type version or a new version of a vehicle type variant and provide the relevant information to the authorising entity. The authorising entity shall register in ERATV the new version of the vehicle type or the new version of the vehicle type variant in accordance with Article 50.*
- Regulation (EU) 2018/545, Article 50(1): "*1. The ERATV shall be completed by the authorising entity using the information provided by the applicant as part of the vehicle type authorisation application. The applicant shall be responsible for the integrity of the data provided to the authorising entity. The*

authorising entity shall be responsible for checking the consistency of the data provided by the applicant and making the ERATV entry available to the public."

Based on the above, ERATV is not a register of all "*old*" vehicles in operation before 19 July 2010, but a register of authorised vehicle types. Other kinds (e.g. admissions, acceptance, homologations, authorisations for placing in service, etc.) should not to be registered in ERATV, as they are outside of scope of the register.

Please note that in order to apply for:

- **a new authorisation pursuant to Article 14(1)(d) of Regulation (EU) 2018/545**
- **an authorisation for an extended area of use pursuant to Article 14(1)(c) of Regulation (EU) 2018/545**

there is no need to have an existing ERATV record. The new type/variant/version authorisation issued as a consequence of the above applications shall be registered in ERATV.

For each *exceptional mode* registration, the concerned Authorising Entity should justify its need by selecting one of the criteria in Table 5 and have the needed data to be recorded. No empty records should be created.

The following table presents the *exceptional mode* registration cases for the registration regime *Directive (EU) 2016/797* and the equivalent exceptional mode registration option to be selected in ERATV at the moment of registration:

Table 5 - Exceptional mode registration cases

Exceptional mode registration case	*ERATV exceptional mode registration option*
Non TSI conform vehicle, limited availability of the data.	Non TSI conform vehicle, limited availability of the data.
Vehicles authorised to be placed in service before 19 July 2010 for which an additional authorisation for placing in service has been granted pursuant to Article 23 or 25 of Directive 2008/57/EC.	Additional authorisation according to Article 23 or 25 of Directive 2008/57/EC.
Vehicles authorised to be placed in service before 19 July 2010 for which a new authorisation for placing in service has been granted after an upgrading or renewal.	New authorisation after upgrade or renewal.

Exceptional mode registration case	*ERATV exceptional mode registration option*
Vehicles coming from third countries and authorised on the EU territory according to COTIF 1999 and particularly its Appendices F and G.	Third countries, authorisation according to COTIF 1999 (Appendices F and G).
Vehicles coming from third countries and authorised under provisions of Article 21(11) of Directive 2008/57/EC.	Third countries, authorisation according to Article 21(11) of Directive 2008/57/EC.
Types of vehicle authorised before 19 July 2010 for which no new vehicles have been authorised after 19 July 2010.	Types of vehicle authorised before 19 July 2010.
Extension of area of use in accordance with Article 21(13) of Directive (EU) 2016/797.	Extended area of use according to Article 21(13) of Directive (EU) 2016/797.
New authorisation in accordance with Article 21(12) of Directive (EU) 2016/797.	New authorisation after upgrade or renewal
Vehicles coming from third countries in accordance with Article 21(15) of Directive (EU) 2016/797.	Third countries, authorisation according to Article 21(15) of Directive 2016/797.
New version according to Article 15(3) of Regulation (EU) 2018/545	Version according to Article 15(3) of Regulation (EU) 2018/545

5. Annex I - Comments on ERATV parameters

Table 6 - Comments on ERATV parameters

#	*Parameter*	*Data format*	*Comments and applicable TSI clauses*
0	**Identification of the type**	**Heading (no data)**	This section is filled in when the type, variant or version is registered for the first time.
0.1	Type number (in accordance with Annex III)	[number] XX-XXX-XXXX-X	Parameters 01, 02 and 04 are managed together as being part of the *Type ID*, which is defined as: Type ID: An identification for the type composed of the type number (parameter 0.1, number composed of 10 digits), the variant (parameter 0.2, alphanumeric composed of three characters) and the version (parameter 0.4, alphanumeric composed of three characters): TypeID = Type number+Variant+Version = XX-XXX-XXXX-X-ZZZ-VVV Example : Variant 1 with 2 versions: 13-013-0001-6-00**1**- 001 13-013-0001-6-00**1**- 00**2** Variant 2 with 1 version: 13-013-0001-6-00**2**-001
0.2	Variant included in this type (in accordance with Article 2(13) of Regulation (EU) 2018/545)	[alphanumeric] ZZZ	
0.4	Versions included in this type. (in accordance with Article 2(14) of Regulation (EU) 2018/545)	[alphanumeric] VVV	
0.3	Date of record in ERATV	[date] YYYYMMDD	This parameter is automatically generated by the system when the type data are published. It should not be confused with the date of type authorisation (parameter 3.1.3.1.1)
1	**General information**	**Heading (no data)**	

#	*Parameter*	*Data format*	*Comments and applicable TSI clauses*
1.1	Type name	[character string] (max 256 characters)	Type name as defined by the manufacturer
1.2	Alternative type name	[character string] (max 256 characters)	Alternative type name as defined by the manufacturer
1.3	**Manufacturer's name**	**Heading (no data)**	Directive (EU) 2016/797, Article 2(36): *'manufacturer' means any natural or legal person who manufactures a product in the form of interoperability constituents, subsystems or vehicles, or has it designed or manufactured, and markets it under his name or trademark.*
1.3.1	**Manufacturer identification data**	**Heading (no data)**	
1.3.1.1	Name of organisation	[character string] (max 256 characters) Selection from a predefined list, possibility to add new organisations	Note: in case of a modification of a record (as a result of a change of a vehicle type), the original manufacturer will be indicated, while the entity managing the change will be indicated within parameter [3.1.3.X.6 Comments]. When the name of the manufacturer changes, without changes to the vehicle type, the original name will be kept.

#	Parameter	Data format	Comments and applicable TSI clauses
1.3.1.2	Registered business number	Text	A registered business number is an alphanumeric identifier assigned to the organisation by the authorities responsible for the registration of organisations of their type in their Member State and which allows the organisation (rather than any single person representing it) to act as a Juridical or Legal entity. Examples of registered business numbers from different countries would be: FN 72586k 202945069 CH-292.4.013.564-9 DE 185 159 346 HRB 33582, Amtsgericht Hamburg Q2884679P A86538254 B 60257 38005268240090 J50/9659/1994 226260-6225 L Note: in case of a modification of a record (as a result of a change of a vehicle type), the registered business number of the original manufacturer will be kept. The registered business number of the entity managing the change will be indicated within parameter [3.1.3.X.6 Comments]. When the registered business number changes, without changes to the vehicle type, the original number will be kept.

#	Parameter	Data format	Comments and applicable TSI clauses
1.3.1.3	Organisation code	Alphanumeric code	As defined in Commission Implementing Decision (EU) 2018/1614, Annex II, 3.4.2 Organisation codes can be checked at https://teleref.era.europa.eu/ To request an organisation code and for more details: https://www.era.europa.eu/domains/registers/ocr_en Note: in case of a modification of a record (as a result of a change of a vehicle type), the organisation code of the original manufacturer will be kept. The organisation code of the entity managing the change will be indicated within parameter [3.1.3.X.6 Comments]. When the organisation code changes, without changes to the vehicle type, the original code will be kept.
1.3.2	**Manufacturer contact data**	**Heading (no data)**	
1.3.2.1	Address of organisation, street and number	Text	
1.3.2.2	Town	Text	
1.3.2.3	Country code	Code as in EU interinstitutional style guide	This is a two-letter code, as indicated in the EU interinstitutional style guide available at: http://publications.europa.eu/code/en/en-5000600.htm Example: ES
1.3.2.4	Post code	Alphanumeric code	
1.3.2.5	Email address	Email	The recorded email to be a generic email for the organisation, not person specific.
1.4	Category	[character string] Selection from a predefined list (according to Annex III)	Vehicle category as defined in Annex III of the ERATV Decision
1.5	Subcategory	[character string] Selection from a predefined list (according to Annex III)	Vehicle subcategory as defined in Annex III of the ERATV Decision

#	Parameter	Data format	Comments and applicable TSI clauses
2	**Conformity with TSIs**	**Heading (no data)**	
2.1	Conformity with TSI	For each TSI: [character string] Y/N/Partial/Not applicable Selection from a predefined list of vehicle related TSIs (both in force and those that were previously in force) (multiple selection possible)	The exact reference of the TSIs conformity with which has been verified should be indicated. This includes the version of the TSI and its possible amendments. Conformity (or partial conformity) must be attested by an EC Type Examination Certificate (module SB) or Design verification certificate (module SH1) as defined in the Decision on Modules or, for TSI adopted before 2010, in the applicable TSI itself. If not, the vehicle is deemed to be non-TSI conform. "Yes" means the type of vehicle is fully in conformity with the given TSI. In case of modification of an already published vehicle type, following a change classified pursuant to Article 15(1)(b) of Regulation (EU) 2018/545, the reference of the TSIs should remain unchanged, even if the changed parts comply with a newer TSI. Note: In case of **full** conformity with "*LOC & PAS (Regulation (EU) No 1302/2014)*", requirements of "*SRT (Regulation (EU) No 1303/2014)*" are already included, and therefore, there is no need to select the SRT TSI.
2.2	EC certificate of verification: Reference of "EC type examination certificates" (if module SB applied) and/or "EC design examination certificates" (if module SH1 applied)	[character string] (possibility to indicate several certificates, e.g. certificate for rolling stock subsystem, certificate for CCS, etc.)	This parameter is to contain NoBo EC certificates. Note: 'EC' applies only to certificates issued by a Notified Body including certificates covering both Notified Body and Designated Body tasks when it is the same entity. 'EC' is to be omitted on certificates issued by a Designated Body.
2.3	Applicable specific cases (specific cases conformity with which has been assessed)	[character string] Selection from a predefined list (multiple selection possible) based on TSIs (for each TSI marked as Y or P)	Specific cases the type of vehicle is in conformity with (conformity must be attested by verification procedure).

#	Parameter	Data format	Comments and applicable TSI clauses
2.4	Sections of TSI not complied with	[character string] Selection from a predefined list (multiple selection possible) based on TSIs (for each TSI marked as P)	This parameter must be filled in in the cases of partial conformity with a TSI. Sections of TSI the type of vehicle is not in conformity with (e.g. in the case of a derogation, partial application of TSI in the case of renewal or upgrading, etc.). **CCS TSI 2019/776:** 6.1.1.3. Partial fulfilment of TSI requirements Note for information: In the case of existence of sections of TSI not complied with under the CCS TSI, the template provided in the CCS application guide is to be included in the technical file.
3	**Authorisations**	**Heading (no data)**	

#	Parameter	Data format	Comments and applicable TSI clauses
3.0	Area of use	[character string] Selection from a predefined list (multiple selection): MS — Network	The format of the area of use is: MS1(Network1,Network2,…)+MS2(NeighbourStation1,NeighbourStation2,…)+MS3(NeighbourStation3)+…,MS4(Network3,Network4,…)+MS5(NeighbourStation4)+MS6(NeighbourStation5)+…,MS5(Network5) Legend: + will introduce neighbouring stations , will separate MSs/Networks/Neighbouring Stations included in the area of use () will contain the possible networks of a MS or the names of the neighbouring station, separated by comma. For example: FR(FrenchNetwork1,FrenchNetwork2)+BE(Quievrain,Mons)+CH(Genève),ES(SpanishNetwork)+PT(Elvas),IT(RFI) The above example is read as if the area of use covers: the two networks of France (“FrenchNetwork1” and “FrenchNetwork2”) and the neighbouring stations (of France), located in Belgium (“Quievrain” and “Mons”) and the neighbouring station (of France), located in Switzerland, “Genève”, and the Spanish network “ESNetwork”, and “Elvas”, in Portugal, a neighbouring station of Spain, and the Italian network of Italy, named “RFI”.
3.1	**Authorisation in**	**Heading (no data)**	
3.1.1	Member State of authorisation	[character string] Selection from a predefined list (multiple selection)	
3.1.2	**Current status**	**Heading (no data)**	

#	Parameter	Data format	Comments and applicable TSI clauses
3.1.2.1	Status	[character string] + [date] Possible options: Valid, Suspended YYYYMMDD, Revoked YYYYMMDD, to be renewed YYYYMMDD	This parameter is automatically generated by the system depending on the information provided by the Authorising Entity. For type authorisations based on CCS TSI [15] *Set of specifications #1,* their status is to be changed to "*to be renewed*" under some conditions explained in the CCS TSI [15] application guide located at: https://www.era.europa.eu/system/files/2023-01/Guide%20for%20the%20application%20of%20the%20CCS%20TSI_1.pdf
3.1.2.2	Validity of authorisation (if defined)	[date] YYYYMMDD	Last day on which the authorisation is valid. Regulation (EU) 2018/545, Article 46: 6. The authorisation decision shall not contain any time limited conditions for use of the vehicle and other restrictions, unless the following conditions are fulfilled: (a) it is required because the conformity to the TSIs and/or national rules cannot be completely proven before the issuing of the authorisation; and/or (b) the TSIs and/or national rules require that the applicant produces a plausible estimate of compliance. The authorisation may then include a condition that real use demonstrates performance in line with the estimate within a specified period of time.

<table>
<tr>
<td>3.1.2.3</td>
<td>Coded conditions for use and other restrictions</td>
<td>[character string] Code assigned by the Agency</td>
<td>Coded conditions for use and other restrictions as indicated on the issued type authorisation.
ERA maintains a single document with restriction codes. Document ERA/TD/2011-09/INT available on ERA website.

When the value for a coded condition for use and other restrictions is the same as the value for a technical parameter, which means there is no actual condition for use or restriction as compared to the nominal design value, the relevant coded condition for use and other restriction should be left empty. See section 8 (Annex IV) for more details.

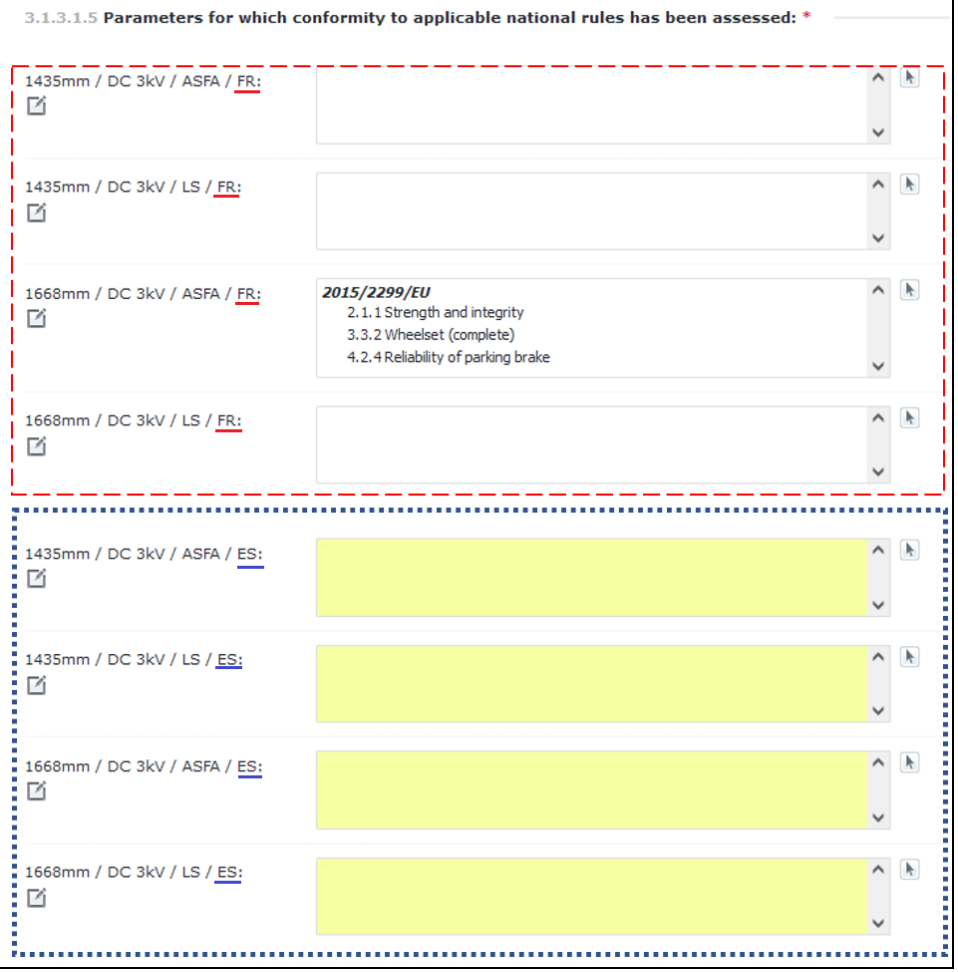
Note: The restriction codes indicated in the above document ERA/TD/2011-09/INT for 2.4.xx ERTMS on board are:
- 2.4.10 for ETCS
- 2.4.20 for GSM-R voice
- 2.4.21 for GSM-R for ETCS
<table>
<tr><th>Cat</th><th>Type</th><th>Value or specification</th><th>Name</th></tr>
<tr><td></td><td>4</td><td>Coded list</td><td>ERTMS on board</td></tr>
<tr><td></td><td></td><td>10</td><td>ETCS</td></tr>
<tr><td></td><td></td><td>20</td><td>GSM-R voice</td></tr>
<tr><td></td><td></td><td>21</td><td>GSM-R for ETCS</td></tr>
</table>
However, inside the ERATV tool, they are referenced as:
- 2.4.1 for ETCS
- 2.4.2 for GSM-R voice
- 2.4.3 for GSM-R for ETCS</td>
</tr>
</table>

#	Parameter	Data format	Comments and applicable TSI clauses
			2.4 ERTMS on board: **2.4.1 ETCS** 2.4 ERTMS on board: **2.4.2 GSM-R voice** 2.4 ERTMS on board: **2.4.3 GSM-R for ETCS** Until the ERATV tool will be corrected in a future release, it is to be considered that the codes in ERATV tool (2.4.1, 2.4.2 and 2.4.3) are to be read as if they were 2.4.10, 2.4.20 and 2.4.21, respectively. In addition, to avoid any possible confusion, ERATV always displays the relevant text (*ETCS, GSM-R voice, GSM-R for ETCS*) next to the restriction code.
3.1.2.4	Non-coded conditions for use and other restrictions	[character string]	Non-coded conditions for use and other restrictions as indicated on the issued type authorisation.
3.1.3	**Historical**	**Heading (no data)**	
3.1.3.1	**Original authorisation**	**Heading (no data)**	

#	Parameter	Data format	Comments and applicable TSI clauses
3.1.3.1.1	Date of the original authorisation	[date] YYYYMMDD	Date on which the type authorisation being recorded was issued (not the date of entry in ERATV). For a **variant of a registered type**, this date is the date of the issuing of the authorisation of the variant. For a **version of a registered type**, this date is: - If no type authorisation was issued: this is the date of the creation of the version, not the date of authorisation of the "parent" type of this version (the previously registered type). For example: Registered type "A" Date: 2019-09-25 → Version of "registered type A" Date of creation of the version: 2020-02-06 **3.1.3.1.1 Date of the original authorisation: 2020-02-06** - If a type authorisation was issued for this version (extension of area of use, which requires an authorisation), this is the date of the issuing of the type authorisation of the version.
3.1.3.1.2	**Authorisation holder**	**Heading (no data)**	Regulation (EU) 2018/545, Article 2(6): *'holder of the vehicle type authorisation' means the natural or legal person that has applied for and received the vehicle type authorisation, or its legal successor*;
3.1.3.1.2.1	**Authorisation holder identification data**	**Heading (no data)**	

#	Parameter	Data format	Comments and applicable TSI clauses
3.1.3.1.2.1.1	Name of organisation	[character string] (max 256 characters) Selection from a predefined list, possibility to add new organisations	The name of the organisation holding the vehicle type authorisation cannot be changed; the role of the holder of the vehicle type authorisation cannot be transferred to another party under private contracts or other arrangements. In duly justified cases (such as merger, acquisition, division etc.), the legal successor becomes the holder of the vehicle type authorisation. In such cases, the information recorded in ERATV may be updated accordingly. The new holder shall provide the competent authorising entity with appropriate legal evidence demonstrating the legal succession. Where the name of the holder changes over time without any change to its legal (juridical) personality, the information recorded in ERATV may be updated upon request by the holder. In such cases, the holder shall provide the relevant legal evidence confirming that the change is limited to the name of the entity and does not affect its legal identity, rights, or obligations.
3.1.3.1.2.1.2	Registered business number	Text	See explanation in parameters 1.3.1.2 and 3.1.3.1.2.1.1.
3.1.3.1.2.1.3	Organisation code	Alphanumeric code	See explanations in parameter 1.3.1.3 and 3.1.3.1.2.1.1.
3.1.3.1.2.2	**Authorisation holder contact data**	**Heading (no data)**	
3.1.3.1.2.2.1	Address of organisation, street and number	Text	
3.1.3.1.2.2.2	Town	Text	
3.1.3.1.2.2.3	Country code	Code as in EU interinstitutional style guide	This is a two-letter code, as indicated in the EU interinstitutional style guide available at: http://publications.europa.eu/code/en/en-5000600.htm Example: ES
3.1.3.1.2.2.4	Post code	Alphanumeric code	

#	Parameter	Data format	Comments and applicable TSI clauses
3.1.3.1.2.2.5	Email address	Email	The recorded email to be a generic email for the organisation, not person specific.
3.1.3.1.3	Authorisation document reference	[character string] (EIN)	The European Identification Number (EIN) of the issued type authorisation. The format of the EIN is defined in the document "Structure and content of the European Identification Number" with Document ID: 013SST1139 published on the ERA website.
3.1.3.1.4	Certificate of verification: Reference of type examination or design examination type	[character string] (Possibility to indicate several certificates, e.g. certificate for rolling stock subsystem, certificate for Control, command and signalling subsystem, etc.)	This parameter is to contain DeBo certificates of verification Note: 'EC' applies only to certificates issued by a Notified Body including certificates covering both Notified Body and Designated Body tasks when it is the same entity. 'EC' is to be omitted on certificates issued by a Designated Body.

3.1.3.1.5	Parameters for which conformity to applicable national rules has been assessed	[character string] Selection from a predefined list (multiple selection possible) based on Commission Decision 2015/2299/EU	This parameter is to contain the basic parameters pursuant to Decision 2015/2229/EU for which the assessment has been performed against national rules instead of against the applicable TSI(s), where this is allowed. ERATV technically expects at least one (1) possible combination (gauge, CCS, energy) to be filled-in per country in the Area of Use. 

#	Parameter	Data format	Comments and applicable TSI clauses
3.1.3.1.6	Comments	[character string] (max 1024 characters)	
3.1.3.1.7	Reference to the written declaration by the proposer referred to in Article 3(11) of Regulation (EU) No 402/2013	[character string]	Declaration by the proposer refers to: • The risk declaration referred to in point 18.12 of Annex I of Regulation (EU) 2018/545 (which refers to Article 16 of Regulation (EU) 402/2013), established by the proposer (proposer is defined in article 3(11) of Regulation (EU) 402/2013), covering the potential modification of the overall safety level for the vehicle in case of a change, and/or • The risk declaration referred to in point 18.10 of Annex I of Regulation (EU) 2018/545 (which refers to Article 16 of Regulation (EU) 402/2013), established by the applicant for authorisation (applicant for authorisation is defined in article 2(22) of Directive (EU) 2016/797), concerning the requirements capture process" When the same document covers both points above, including the reference to this document for this parameter is enough. When the aspects above are covered by different documents, including the reference to the declaration related to requirements capture is enough.
3.1.3.X	**Modification of authorisation**	**Heading (no data) (X is progressive from 2 onwards, as many times as modifications of the authorisation of type have been issued)**	Under this heading information on modifications, suspensions, reactivations and withdrawals (revocation of authorisation/authorisation to be renewed) of the authorisation is indicated.
3.1.3.X.1	Type of modification	[character string] Text from a predefined list	This parameter is automatically generated by the system.
3.1.3.X.2	Date	[date] YYYYMMDD	

#	Parameter	Data format	Comments and applicable TSI clauses
3.1.3.X.3	Authorisation holder (if applicable)	[character string] (max 256 characters) Selection from a predefined list, possibility to add new organisations	
3.1.3.X.3.1	**Authorisation holder identification data**	**Heading (no data)**	
3.1.3.X.3.1.1	Name of organisation	[character string] (max 256 characters) Selection from a predefined list, possibility to add new organisations	
3.1.3.X.3.1.2	Registered business number	Text	See explanation in parameter 1.3.1.2
3.1.3.X.3.1.3	Organisation code	Alphanumeric code	As defined in Commission Implementing Decision (EU) 2018/1614, Annex II, 3.4.2 Organisation codes can be checked at https://teleref.era.europa.eu/ To request an organisation code and for more details: https://www.era.europa.eu/domains/registers/ocr_en
3.1.3.X.3.2	**Authorisation holder contact data**	**Heading (no data)**	
3.1.3.X.3.2.1	Address of organisation, street and number	Text	
3.1.3.X.3.2.2	Town	Text	

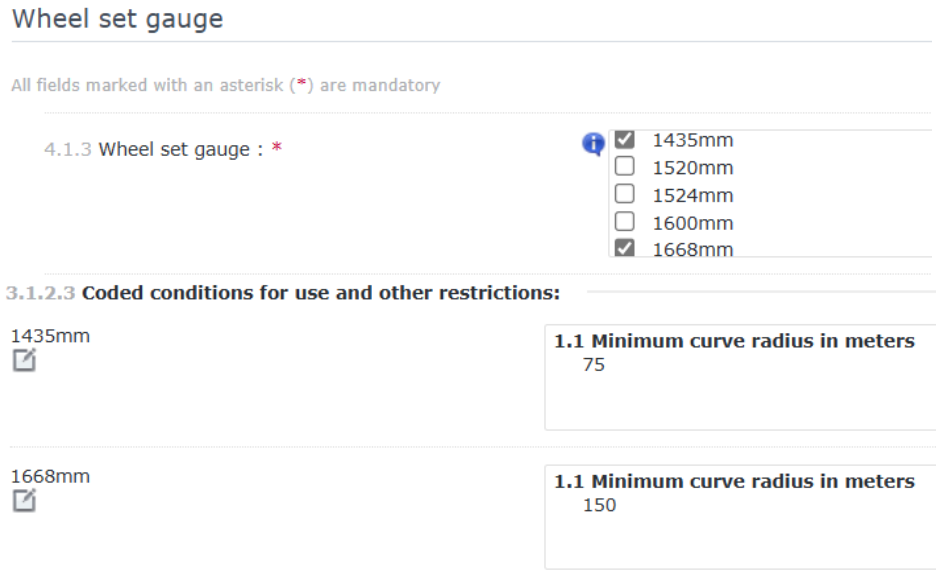
#	Parameter	Data format	Comments and applicable TSI clauses
3.1.3.X.3.2.3	Country code	Code as in EU interinstitutional style guide	This is a two-letter code, as indicated in the EU interinstitutional style guide available at: http://publications.europa.eu/code/en/en-5000600.htm Example: ES
3.1.3.X.3.2.4	Post code	Alphanumeric code	
3.1.3.X.3.2.5	Email address	Email	
3.1.3.X.4	Authorisation modification document reference	[character string]	
3.1.3.X.5	Certificate of verification: Reference of type examination or design examination type	[character string] (possibility to indicate several certificates, e.g. certificate for rolling stock subsystem, certificate for CCS, etc.)	See explanation in 3.1.3.1.4
3.1.3.X.6	Applicable national rules (if applicable)	[character string] Selection from a predefined list (multiple selection possible) based on Commission Decision 2015/2299/EU	
3.1.3.X.7	Comments	[character string] (max 1 024 characters)	
3.1.3.X.8	Reference to the written declaration by the proposer referred to in Article 3(11) of Regulation (EU) No 402/2013	[character string]	See explanation in 3.1.3.1.7

#	Parameter	Data format	Comments and applicable TSI clauses
3.X	**Authorisation in**	**Heading (no data) (X is progressive incremented by one unit from 2 onwards each time an authorisation for this type has been granted). This Section contains same fields as 3.1**	
4	**Technical characteristics of the vehicle**	**Heading (no data)**	
4.1	**General technical characteristics**	**Heading (no data)**	
4.1.1	Number of driving cabs	[Number] 0/1/2	**CCS TSI 2019/776:** - 1.1 Technical scope: "(1) locomotives and passenger rolling stock, including thermal or electric traction units, self-propelling thermal or electric passenger trains, and passenger coach, **if equipped with a driving cab**" For wagons the number of driving cabs is to be set to "0" (zero).
4.1.2	**Speed**	**Heading (no data)**	

4.1.2.1	Maximum design speed	[Number] km/h	**CR TSI LOC&PAS 2011/291/EU:** - 4.2.8.1.2 Requirements on performance **HS TSI 2008/232/EU:** - 4.2.1.1b Requirements on performance **CCS TSI 2019/776:** - 4.2.2 On-board ETCS functionality **TSI WAG 321/2013:** - 4.8 Parameters to be recorded in the technical file and European register of authorised types of vehicles If a vehicle is composed of several subsystems, the design speed of the vehicle is the lowest design speed of different subsystems the vehicle is composed of. The speed value to fill in corresponds to the speed to which compliance was demonstrated and stated in the authorization details. If different speeds exist depending on the area of use, the load or the brake regime, they are to be reflected within parameter [3.1.2.3 Coded conditions for use and other restrictions: *1.3 Speed restrictions in Km/h*] and parameter [3.1.2.4 Non-Coded conditions for use and other restrictions]. When there are no differences between maximum design speed (parameter 4.1.2.1) and speed restrictions (parameter 3.1.2.3, code 1.3): leave 3.1.2.3 empty (no particular restriction as compared to the nominal value) When there are differences (e.g. wagons laden/empty), consider that the maximum design speed is the nominal value (e.g. for a wagon, running laden). Please note that for parameter 4.1.2.1, ERATV allows to introduce 1 value (number, without units or text) per combination of track gauge, class B system and electrification system. On the other hand, within parameter 3.1.2.3, code 1.3 allows to introduce free text (number, units and explanation) but to be applied to all combinations.

			Examples: - S wagon (100 km/h laden) that can run 120 m/h empty: • Maximum design speed (parameter 4.1.2.1) -> 100 • Speed restriction (parameter 3.1.2.3, 1.3) -> 100 km/h laden or empty; 120 km/h empty • Speed restriction (parameter 3.1.2.4) -> none - SS wagon (120 km/h laden or empty): • Maximum design speed (parameter 4.1.2.1) -> 120 • Speed restriction (parameter 3.1.2.3 , 1.3) -> none • Speed restriction (parameter 3.1.2.4) -> none - S/SS wagon covered by a single type authorisation • Maximum design speed (parameter 4.1.2.1) -> 120 • Speed restriction (parameter 3.1.2.3, 1.3) -> 100 km/h S laden or empty; 120 km/h SS laden or empty • Speed restriction (parameter 3.1.2.4) -> none - S wagon with *** marking in the load table • Maximum design speed (parameter 4.1.2.1) -> 100 • Speed restriction (parameter 3.1.2.3, 1.3) -> 100 km/h laden or empty; 120 km/h empty • Speed restriction (parameter 3.1.2.4) -> The maximum speed of the wagon shall be 120 km/h empty and 100 km/h loaded when in “S” condition, but a loaded wagon is not restricted from being integrated in a train composition that runs up to 120 km/h due to the load table being marked with ”S” in combination with three stars (according to point 7.1.2(g) of the WAG TSI and clause 4.5.4 of EN 15877-1:2012). - Wagon 100 km/h with 22.t t/axle and 120 km/h with 20 t/axle: • Maximum design speed (parameter 4.1.2.1) -> 100

#	Parameter	Data format	Comments and applicable TSI clauses
			• Speed restriction (parameter 3.1.2.3, 1.3) -> 100 km/h 22.5 t/axle; 120 km/h 20 t/axle • Speed restriction (parameter 3.1.2.4) -> none

4.1.3	Wheel set gauge	[character string] Selection from predefined list	**TSI LOC&PAS 1302/2014:** - 4.2.3.5.2.1. Mechanical and geometric characteristics of wheelsets **TSI WAG 321/2013:** - 4.2.3.6.2. Characteristics of wheelsets **<u>Manual gauge change in wagons</u>** (WAG TSI §4.2.3.6.7): for wagons designed to be fitted with wheelsets of different gauge that are exchanged manually (e.g. 1.435 and 1.668 mm), both track gauges should be indicated in parameter 4.1.3. This allows to introduce one value for the coded restriction 3.1.2.3 1.1 (minimum curve radius) per gauge. There is no need to include the coded restrictions 2.2.X (e.g. 2.2.4 for 1.435 mm and 2.2.8 for 1.668 mm), as this fully duplicates parameter 4.1.3 (see section 8).  **<u>Automatic variable gauge systems</u>** 4.2.3.6.6 of WAG TSI The coded restrictions 2.2.1 “Variable gauge 1435/1520” or 2.2.2 “Variable gauge 1435/1668“ should be used only for automatic variable gauge systems, in conjunction with parameter 4.1.11 ”Wheelset gauge changeover facility”. This is not the normal case for wagons, that are designed to be able to exchange wheelsets but not in an automated way.

#	Parameter	Data format	Comments and applicable TSI clauses
4.1.5	Maximum number of trainsets or locomotives coupled together in multiple operation.	[number]	**TSI LOC&PAS 1302/2014:** - 4.1.2. Description of the Rolling stock subject to the application of this TSI - 4.2.12.2. General documentation **CR TSI LOC&PAS 2011/291/EU:** 4.1.2. Description of the Rolling stock subject to the application of this TSI **HS TSI 2008/232/EU:** 4.2.1.2. Design of trains
4.1.11	Wheelset gauge changeover facility	[character string] Selection from predefined list	**TSI LOC&PAS 1302/2014:** 4.2.3.5.2.3 Variable gauge wheelsets **TSI WAG 321/2013:** 4.2.3.6.6. Variable gauge wheelsets To be completed only in case of automatic variable gauge systems (where coded restriction 2.2.1 or 2.2.2 is filled in). For wagons designed to be fitted with wheelsets of different gauge that are exchanged manually (e.g. 1.435 and 1.668 mm), this parameter should be left empty.
4.1.12	Number of vehicles composing the fixed formation (for fixed formation only)	[number]	**TSI LOC&PAS 1302/2014:** 4.2.12.2. General documentation The value is mandatory for all vehicle categories. If the vehicle is composed of only one car, the indicated value shall be “1”. For a rack of permanently connected elements (e.g. 2 or more elements), the value to be indicated is the number of connected elements.
4.2	**Vehicle gauge**	**Heading (no data)**	

#	Parameter	Data format	Comments and applicable TSI clauses
4.2.1	Reference profile	[character string] Selection from predefined list (more than one possible) (the list will be different for different categories depending on the applicable TSI)	**TSI LOC&PAS 1302/2014:** 4.2.3.1. Gauging **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.1. Gauging **HS TSI 2008/232/EU:** 4.2.3.1. Kinematic gauge **TSI WAG 321/2013:** 4.2.3.1. Gauging
4.3	**Environmental conditions**	**Heading (no data)**	
4.3.1	Temperature range	[character string] Selection from a predefined list (more than one possible)	**TSI LOC&PAS 1302/2014:** 4.2.6.1.1 Temperature **CR TSI LOC&PAS 2011/291/EU:** 4.2.6.1.2 Temperature **HS TSI 2008/232/EU:** 4.2.6.1 Environmental conditions **TSI WAG 321/2013:** 4.2.5. Environmental conditions
4.3.3	Snow, ice and hail conditions	[character string] Selection from a predefined list	**TSI LOC&PAS 1302/2014:** 4.2.6.1.2 Snow, ice and hail **CR TSI LOC&PAS 2011/291/EU:** 4.2.6.1.5 Snow, ice and hail **TSI WAG 321/2013:** 4.2.5. Environmental conditions “Nominal” corresponds to the compliance with clause 4.7 of EN 50125 (see clause 4.2.6.1.2(1)) of LOC&PAS TSI)
4.4	**Fire safety**	**Heading (no data)**	

#	Parameter	Data format	Comments and applicable TSI clauses
4.4.1	Fire safety category	[character string] Selection from a predefined list	**TSI LOC&PAS 1302/2014:** 4.2.10.1. General and categorisation **CR TSI LOC&PAS 2011/291/EU:** 4.2.10.1. General and categorisation **HS TSI 2008/232/EU:** 4.2.7.2. Fire safety
4.5	**Design mass and loads**	**Heading (no data)**	
4.5.1	Permissible payload for different line categories	[number] t for line category [character string]	**TSI WAG 321/2013:** 4.2.3.2. Compatibility with load carrying capacity of lines To enter the line(s) categories for WAG depending on the speed: the information should be indicated within the parameter [3.1.3.1.6 Comments].
4.5.1.1	EN line category(ies)	[character string] from a predefined list (more than one option possible)	**TSI LOC&PAS 1302/2014:** 4.2.3.2.1. Axle load parameter
4.5.2	**Design and operational mass**	**Heading (no data)**	
4.5.2.1	Design mass in working order	[number] kg	**TSI LOC&PAS 1302/2014:** 4.2.2.10 Load conditions and weighed mass **CR TSI LOC&PAS 2011/291/EU:** 4.2.2.10 Load conditions and weighed mass
4.5.2.2	Design mass under normal payload	[number] kg	**TSI LOC&PAS 1302/2014:** 4.2.2.10 Load conditions and weighed mass **CR TSI LOC&PAS 2011/291/EU:** 4.2.2.10 Load conditions and weighed mass
4.5.2.3	Design mass under exceptional payload	[number] kg	**TSI LOC&PAS 1302/2014:** 4.2.2.10 Load conditions and weighed mass **CR TSI LOC&PAS 2011/291/EU:** 4.2.2.10 Load conditions and weighed mass
4.5.2.4	Operational mass in working order	[number] kg	**TSI LOC&PAS 1302/2014:** 4.2.2.10. Load conditions and weighed mass

#	Parameter	Data format	Comments and applicable TSI clauses
4.5.2.5	Operational mass under normal payload	[number] kg	**TSI LOC&PAS 1302/2014:** 4.2.2.10. Load conditions and weighed mass
4.5.3	**Static axle load**	**Heading (no data)**	
4.5.3.1	Static axle load in working order	[number] kg	**TSI LOC&PAS 1302/2014:** 4.2.3.2.1 Axle load parameter **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.2.1 Axle load parameter For static compatibility, the value to be filled in is the maximum axle load in each load configuration.
4.5.3.2	Static axle load under normal payload	[number] kg	**TSI LOC&PAS 1302/2014:** 4.2.3.2.1 Axle load parameter **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.2.1 Axle load parameter For static compatibility, the value to be filled in is the maximum axle load in each load configuration.
4.5.3.3	Static axle load under exceptional payload	[number] kg	**TSI LOC&PAS 1302/2014:** 4.2.3.2.1 Axle load parameter **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.2.1 Axle load parameter For static compatibility, the value to be filled in is the maximum axle load in each load configuration.

#	Parameter	Data format	Comments and applicable TSI clauses
4.5.3.4	Position of the axles along the unit (axle spacing): a: Distance between axles b: Distance from end axle to the end of the nearest coupling plane c: distance between two inside axles	a [number] m b [number] m c [number] m Explanation of the values for a, b and c [character string]	**TSI LOC&PAS 1302/2014:** 4.2.3.2.1 Axle load parameter **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.2.1 Axle load parameter The values a (Distance between axles), b (Distance from end axle to the end of the nearest coupling plane) and c (distance between two inside axles) in parameter *4.5.3.4. Position of the axles along the unit (axle spacing) are defined* in the EN 15528:2015.
4.5.5	Total vehicle mass (for each vehicle of the unit)	[number] kg	**TSI LOC&PAS 1302/2014:** - 4.2.2.10 Load conditions and weighed mass **CR TSI LOC&PAS 2011/291/EU:** - 4.2.2.10 Load conditions and weighed mass Value to be provided in working order. For a fixed formation, provide the total mass of the trainset.
4.5.6	Mass per wheel	[number] kg	**TSI LOC&PAS 1302/2014:** - 4.2.2.10 Load conditions and weighed mass **CR TSI LOC&PAS 2011/291/EU:** - 4.2.2.10 Load conditions and weighed mass Value to be provided in working order.
4.6	**Rolling stock dynamic behaviour**	**Heading (no data)**	
4.6.4	Combination of maximum speed and maximum cant deficiency for which the vehicle was assessed	[number] km/h - [number] mm	**TSI LOC&PAS 1302/2014:** 4.2.3.4. Rolling stock dynamic behaviour **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.4. Rolling stock dynamic behaviour **HS TSI 2008/232/EU:** 4.2.3.4. Rolling stock dynamic behaviour **TSI WAG 321/2013:** 4.2.3.5. Running safety

#	Parameter	Data format	Comments and applicable TSI clauses
4.6.5	Rail inclination	[character string] from a predefined list	**TSI LOC&PAS 1302/2014:** 4.2.3.4. Rolling stock dynamic behaviour **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.4. Rolling stock dynamic behaviour **HS TSI 2008/232/EU:** 4.2.3.4. Rolling stock dynamic behaviour **TSI WAG 321/2013:** 4.2.3.5. Running safety
4.7	**Braking**	**Heading (no data)**	
4.7.1	Maximum average deceleration	[number] m/s2	**TSI LOC&PAS 1302/2014:** 4.2.4.5.1 General requirements **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.5.1 General requirements **HS TSI 2008/232/EU:** 4.2.3.4.3. Track loading limit values
4.7.2	**Thermal capacity**	**Heading (no data)**	
4.7.2.1	**Brake performance on steep gradients with normal payload**	**Heading (no data)**	
4.7.2.1.1	Reference case of TSI	[character string] from a predefined list	**TSI LOC&PAS 1302/2014:** 4.2.4.5.4 Calculations related to thermal capacity **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.5.4 Calculations related to thermal capacity **HS TSI 2008/232/EU:** 4.2.4.7. Brake performance on steep gradients **TSI WAG 321/2013:** 4.2.4.3.3. Thermal capacity

#	Parameter	Data format	Comments and applicable TSI clauses
4.7.2.1.2	Speed (if no reference case is indicated)	[number] km/h	**TSI LOC&PAS 1302/2014:** 4.2.4.5.4 Calculations related to thermal capacity **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.5.4 Calculations related to thermal capacity **HS TSI 2008/232/EU:** 4.2.4.7. Brake performance on steep gradients **TSI WAG 321/2013:** 4.2.4.3.3. Thermal capacity
4.7.2.1.3	Gradient (if no reference case is indicated)	[number] ‰ (mm/m)	**TSI LOC&PAS 1302/2014:** 4.2.4.5.4 Calculations related to thermal capacity **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.5.4 Calculations related to thermal capacity **HS TSI 2008/232/EU:** 4.2.4.7. Brake performance on steep gradients **TSI WAG 321/2013:** 4.2.4.3.3. Thermal capacity
4.7.2.1.4	Distance (if no reference case is indicated)	[number] km	**TSI LOC&PAS 1302/2014:** 4.2.4.5.4 Calculations related to thermal capacity **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.5.4 Calculations related to thermal capacity **HS TSI 2008/232/EU:** 4.2.4.7. Brake performance on steep gradients **TSI WAG 321/2013:** 4.2.4.3.3. Thermal capacity
4.7.2.1.5	Time (if distance is not indicated) (if no reference case is indicated)	[number] min	**TSI LOC&PAS 1302/2014:** 4.2.4.5.4 Calculations related to thermal capacity **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.5.4 Calculations related to thermal capacity **HS TSI 2008/232/EU:** 4.2.4.7. Brake performance on steep gradients **TSI WAG 321/2013:** 4.2.4.3.3. Thermal capacity

#	Parameter	Data format	Comments and applicable TSI clauses
4.7.2.1.6	Maximum brake thermal energy capacity	[number] kJ	**TSI LOC&PAS 1302/2014:** 4.2.4.5.4 Calculations related to thermal capacity **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.5.4 Calculations related to thermal capacity For OTM when applying clause 4.2.4.5.4(2) of TSI LOC&PAS 1302/2014 that allows to verify the requirement by temperature measurements on wheels and brake equipment, the parameter 4.7.2.1.6 is to be filled in with "0" (zero) and a comment in parameter *3.1.3.1.6 Comments* should be added: "for parameter 4.2.7.2.1.6 OTM complies with 4.2.4.5.4(2) of TSI LOC&PAS 1302/2014" This parameter records the maximum brake thermal energy capacity of the vehicle, expressed in kilojoules (kJ). It represents an energy value and must not be confused with braking power expressed in kilowatts (kW). If the rolling stock complies with a TSI reference case, only parameter 4.7.2.1.1 must be filled in. If no reference case is declared, parameters 4.7.2.1.2 to 4.7.2.1.5 must be filled in, and in all cases, parameter 4.7.2.1.6 must be completed with the vehicle's brake thermal energy capacity in kJ.
4.7.3	**Parking brake**	**Heading (no data)**	
4.7.3.3	Maximum gradient on which the unit is kept immobilised by the parking brake alone (if the vehicle is fitted with it)	[number] ‰ (mm/m)	**TSI LOC&PAS 1302/2014:** 4.2.4.5.5 Parking brake **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.5.5 Parking brake **HS TSI 2008/232/EU:** 4.2.4.6. Protection of an immobilised train **TSI WAG 321/2013:** 4.2.4.3.2.2. Parking brake
4.7.3.4	Parking brake	[Boolean] Y/N	**HS TSI 2008/232/EU:** 4.2.4.6. Protection of an immobilised train

#	Parameter	Data format	Comments and applicable TSI clauses
4.7.4	**Braking systems fitted on the vehicle**	**Heading (no data)**	
4.7.4.1	**Eddy current brake**	**Heading (no data)**	
4.7.4.1.1	Eddy current track brake fitted	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.4.8.3. Eddy current track brake **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.8.3. Eddy current track brake **HS TSI 2008/232/EU:** 4.2.4.5. Eddy current brakes
4.7.4.1.2	Possibility of preventing the use of the eddy current track brake (only if fitted with eddy current track brake)	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.4.8.3. Eddy current track brake **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.8.3. Eddy current track brake **HS TSI 2008/232/EU:** 4.2.4.5. Eddy current brakes
4.7.4.2	**Magnetic brake**	**Heading (no data)**	
4.7.4.2.1	Magnetic track brake fitted	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.4.8.2. Magnetic track brake **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.8.2. Magnetic track brake **HS TSI 2008/232/EU:** 4.2.4.8.2. Magnetic track brake
4.7.4.2.2	Possibility of preventing the use of the magnetic track brake (only if fitted with magnetic brake)	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.4.8.2. Magnetic track brake **CR TSI LOC&PAS 2011/291/EU:** 4.2.4.8.2. Magnetic track brake **HS TSI 2008/232/EU:** 4.2.4.8.2. Magnetic track brake
4.7.4.3	**Regenerative brake (only for vehicles with electrical traction)**	**Heading (no data)**	

#	Parameter	Data format	Comments and applicable TSI clauses
4.7.4.3.1	Regenerative brake fitted	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.8.2.3 Regenerative brake with energy to the overhead contact line **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.3 Regenerative brake with energy to the overhead contact line **HS TSI 2008/232/EU:** 4.2.8.3.1.2. Energy recuperation
4.7.4.3.2	Possibility of preventing the use of the regenerative brake (only if fitted with regenerative brake)	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.8.2.3 Regenerative brake with energy to the overhead contact line **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.3 Regenerative brake with energy to the overhead contact line **HS TSI 2008/232/EU:** 4.2.8.3.1.2. Energy recuperation

#	Parameter	Data format	Comments and applicable TSI clauses
4.7.5	Emergency brake: Stopping distance and deceleration profile for each load condition per design maximum speed	[number] m [number] m/s^2	**TSI LOC&PAS 1302/2014:** - 4.2.4.5.2 Emergency braking **CR TSI LOC&PAS 2011/291/EU:** - 4.2.4.5.2 Emergency braking **HS TSI 2008/232/EU:** - 4.2.4. Braking Load conditions as defined in clause 4.2.2.10 of TSI LOC&PAS 1302/2014 are: - Design mass under exceptional payload - Design mass under normal payload - Design mass in working order For deceleration profile, provide the maximum deceleration for each load case. For locomotives, there is only one payload, as mentioned in clause 4.2 of EN 15663. A locomotive is treated as a passenger vehicle without payload. Therefore, the same values should be introduced for all load conditions. E.g. a: working order: 0635.00 m 0000.61 m/s^2 b: normal payload: 0635.00 m 0000.61 m/s^2 c: exceptional payload: 0635.00 m 0000.61 m/s^2

#	Parameter	Data format	Comments and applicable TSI clauses
4.7.6	For general operation: Brake weight percentage (lambda) or Braked mass	Lambda (%) [number] tonnes	**TSI LOC&PAS 1302/2014:** - 4.2.4.5.2 Emergency braking **CR TSI LOC&PAS 2011/291/EU:** - 4.2.4.5.2 Emergency braking **TSI WAG 321/2013**: - 4.2.4.3.2.1. Service brake <u>Locomotives used in general operation</u>: values for each regime (*P / G*) are to be provided. If the locomotive is intended to be used in only one regime (e.g. *G*), then only those values are entered (e.g. locomotive limited to freight transport: 105,00 (%) or 00083,00 tonnes). As ERATV does not allow to introduce twice this parameter, the second regime is to be introduced in parameter *3.1.3.1.6 Comments*. <u>Note</u>: as mentioned in clause 4.2.4.5.2 of TSI LOC&PAS, Brake weight percentage (also called 'lambda' or 'braked mass percentage'), braked mass may also be used, and can be derived (directly or via stopping distance) from deceleration profiles by a calculation. This parameter is mandatory for units in general operation, for other units, if value could not be provided, please indicate "0" (zero) and provide an explanation in parameter *3.1.3.1.6 Comments.*
4.7.7	Service brake: At maximum service brake: Stopping distance, Maximum deceleration, for the load condition 'design mass under normal payload' at the design maximum speed.	[number] m [number] m/s^2	**TSI LOC&PAS 1302/2014:** - 4.2.4.5.3 Service braking **CR TSI LOC&PAS 2011/291/EU:** - 4.2.4.5.3 Service braking **HS TSI 2008/232/EU:** - 4.2.4. Braking **TSI WAG 321/2013:** - 4.2.4.3.2.1. Service brake For locomotives, there is only one payload, as mentioned in clause 4.2 of EN 15663. A locomotive is treated as a passenger vehicle without payload. For locomotives, one value is to be entered (e.g. 0592.30 m – 0000.65 m/s^2).

#	Parameter	Data format	Comments and applicable TSI clauses
4.7.8	Wheel slide protection system	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** - 4.2.4.6.2. Wheel slide protection system **CR TSI LOC&PAS 2011/291/EU:** - 4.2.4.6.2. Wheel slide protection system **HS TSI 2008/232/EU:** - 4.2.4.3. Brake system requirements **TSI WAG 321/2013:** - 4.2.4.3.4. Wheel slide protection (WSP)
4.8	**Geometrical characteristics**	**Heading (no data)**	
4.8.1	Vehicle length	[number] m	**TSI LOC&PAS 1302/2014:** - 4.2.3.2.1 Axle load parameter **CR TSI LOC&PAS 2011/291/EU:** - 4.2.3.2.1 Axle load parameter **HS TSI 2008/232/EU:** - 4.2.3.5. Maximum train length
4.8.2	Minimum in-service wheel diameter	[number] mm	**TSI LOC&PAS 1302/2014:** - 4.2.3.5.2.2 Mechanical and geometrical characteristics of wheels **CR TSI LOC&PAS 2011/291/EU:** - 4.2.3.5.2.2 Mechanical and geometrical characteristics of wheels **HS TSI 2008/232/EU:** - Annex M In service limits of the geometric dimensions of wheels and wheelsets **TSI WAG 321/2013:** - 4.2.3.6.3 Characteristics of wheels

#	Parameter	Data format	Comments and applicable TSI clauses
4.8.4	Minimum horizontal curve radius capability	[number] m	**TSI LOC&PAS 1302/2014:** - 4.2.3.6 Minimum curve radius **CR TSI LOC&PAS 2011/291/EU:** - 4.2.3.6 Minimum curve radius **HS TSI 2008/232/EU:** - 4.2.3.7 Minimum curve radius This parameter reflects the minimum horizontal curve radius the vehicle is designed to negotiate, and it´s not linked to any specific operational condition (e.g. main lines vs sidings). Parameter not to be filled in case of freight wagons.
4.8.5	Minimum vertical convex curve radius capability	[number] m	**TSI LOC&PAS 1302/2014:** 4.2.3.1. Gauging **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.1. Gauging **HS TSI 2008/232/EU:** 4.2.3.1. Kinematic gauge **TSI WAG 321/2013:** 4.2.3.1. Gauging This parameter reflects the minimum vertical convex curve radius the vehicle is designed to negotiate, regardless of any specific operational condition (e.g. main lines or sidings).

#	Parameter	Data format	Comments and applicable TSI clauses
4.8.6	Minimum vertical concave curve radius capability	[number] m	**TSI LOC&PAS 1302/2014:** 4.2.3.1. Gauging **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.1. Gauging **HS TSI 2008/232/EU:** 4.2.3.1. Kinematic gauge **TSI WAG 321/2013:** 4.2.3.1. Gauging This parameter reflects the minimum vertical concave curve radius the vehicle is designed to negotiate, regardless of any specific operational condition (e.g. main lines or sidings).
4.9	**Equipment**	**Heading (no data)**	
4.9.1	Type of end coupling	[Character string] From a predefined list (multiple selection possible)	**TSI LOC&PAS 1302/2014:** 4.2.2.2.3 End coupling **CR TSI LOC&PAS 2011/291/EU:** 4.2.2.2.3 End coupling **HS TSI 2008/232/EU:** 4.2.2.2. End couplers and coupling arrangements to rescue trains **TSI WAG 321/2013:** 4.2.2.1.1 End coupling
4.9.2	Axle bearing condition monitoring (hot axles box detection)	[Character string] From a predefined list (multiple selection possible)	**TSI LOC&PAS 1302/2014:** 4.2.3.3.2 Axle bearing condition monitoring **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.3.2 Axle bearing condition monitoring **HS TSI 2008/232/EU:** 4.2.3.3.2. Axle bearing health monitoring **TSI WAG 321/2013:** 4.2.3.4. Axle bearing condition monitoring

#	Parameter	Data format	Comments and applicable TSI clauses
4.9.3.1	Flange lubrication fitted	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.3.3.1.1 Rolling stock characteristics for compatibility with train detection system based on track circuits
4.9.3.2	Possibility of preventing the use of the lubrication device (only if fitted with flange lubrication)	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.3.3.1.1 Rolling stock characteristics for compatibility with train detection system based on track circuits
4.10	**Energy supply**	**Heading (no data)**	
4.10.1	Energy supply system (voltage and frequency)	[Character string] From a predefined list (multiple selection possible)	**TSI LOC&PAS 1302/2014:** 4.2.8.2.2 Operation within range of voltages and frequencies **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.2 Operation within range of voltages and frequencies **HS TSI 2008/232/EU:** 4.2.8.3.1. Voltage and frequency of the power supply
4.10.4	Maximum current at standstill per pantograph (to be indicated for each DC systems the vehicle is equipped for)	[Number] A for [Voltage automatically prefilled in]	**TSI LOC&PAS 1302/2014:** 4.2.8.2.5 Maximum current at standstill for DC systems **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.5 Maximum current at standstill for DC systems **HS TSI 2008/232/EU:** 4.2.8.2.5 Maximum current at standstill for DC systems
4.10.5	Height of interaction of pantograph with contact wires (over top of rail) (to be indicated for each energy sup- ply system the vehicle is equipped for)	[Number] From [m] to [m] (with two decimals)	**TSI LOC&PAS 1302/2014:** 4.2.8.2.9.1.1 Height of interaction with contact wires (RST level) **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.9.1.1 Height of interaction with contact wires (RST level)
4.10.6	Pantograph head geometry (to be indicated for each energy supply system the vehicle is equipped for)	[Character string] for [energy supply system automatically prefilled in] From a predefined list (multiple selection possible)	**TSI LOC&PAS 1302/2014:** 4.2.8.2.9.2 Pantograph head geometry (IC level) **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.9.2 Pantograph head geometry (IC level) **HS TSI 2008/232/EU:** 4.2.8.3.7.2. Pantograph head geometry

#	Parameter	Data format	Comments and applicable TSI clauses
4.10.7	Number of pantographs in contact with the overhead contact line (OCL) (to be indicated for each energy supply system the vehicle is equipped for)	[Number]	**TSI LOC&PAS 1302/2014:** 4.2.8.2.9.7 Arrangement of pantographs (RST level) **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.9.7 Arrangement of pantographs (RST level) **HS TSI 2008/232/EU:** 4.2.8.3.6.2. Arrangement of pantographs
4.10.8	Shortest distance between two pantographs in contact with the OCL (to be indicated for each energy supply system the vehicle is equipped for; to be indicated for single and, if applicable, multiple operation) (only if number of raised pantographs is more than 1)	[Number] [m]	**TSI LOC&PAS 1302/2014:** 4.2.8.2.9.7 Arrangement of pantographs (RST level) **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.9.7 Arrangement of pantographs (RST level) **HS TSI 2008/232/EU:** 4.2.8.3.6.2. Arrangement of pantographs Shortest distance between two pantographs is to be filled-in only if more than one pantograph are raised: ○ *Single unit* operating with more than one pantograph raised. ○ *Multiple units* where each unit has one pantograph raised. The *multiple unit* will be then considered as a vehicle where more than one pantograph are raised.
4.10.10	Material of pantograph contact strip the vehicle may be equipped with (to be indicated for each energy supply system the vehicle is equipped for)	[Character string] for [energy supply system automatically prefilled in] From a predefined list (multiple selection possible)	**TSI LOC&PAS 1302/2014:** 4.2.8.2.9.4.2 Contact strip material **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.9.4.2 Contact strip material **HS TSI 2008/232/EU:** 4.2.8.3.8.3. Material
4.10.11	Automatic dropping device (ADD) fitted (to be indicated for each energy supply system the vehicle is equipped for)	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.8.2.9.10 Pantograph lowering (RST level) **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.9.10 Pantograph lowering (RST level) **HS TSI 2008/232/EU:** 4.2.8.3.6.4. Pantograph lowering

#	Parameter	Data format	Comments and applicable TSI clauses
4.10.14	Electric units equipped with power or current limitation function	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.8.2.4 Maximum power and current from the overhead contact line **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.4 Maximum power and current from the overhead contact line **HS TSI 2008/232/EU:** 4.2.8.3.2. Maximum power and maximum current that is permissible to draw from the overhead contact line
4.10.15	Mean contact force	[Number] [N]	**TSI LOC&PAS 1302/2014:** 4.2.8.2.9.6 Pantograph contact force and dynamic behaviour **CR TSI LOC&PAS 2011/291/EU:** 4.2.8.2.9.6 Pantograph contact force and dynamic behaviour **HS TSI 2008/232/EU:** 4.2.8.3.6.1. Pantograph contact force F_m should be between $F_{m,min}$ and $F_{m,max.}$ The F_m value is to be provided per tension at maximum speed.
4.10.16	Vehicle equipped with electric energy storage for traction purposes and with the function of charging with OCL at standstill	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.8.2.5. Maximum current at standstill
4.12	**Passenger related characteristics**	**Heading (no data)**	
4.12.3.1	Platform heights for which the vehicle is designed.	[Number] from predefined list (multiple selection possible)	**TSI PRM 1300/2014:** 4.2.2.11. Step position for vehicle access and egress **TSI PRM 2008/164/EU:** 4.2.2.12. Step position for vehicle access and egress For Locomotives being not applicable, please select the option “Not applicable for locomotives”.
4.13	**On-board CCS equipment (for vehicles with a driving cab only)**	**Heading (no data)**	

#	*Parameter*	*Data format*	*Comments and applicable TSI clauses*
4.13.1	**Signalling**	**Heading (no data)**	

4.13.1.1	ETCS equipment on-board and the set of specifications from CCS TSI Appendix A	[Character string] From a predefined list	The regulation or the latest amendment applicable to the subsystem as indicated in the EC Declaration of Verification.
			CCS TSI 2023/1695:
			4.2.2 On-board ETCS functionality
			
			The predefined list of values is according CCS TSI Annex I (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1695&qid=1694158367331).
			
			There is a relation between the values of this parameter and 4.13.1.11 "Envelope of legally operated ETCS system versions" as follows:
			- For all the TSIs up to 2020/420 (i.e., Before 2023/1695):
			  ○ Any set_1 → ETCS system version 1.0
			  ○ Any set_2 → ETCS system versions from 1.0 up to 2.0 inclusive
			  ○ Any set_3 → ETCS system versions from 1.0 up to 2.1 inclusive according to CCS TSI 2016/919 Set #3 B3R2
			
			- For projects using CCS TSI 2023/1695:
			  ○ Using the Appendix B transition regime for set #2 or #3
			  ▪ Implementing Regulation (EU) 2023/1695, Appendix B transition regime former set #2 → ETCS system versions from 1.0 up to 2.0 inclusive
			  ▪ Implementing Regulation (EU) 2023/1695, Appendix B transition regime former set #3 → ETCS system versions from 1.0 up to 2.1 inclusive according to CCS TSI 2016/919 Set #3 B3R2
			  ○ Using B4R1 specifications: They could choose the size of the envelope until 2.1, 2.2 or 3.0:
			  ▪ Implementing Regulation (EU) 2023/1695 B4R1 →
			  • ETCS system versions from 1.0 up to 2.1 inclusive according to CCS TSI 2023/1695 B4R1
			  • ETCS system versions from 1.0 up to 2.2 inclusive according to CCS TSI 2023/1695 B4R1

#	Parameter	Data format	Comments and applicable TSI clauses
			• ETCS system versions from 1.0 up to 3.0 inclusive according to CCS TSI 2023/1695 B4R1
4.13.1.5	Class B or other train protection, control and warning legacy systems installed (system and, if applicable, version)	[Character string] From a predefined list (more than one option possible)	**CCS TSI 2023/1695:** 2.2 (1) train protection 4.2.6.1 ETCS and Class B train protection Note on the predefined list values: The parameter refers to the train protection legacy systems (Class B) in the vehicle type. The values for this parameter shall be selected from the ones referred in Annex II of CCS TSI (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1695&qid=1694158367331). A reference to the version of the system may also be included in the additional data field.
4.13.1.7	ETCS on-board implementation	[Character string]	**CCS TSI 2023/1695:** 4.2.2 On-board ETCS functionality 4.2.20.3 System Identifier The ETCS subsystem *system identifier* composed of *functional identifier*, representing a reference of the functionality implemented and the *realisation identifier*, representing a specific configuration (HW and SW). Shall be defined by each supplier.

#	Parameter	Data format	Comments and applicable TSI clauses
4.13.1.8	ETCS System Compatibility	[Character string] From a predefined list (more than one option possible)	**CCS TSI 2023/1695:** 4.2.17.1 ETCS System Compatibility Note on the predefined list values: "Not applicable": ETCS is not installed or not authorised in the vehicle. "ESC-EU-0": The on-board subsystem only has EC certificates, without any ESC checks. "ESC-NP-CCS7.4a": The technical compatibility has been demonstrated according to a previous national procedure. The predefined list values are contained in the *ESC/RSC Technical document* (https://www.era.europa.eu/system/files/2023-05/esc-rsc_technical_document_en.pdf)
4.13.1.9	Managing information about the completeness of the train (not from the driver)	[Boolean] Y/N	**CCS TSI 2023/1695:** 4.2.2 On-board ETCS functionality
4.13.1.10	Safe consist length information from on-board necessary to access the line and corresponding SIL	[Character string] From a predefined list	**CCS TSI 2023/1695:** 4.2.2 On-board ETCS functionality Indicates if the on-board can provide consist integrity information to the trackside and the corresponding SIL.
4.13.1.11	Envelope of legally operated ETCS system versions	[Character string] From a predefined list	**CCS TSI 2023/1695:** 4.2.2 On-board ETCS functionality 7.4.2.4 ETCS System Version implementation rules There is a relation between the values of this parameter and 4.13.1.1 "ETCS equipment on-board and the set of specification of CCS TSI Appendix A". Please refer to the explanations above in the indicated parameter.
4.13.2	**Radio**	**Heading (no data)**	

4.13.2.1	GSM-R Radio voice on board and its Baseline	[Character string] From a predefined list	The regulation or the latest amendment applicable to the subsystem as indicated in the EC Declaration of Verification. **CCS TSI 2023/1695:** 4.2.4 Mobile communication functions for railways RMR 4.2.4.2 Voice and operational communication application The predefined list of values is according CCS TSI Annex I (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1695&qid=1694158367331). The relation between CCS TSI version and the GSM-R baseline is the following: ○ Baseline 0 (all sets of specs on each CCS TSI version) ▪ Decision 2002/731/EC ▪ Decision 2004/447/EC ▪ Decision 2006/679/EC ▪ Decision 2006/860/EC ▪ Decision 2007/153/EC ▪ Decision 2008/386/EC ▪ Decision 2009/561/EC ▪ Decision 2010/79/EC ▪ Decision 2012/88/EU ▪ Decision 2012/462/EU ▪ Decision 2012/463/EU ▪ Decision 2012/696/EU ▪ Decision 2015/14 ○ Baseline 1 (all sets of specs on each CCS TSI version) ▪ Regulation 2016/919 ▪ Implementing Regulation (EU) 2019/776 ▪ Implementing Regulation (EU) 2020/387 ▪ Implementing Regulation (EU) 2020/420 (Only German) ▪ Implementing Regulation (EU) 2023/1695, Appendix B transition regime Baseline 1

#	Parameter	Data format	Comments and applicable TSI clauses
			○ Baseline 1MR1 ▪ Implementing Regulation (EU) 2023/1695 *Note:* There is no possible transition regime in CCS TSI 2023/185 for GMS-R Baseline 0, since it is not available in CCS TSI 2016/919.
4.13.2.3	Class B or other radio legacy systems in- stalled (system and, if applicable, ver-sion)	[Character string] From a predefined list (more than one option possible)	**CCS TSI 2023/1695:** 2.2 (2) voice radio communication Note on the predefined list values: The parameter refers to the voice radio legacy systems (Class B) in the vehicle type. The values for this parameter shall be selected from the ones referred in Annex II of CCS TSI (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1695&qid=1694158367331). A reference to the version of the system may also be included in the additional data field.
4.13.2.5	Radio Voice System Compatibility	[Character string] From a predefined list (more than one option possible)	**CCS TSI 2023/1695:** 4.2.17.3 Radio System Compatibility Note on the predefined list values: "Not applicable": GSM-R is not installed or not authorised in the vehicle. "RSC-EU-0": The on-board subsystem only have EC certificates, without any RSC checks. "RSC-NP-CCS7.4a": The technical compatibility has been demonstrated according to a previous national procedure. The predefined list values are contained in the *ESC/RSC Technical document* (https://www.era.europa.eu/system/files/2023-05/esc-rsc_technical_document_en.pdf)

#	Parameter	Data format	Comments and applicable TSI clauses
4.13.2.6	GSM-R Voice and operational communication implementation	[Character string]	**CCS TSI 2023/1695:** 4.2.4 Mobile communication functions for railways RMR 4.2.4.2 Voice and operational communication application 4.2.20.3 System identifier The GSM-R subsystem *system identifier* composed of *functional identifier*, representing a reference of the functionality implemented and the *realisation identifier*, representing a specific configuration (HW and SW). Shall be defined by each supplier.

4.13.2.7	GSM-R Radio Data communication on board and its Baseline	[Character string] From a predefined list	The regulation or the latest amendment applicable to the subsystem as indicated in the EC Declaration of Verification. **CCS TSI 2023/1695:** 4.2.4 Mobile communication functions for railways RMR 4.2.4.3 Data communication applications for ETCS and ATO The predefined list values are defined in the CCS TSI Appendix A (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1695&qid=1694158367331). The relation between CCS TSI version and the GSM-R baseline is the following: ○ Baseline 0 (all sets of specs on each CCS TSI version) ▪ Decision 2002/731/EC ▪ Decision 2004/447/EC ▪ Decision 2006/679/EC ▪ Decision 2006/860/EC ▪ Decision 2007/153/EC ▪ Decision 2008/386/EC ▪ Decision 2009/561/EC ▪ Decision 2010/79/EC ▪ Decision 2012/88/EU ▪ Decision 2012/462/EU ▪ Decision 2012/463/EU ▪ Decision 2012/696/EU ▪ Decision 2015/14 ○ Baseline 1 (all sets of specs on each CCS TSI version) ▪ Regulation 2016/919 ▪ Implementing Regulation (EU) 2019/776 ▪ Implementing Regulation (EU) 2020/387 ▪ Implementing Regulation (EU) 2020/420 (Only German) ▪ Implementing Regulation (EU) 2023/1695, Appendix B transition regime Baseline 1

#	Parameter	Data format	Comments and applicable TSI clauses
			○ Baseline 1MR1 ▪ Implementing Regulation (EU) 2023/1695 *Note:* There is no possible Appendix B transition regime in CCS TSI 2023/185 for GMS-R Baseline 0, since it is not available in CCS TSI 2016/919.
4.13.2.8	Radio Data System Compatibility	[Character string] From a predefined list (more than one option possible)	**CCS TSI 2023/1695:** 4.2.17.3 Radio System Compatibility Note on the predefined list values: "Not applicable": GSM-R is not installed or not authorised in the vehicle. "RSC-EU-0": The on-board subsystem only have EC certificates, without any RSC checks. "RSC-NP-CCS7.4a": The technical compatibility has been demonstrated according to a previous national procedure. The predefined list values are contained in the *ESC/RSC Technical document* (https://www.era.europa.eu/system/files/2023-05/esc-rsc_technical_document_en.pdf)
4.13.2.9	GSM-R Data communication application for ETCS and ATO implementation	[Character string]	**CCS TSI 2023/1695:** 4.2.4 Mobile communication functions for railways RMR 4.2.4.3 Data communication applications for ETCS and ATO 4.2.20.3 System identifier The GSM-R subsystem *system identifier* composed of *functional identifier*, representing a reference of the functionality implemented and the *realisation identifier*, representing a specific configuration (HW and SW). Shall be defined by each supplier.

#	Parameter	Data format	Comments and applicable TSI clauses
4.13.2.10	Voice SIM Card GSM-R Home Network	[Character string] From a predefined list	**CCS TSI 2023/1695:** 4.2.4 Mobile communication functions for railways RMR 4.2.4.1 Basic communication function The predefined list is made with the values agreed at the NMG group at UIC and published in the UIC document *N-9018 GSM-R network names and codes*. Please refer to the UIC for the document.
4.13.2.11	Data SIM Card GSM-R Home Network	[Character string] From a predefined list	**CCS TSI 2023/1695:** 4.2.4 Mobile communication functions for railways RMR 4.2.4.1 Basic communication function The predefined list is made with the values agreed at the NMG group at UIC and published in the UIC document *N-9018 GSM-R network names and codes*. Please refer to the UIC for the document.
4.13.2.12	GSM-R Voice SIM Card support of Group ID 555	[Boolean] Y/N	**CCS TSI 2023/1695:** 4.2.4 Mobile communication functions for railways RMR 4.2.4.2 Voice and operational communication application
4.13.3	**ATO**	**Heading (no data)**	
4.13.3.1	On-board ATO system version	[Character string] From a predefined list	**CCS TSI 2023/1695:** 4.2.18 On-board ATO functionality Currently only system version 1.0 is defined for ATO.
4.13.3.2	On-board ATO implementation	[Character string]	**CCS TSI 2023/1695:** 4.2.18 On-board ATO functionality 4.2.20.3 System identifier The ATO subsystem *system identifier* composed of *functional identifier*, representing a reference of the functionality implemented and the *realisation identifier*, representing a specific configuration (HW and SW). Shall be defined by each supplier.

#	Parameter	Data format	Comments and applicable TSI clauses
4.14	**Compatibility with train detection systems**	**Heading (no data)**	
4.14.1	Type of train detection systems for which the vehicle has been designed and assessed	[Character string] From a predefined list (more than one option possible)	**TSI LOC&PAS 1302/2014:** 4.2.3.3.1 Rolling Stock characteristics for the compatibility with train detection systems **CR TSI LOC&PAS 2011/291/EU:** 4.2.3.3.1 Rolling Stock characteristics for the compatibility with train detection systems **HS TSI 2008/232/EU:** 4.2.7.9. Control-command and signalling system **TSI WAG 321/2013:** 4.2.3.3. Compatibility with train detection systems **CCS TSI 2023/1695:** 4.2.10. Trackside Train Detection Systems 4.2.11. Electromagnetic Compatibility between Rolling Stock and Control-Command and Signalling trackside equipment This parameter shall list the train detection systems (track circuits, axle counters and loops) for which technical compatibility with the track side train detection equipment has been assessed and authorised. In the particular case of vehicles with an area of use not limited to any particular national network (according to 7.1.2 of WAG TSI, or 7.1.1.5 and 7.1.1.6 of LOC&PAS TSI), the 3 train detection systems (track circuits, axle counters, and loops) shall be included (a vehicle cannot have a “Whole EU” area of use if it is not compatible with the 3 systems).
4.15	**Derailment detection and prevention functions**	**Heading (no data)**	
4.15.1	Presence and type of derailment detection and prevention function(s)	[Character string] From a predefined list (more than one option possible)	**TSI WAG 321/2013:** 4.2.3.5.3. Derailment detection and prevention function

#	*Parameter*	*Data format*	*Comments and applicable TSI clauses*
4.15.2	Presence of derailment prevention and detection function	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.9.3.7 Derailment detection and prevention signal processing
4.15.3	Presence of derailment prevention and detection signal processing	[Boolean] Y/N	**TSI LOC&PAS 1302/2014:** 4.2.9.3.7 Derailment detection and prevention signal processing

6. Annex II - Type authorisation regimes – matrix of options

Table 7 - Registration regimes - matrix of options

	Options allowed by Directive 2008/57/EC		Options allowed by Directive (EU) 2016/797	
	Options	***Action in ERATV***	***Options***	***Action in ERATV***
A. MS has transposed the Directive (EU) 2016/797	Not applicable	Not applicable	A.1. New type creation → allowed A.2. New variant → allowed A.3. New version (2016/797) → allowed A.4. New version under 2008/57 → not allowed A.5. Additional type authorisation under 2008/57 → not allowed A.6. Extension of area of use (2016/797): a. To a type registered under registration 2008/57 → not allowed → APM to be delivered by ERA b. To a type registered under registration 2016/797 → not allowed → APM to be done by ERA c. To add a new network in the area of use within the same Member State → allowed	A.1. Register new type: Registration regime: *Directive (EU) 2016/797.* Registration method: *New type* A.2. Register new type: Registration regime: *Directive (EU) 2016/797* Registration method: *New variant* A.3. Register new type: Registration regime: *Directive (EU) 2016/797* Registration method: *New version* A.6.c. Register new type: Registration regime: *Directive (EU) 2016/797* Registration method: *New version of a registered type*

	Options allowed by Directive 2008/57/EC		Options allowed by Directive (EU) 2016/797	
	Options	**Action in ERATV**	**Options**	**Action in ERATV**
B. MS has not transposed the Directive (EU) 2016/797	B.1. New type → allowed B.2. New variant →not allowed B.3. New version (2016/797) → not allowed B.4. New version (2008/57)→ allowed B.5. Additional type authorisation (2008/57): a. To a type registered under registration 2008/57→allowed b. To a type registered under registration 2016/797→not allowed as a general rule	B.1. Register new type: Registration regime: *Directive 2008/57/EC* Registration method: *New type of a new platform/registered platform* B.4 Register new type: Registration regime: *Directive 2008/57/EC* Registration method: *New version of a registered type* B.5.a: Register authorisation	Not applicable	Not applicable

7. Annex III - ERATV update in accordance with Commission Implementing Decision (EU) 2023/1696 and alignments between RINF and ERATV

The ERATV Decision was amended by the Commission Implementing Decision (EU) 2023/1696[1].

In accordance, ERATV tool was updated, with release 3.0, to be aligned with the latest legal framework.

Existing published records in ERATV remain as they are. However, any **new record**, **existing draft**, or any **modification, or correction to a published record** will be **affected by the new changes** explained in the following sections.

In addition to the updated legal framework, ongoing actions are being done in order to review and simplify the list of parameters' reference list values, and the alignments between RINF and ERATV, in accordance with Annex I, 2.5 of Commission Implementing Decision 2011/665/EU.

7.1. Updated list of parameters

Any new record in ERATV, or any existing draft, or any modification or correction to a published record will now require the new list of parameters, as requested by Commission Implementing Decision (EU) 2023/1696[1].

For the cases of the new parameters not being assessed within the issued Type authorisation, Authorising Entities may consider filling in the new mandatory parameters with the values as in Table 8. Furthermore, Authorising Entities may also consider providing an explanation within the parameter [*Comments*], if needed for clarity and traceability.

Table 8 - New parameters proposed values if not assessed in issued vehicle type authorisation.

Parameter	*Proposed value to be used if parameter not assessed in the issued vehicle type authorisation*
4.5.1 Permissible payload for different line categories	*Not assessed in the issued Type Authorisation*
4.5.1.1 EN line category(ies)	*Not assessed in the issued Type Authorisation*
4.5.2.4 Operational mass in working order	*0*
4.5.2.5 Operational mass under normal payload	*0*

[1] The Consolidated ERATV Decision legal text version is available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02011D0665-20230908

Parameter	*Proposed value to be used if parameter not assessed in the issued vehicle type authorisation*
4.10.16 Vehicle equipped with electric energy storage for traction purposes and with the function of charging with OCL at standstill	*False*
4.13.1.10 Safe consist length information from on-board necessary to access the line and corresponding SIL	*None*
4.13.1.11 Envelope of legally operated ETCS system versions	*None*
4.13.3.1 On-board ATO system version	*None*
4.13.3.2 On-board ATO implementation	*None*
4.15.1 Presence and type of derailment detection and prevention function(s)	*None*
4.15.2 Presence of derailment prevention and detection function	*False*
4.15.3 Presence of derailment prevention and detection signal processing	*False*

7.2. Updated list of subcategories

Commission Implementing Decision (EU) 2023/1696 has updated the list of subcategories (Annex III of the ERATV Decision[1]):

- New subcategories are added.
- Some subcategories cannot be used anymore.

This has an impact on records on ERATV:

- **For new records**, Authorising Entities should check to use the new list of subcategories.

- **For existing records, or child records** (Variant, Version, New type from a registered type), the subcategory is inherited from the parent type and cannot be changed. This may imply that you are forced to continue using one of the subcategories marked not to be used anymore. You may consider explaining this case in the parameter [Comments] for the case that an inherited (*"deactivated-not to be used")* subcategory is used.

You may find in Table 9 the changes applied to the list of Subcategories. The changes are marked with ***bold italics.***

Table 9 - Updates to the subcategories

Code	***Category***	***Subcategory***
11	Traction vehicles	Locomotive
12		***Power Unit (or power car)***
13		Self-propelled passenger trainset~~***(incl. railbuses)***~~
14		Reserved
15		***Reserved*** ~~*Self-* propelled freight trainset~~
16		***Railcar***
17		Shunter
18		***Tram-Train***
19		Other ***(see article (1)(4) of directive (EU) 2016/797)***~~(tramways, light rail vehicles, etc.)~~
31	Hauled passenger vehicles	***Coach*** ~~***Passenger coach (incl. sleeping cars, restaurant, etc.)***~~
32		Reserved
33		Van
34		Reserved
35		Car carrier
36		***Driving Coach***
37		***Reserved*** ~~***Vehicle for services (e.g. kitchen)***~~
38		***Driving Van***
39		Fixed rake of coaches
40		Reserved
41		Other
42-49		Reserved
51	Freight wagons (hauled)	Freight wagon
52		Reserved
53		Fixed rake of freight wagons
54		***Separate rail bogies connected to compatible road vehicle(s)***

Code	Category	Subcategory
55-59		Reserved
71	Special vehicles	Self-propelled special vehicle – ***This code shall not be used after 2023-08-10***
72		***On track Machines (OTMs)***
73		Hauled special vehicle - ***This code shall not be used after 2023-08-10***
74		***Infrastructure inspection vehicles***
75		***Environment vehicles***
76		***Emergency vehicles***
77		***Road-Rail vehicles***
78		Reserved
79		Reserved

7.3. Updated parameter's dependencies to Gauge, Energy, CCS.

In ERATV, parameters may have a dependency to the selected values of Gauge, CCS and Energy.

These parameter's dependencies have been updated following Commission Implementing Decision (EU) 2023/1696. The list of updated parameters' dependencies is listed in Table 10.

Table 10 - Updated parameter's dependencies to Gauge, Energy, CCS

#	Parameter	Parameter Multiple Configuration Specification		
		4.1.3 Wheel Set Gauge	4.10.1 Energy Supply System	4.13.1.1 ETCS equipment on-board and its level 4.13.1.5 Train B or other train protection
4.1.2.1	Maximum design speed	Removed	Removed	Removed
4.1.5	Maximum number of trainsets or locomotives coupled together in multiple operation.	Removed	Removed	Removed
4.5.1	Permissible payload for different line categories	Removed		
4.5.3.4	Position of the axles along the unit (axle spacing): a: Distance between axles b: Distance from end axle to the end of the nearest coupling plane c: distance between two inside axles	Removed	Removed	Removed

#	Parameter	Parameter Multiple Configuration Specification		
		4.1.3 Wheel Set Gauge	4.10.1 Energy Supply System	4.13.1.1 ETCS equipment on-board and its level 4.13.1.5 Train B or other train protection
4.5.5	Total vehicle mass (for each vehicle of the unit)	Removed	Removed	Removed
4.5.6	Mass per wheel	Removed	Removed	Removed
4.6.4	Combination of maximum speed and maximum cant deficiency for which the vehicle was assessed		Removed	Removed
4.6.5	Rail inclination	Removed	Removed	Removed
4.7.2.1.6	Maximum brake thermal energy capacity	Removed	Removed	Removed
4.7.3.4	Parking brake	Removed	Removed	Removed
4.7.5	Emergency brake: Stopping distance and deceleration profile for each load condition per design maximum speed	Removed	Removed	Removed
4.7.6	For general operation: Brake weight percentage (lambda) or Braked mass	Removed	Removed	Removed
4.7.7	Service brake: At maximum service brake: Stopping distance, Maximum deceleration, for the load condition 'design mass under normal payload' at the design maximum speed.	Removed	Removed	Removed
4.7.8	Wheel slide protection system	Removed	Removed	Removed
4.10.14	Electric units equipped with power or current limitation function	Removed		Removed
4.10.15	Mean contact force	Removed		Removed

As an example, parameter [4.1.2.1 Maximum design speed] used to have dependencies to Gauge, Energy and CCS, which could imply that the parameter had to be filled in more than once (once per combination of Gauge, CCS and Energy). An example is shown on Figure 1 below.

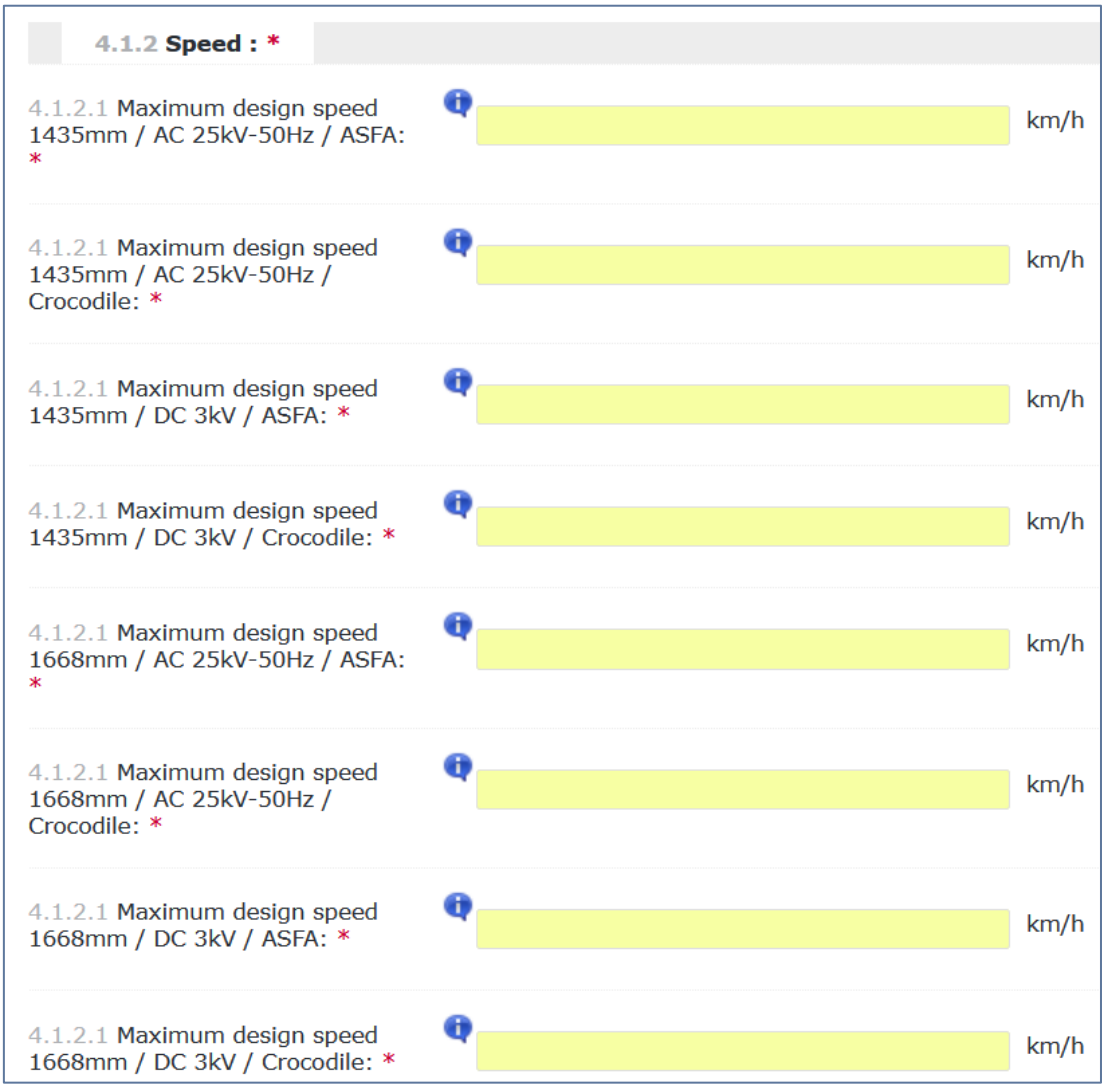


Figure 1 – Parameter 4.1.2.1 previous dependencies to Gauge, Energy and CCS

Starting with the release 3.0 of ERATV, this parameter (among those others listed in Table 10) does not have any more dependencies, and therefore it will only appear once. An example is shown on Figure 2 below.

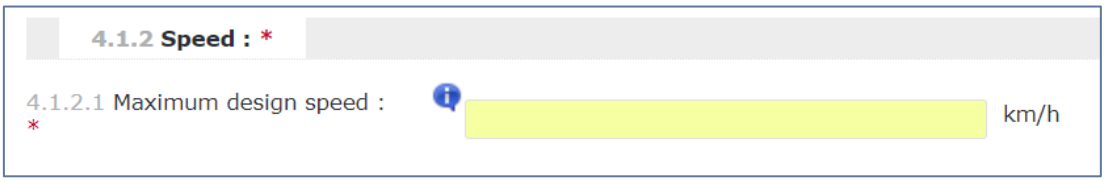


Figure 2 – Parameter 4.1.2.1 without dependencies

This change implies the following:

- **Published records:** Existing published records will remain as they are.

- **New records or existing draft records:** Any new record, or any existing draft will require these parameters to be filled in again (as now there are no more dependencies)

- **Modification or correction to published records:** Any modification/correction to an existing published record will require these parameters to be reviewed, and to be filled in again. The previous existing values of the parameters can always be consulted in the published record.

7.4. "Others" option for some parameters values removed

The following parameters in Table 11 have had their lists of possible values modified. These parameters will not have any more, as a possible value, the option "other", which allowed the user to introduce any value.

This implies that any modification or correction to a Type which would contain an "other" value would get this value removed by ERATV.

Table 11 - Parameters with "Others" option removed

Parameter Number	***Parameter Name***
4.3.1	Temperature range
4.3.3	Snow, ice and hail conditions
4.6.5	Rail inclination
4.9.2	Axle bearing condition monitoring (hot axles box detection)
4.13.1.5	Class B or other train protection, control and warning legacy systems installed (system and, if applicable, version)
4.13.2.3	Class B or other radio legacy systems installed (system and, if applicable, version)
4.12.3.1	Platform heights for which the vehicle is designed.

For example, parameter [4.3.3. Snow, ice and hail conditions] previously allowed the users to introduce any "Other" value, as in Figure 3:

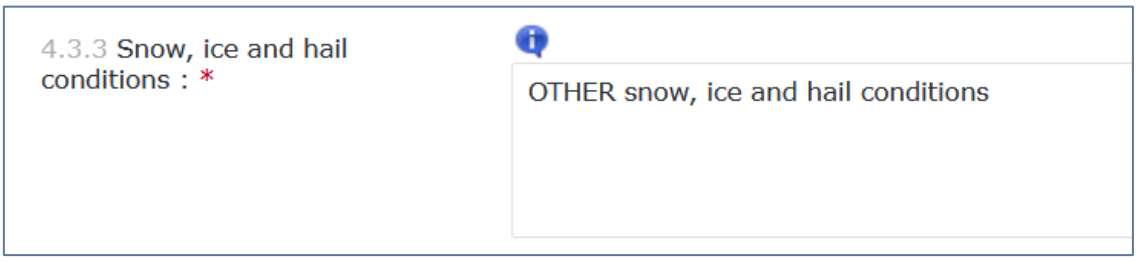


Figure 3 – Parameter 4.3.3 with "Other" value

Starting with release 3.0 of ERATV, this parameter (among others) does not allow any more the option "Other), as in Figure 4:

Figure 4 – Parameter 4.3.3 with no "Other" option.

This change implies that:

- **Published records**: Existing published records will remain as they are.

- **New records or Existing drafts**: Any new record, or any existing draft will not allow any value to be filled in under the option "Other" for the parameters above. If an "Other" value was already added in an existing *draft,* the "other" value will be removed.

- **Modification/correction to an existing published:** Any modification or correction to an existing published record will require all the above parameters in Table 11 to be reviewed. If any of those parameters was filled in with a value introduce by using the option "Other", this value will get removed.

  Special attention must be paid to parameter [4.13.1.5 Class B or other train protection, control and warning legacy systems installed (system and, if applicable, version)]. If an "Other" value was used for this parameter, this value will be removed. The removal of this value in 4.13.1.5 will have an impact on any other parameters depending on parameter [4.13.1.5 Class B or other train protection, control and warning legacy systems installed (system and, if applicable, version)].
  For example, the removal of the "other" option in parameter 4.13.1.5 will imply that the following parameters are affected (as they depend on the value of 4.13.1.5). Therefore, the following parameters need to be reviewed, and filled in again:
  - 2.1 Conformity with TSI and Sections not complied with
  - 2.3 Applicable specific cases (specific cases conformity with which has been assessed)
  - 3.1.2.3 Coded conditions for use and other restrictions
  - 3.1.2.4 Non-coded conditions for use and other restrictions
  - 3.1.3.1.5 Parameters for which conformity to applicable national rules has been assessed

7.5. New Registration method: "New type from a registered type".

Starting with ERATV 3.0, a new registration method (exclusively under registration Regime Directive (EU) 2016/797) exists. This new registration method allows to create a *New type from a registered type.*

A new Type (from a registered Type) can be created following a new authorisation 14(1)(d) or an extension of the area of use 14(1)(c) if:

- Applicant is the Authorisation Holder, and so decides.
- Applicant is not the Authorisation Holder.

For further details, please see section 3.3.3.4 of VA guidelines[2] version 2.1.

[2] https://www.era.europa.eu/system/files/2024-02/ERA1209-222%20Guidelines%20for%20PA%20VA%202.1.pdf

8. Annex IV – Coded restrictions duplicating technical parameters

There may be a duplication of values between different sections of an ERATV record. For example, the maximum design speed is typically found in ERATV under parameters 4.1.2.1 and 3.1.2.3, with code 1.3 referring to "Speed restrictions in Km/h." In simple cases, the value for the parameter 3.1.2.3 is equal to the value for parameter 4.1.2.1. It should be noted that, while parameter 4.1.2.1 represents a unique value in ERATV (regardless of the combinations of gauge, electrification or train protection system), parameter 3.1.2.3 varies depending on the combination.

When there are no differences between the technical parameter and the corresponding coded restriction (e.g. no actual limitation or constraint as compared to the nominal value), this should not be considered as a coded restriction and should not be indicated as such in the application form nor in the issue type authorisation / ERATV.

In other words, duplication of values in ERATV (e.g. repeating the same value in different places, which means there is no restriction as compared to the nominal value) should be avoided; the relevant coded condition for use and other restriction should be left empty.

The coded restrictions that (may) duplicate technical parameters in ERATV are:

Table 12 - Relationship between ERATV parameters and coded-restrictions

Coded restriction	*ERATV parameter*
1.1 Minimum curve radius	4.8.4 Minimum horizontal curve radius capability
1.2 Track circuit restrictions	4.14.1 Type of train detection systems for which the vehicle is designed & assessed
1.3 Speed restrictions	4.2.1.2 Maximum design speed
1.4 Use in multiple operation	4.1.5 Maximum number of trainsets or locomotives coupled together in multiple
2.1 Kinematic gauge	4.2.1 Reference profile
2.2.1 to 2.2.8 Wheelset gauge	4.1.3 Wheelset gauge
2.3 No CCS on board	4.13.1.11 Envelope of legally operated ETCS system versions (1)
2.4.10 ETCS	4.13.1.11 Envelope of legally operated ETCS system versions
2.4.20 GSM-R voice	4.13.2.1 GSM-R Radio voice on board and its Baseline
2.4.21 GSM-R for ETCS	4.13.2.7 GSM-R Radio Data communication on board and its Baseline
2.5.1xx Class B signalling system	4.13.1.5 Class B or other train protection control and warning systems installed (2)
2.5.2xx Class B radio system	4.13.2.3 Class B or other radio systems installed (2)
3.1.1 to 3.1.4 Climatic zone	4.3.1 Temperature range
4.1 Time based restriction on use	3.1.2.2 Validity of authorisation

(1) When "None" option is selected for a vehicle that can be fitted with CCS and has driving cabs

(2) The system referred to in ERA/TD/2011-09 Appendix 2 table 5 (2.6.1.201 SSC BL3 - Italy) does not qualify for a Class B signalling system on-board; if this is the only CCS signalling system on board, 4.13.1.5 should be filled in as "None". Similarly, the system referred to in ERA/TD/2011-09 Appendix 2 table 6 (2.6.2.201 TETRA-URCA - Finland) does not qualify for a Class B radio system on-board; if this is the only CCS radio system on board, 4.13.2.3 should also be filled in as "None". Both codes 2.6.1.201 and 2.6.2.201 are used for systems that are neither ERTMS nor listed as Class B system and are kept for historical compatibility purposes.

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9. Annex V - Alignments between RINF and ERATV

In accordance with Annex I, 2.5 of Commission Implementing Decision 2011/665/EU, the following updates on the list of ERATV parameter's reference values are done in order to align RINF and ERATV.

9.1. Updates to Parameter [4.12.3.1 Platform heights for which the vehicle is designed].

The values of the reference list of parameter [4.12.3.1 Platform heights for which the vehicle is designed] have been updated as follow:

Old value	Comment	New value
Specific case Estonia, Latvia and Lithuania: 200 mm	Transformed into 200 mm	200 mm
550 mm	Unchanged	550 mm
760 mm	Unchanged	760 mm
900 mm	Unchanged	900 mm
Specific case Ireland: 915 mm	Transformed into 915 mm	915 mm
Specific case Germany: 960 mm	Transformed into 960 mm	960 mm
385 mm	Deactivated	
750 mm	Deactivated	
Specific case Austria, Germany: 550 mm, 960 mm	Deactivated	
Specific case Portugal: 685 mm or 900 mm	Deactivated	
Specific case Spain: 760 mm, 680 mm, 550 mm	Deactivated	
Specific case UK: 915 mm	Deactivated	
Other (specify)	Deactivated	
	New value	220 mm
	New value	250 mm
	New value	280 mm
	New value	300 mm
	New value	350 mm
	New value	360 mm
	New value	380 mm
	New value	580 mm
	New value	680 mm
	New value	685 mm
	New value	730 mm

Old value	**Comment**	**New value**
	New value	840 mm
	New value	920 mm
	New value	1100 mm
	New value	Not applicable for Locomotives