

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.

Document History

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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 |

| <i>Reference</i> | <i>Title</i> |
|------------------|--|
| [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] | <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> |
| [10] | <p>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</p> <p>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</p> |

| Reference | Title |
|-----------|--|
| [11] | <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> |
| [12] | <p>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</p> <p>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</p> <p>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</p> <p>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</p> |

| Reference | Title |
|-----------|--|
| [13] | <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>Appendix G - List of fully approved composite brake blocks for international transport</p> <p>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</p> <p>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</p> <p>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</p> |
| [14] | <p>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</p> <p>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</p> <p>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</p> <p>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</p> |

| Reference | Title |
|-----------|---|
| [15] | <p>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</p> <p>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</p> <p>Commission Implementing Regulation (EU) 2017/6 of 5 January 2017 on the European Rail Traffic Management System European deployment plan</p> <p>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</p> |
| [16] | <p>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</p> <p>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</p> <p>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</p> |
| [17] | <p>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</p> <p>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</p> <p>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</p> |

| <i>Reference</i> | <i>Title</i> |
|------------------|--|
| [18] | <p>Commission Implementing Regulation (EU) 2019/775 of 16 May 2019 amending Regulation (EU) No 454/2011 as regards Change Control Management</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> |
| [19] | <p>Commission Implementing Regulation (EU) 2019/775 of 16 May 2019 amending Regulation (EU) No 454/2011 as regards Change Control Management</p> <p>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)</p> <p>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</p> |
| [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

| <i>Term</i> | <i>Definition</i> |
|---|--|
| 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) |

| <i>Term</i> | <i>Definition</i> |
|-----------------------------------|---|
| 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

| <i>Abbreviation</i> | <i>Full text</i> |
|---------------------|--|
| 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 |

| <i>Abbreviation</i> | <i>Full text</i> |
|---------------------|--|
| 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 |

| <i>Abbreviation</i> | <i>Full text</i> |
|---------------------|--|
| 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

| <i>Actor</i> | <i>Roles and responsibilities</i> |
|--|---|
| <i>Applicant for an authorisation of type of vehicle</i> | Submits the set of data required for ERATV to the relevant Authorising Entity |

| <i>Actor</i> | <i>Roles and responsibilities</i> |
|---|--|
| <i>Authorising Entity (NSA or ERA acting as Authorising Entity)</i> | 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. |
| <i>ERA</i> | 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

| <i>Exceptional mode registration case</i> | <i>ERATV exceptional mode registration option</i> |
|---|---|
| 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. |

| <i>Exceptional mode registration case</i> | <i>ERATV exceptional mode registration option</i> |
|--|---|
| 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 <i>Type ID</i> , 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 |
| 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 | Example : Variant 1 with 2 versions: 13-013-001-6-001- 001 13-013-001-6-001- 002 Variant 2 with 1 version: 13-013-001-6-002-001 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) |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|--------------|---|---|---|
| 1 | General information | Heading (no data) | |
| 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) | |
| 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 | |
| 1.3.1.2 | Registered business number | Text | <p>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.</p> <p>Examples of registered business numbers from different countries would be:</p> <p>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</p> |

| # | 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 |
| 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 | |
| 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 |
| 2 | Conformity with TSIs | Heading (no data) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|-----|--|---|--|
| 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. |
| 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) | <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.).</p> <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 6.1.1.3. Partial fulfilment of TSI requirements <p>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.</p> |
| 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 | <p>The format of the area of use is:</p> <p>MS1(Network1,Network2,...)+MS2(NeighbourStation1,NeighbourStation2,...)+MS3(NeighbourStation3)+...,MS4(Network3,Network4,...)+MS5(NeighbourStation4)+MS6(NeighbourStation5)+...,MS5(Network5)</p> <p>Legend:</p> <ul style="list-style-type: none"> + 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. <p>For example:</p> <p>FR(FrenchNetwork1,FrenchNetwork2)+BE(Quievrain,Mons)+CH(Genève),ES(SpanishNetwork)+PT(Elvas),IT(RFI)</p> <p>The above example is read as if the area of use covers:</p> <ul style="list-style-type: none"> - 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) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|--------------|---|---|--|
| 3.1.2 | Current status | Heading (no data) | |
| 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] <i>Set of specifications #1</i> , their status is to be changed to “ <i>to be renewed</i> ” under some conditions explained in the CCS TSI [15] application guide located at: https://www.era.europa.eu/sites/default/files/ertms_tsi_guide_annex01_ccs_tsi_en.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. |
| 3.1.2.3 | Coded conditions for use and other restrictions | [character string] Code assigned by the Agency | 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. |
| 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) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|--------------------|---|--------------------------|---|
| 3.1.3.1 | Original authorisation | Heading (no data) | |
| 3.1.3.1.1 | Date of the original authorisation | [date] YYYYMMDD | <p>Date on which the type authorisation being recorded was issued (not the date of entry in ERATV).</p> <p>For a variant of a registered type, this date is the date of the issuing of the authorisation of the variant.</p> <p>For a version of a registered type, this date is:</p> <ul style="list-style-type: none"> - If no authorisation was issued: this is the date of the creation of the version, not the date of authorisation of the “father” type of this version (the previously registered type). <p>For example:</p> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> <u>Registered type “A”</u> Date: 2019-09-25 </div> <div style="margin-right: 10px;">→</div> <div style="border: 1px solid black; padding: 5px;"> <u>Version of “registered type A”</u> Date of creation of the version: 2020-02-06 3.1.3.1.1 Date of the original authorisation: 2020-02-06 </div> </div> <ul style="list-style-type: none"> - If an authorisation was issued for this version (extension of area of use, which requires an authorisation), this is the date of the issuing of the authorisation of the version. |
| 3.1.3.1.2 | Authorisation holder | Heading (no data) | |
| 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 | |
| 3.1.3.1.2.1.2 | Registered business number | Text | See explanation in parameter 1.3.1.2 |
| 3.1.3.1.2.1.3 | Organisation code | Alphanumeric code | As defined in Commission Implementing Decision (EU) 2018/1614, Annex II, 3.4.2 |
| 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 | |
| 3.1.3.1.2.2.4 | Post code | Alphanumeric code | |
| 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. |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|-----------|---|--|---|
| 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 | |
| 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 means: <ul style="list-style-type: none"> 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" |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|--------------------|---|--|--|
| 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 | |
| 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 |
| 3.1.3.X.3.2 | Authorisation holder contact data | Heading (no data) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|---------------|---|--|-------------------------------------|
| 3.1.3.X.3.2.1 | Address of organisation, street and number | Text | |
| 3.1.3.X.3.2.2 | Town | Text | |
| 3.1.3.X.3.2.3 | Country code | Code as in EU interinstitutional style guide | |
| 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) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|--------------|--|--|--|
| 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 |
| 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 zero (0). |
| 4.1.2 | Speed | Heading (no data) | |

| | | | |
|---------|----------------------|---------------|---|
| 4.1.2.1 | Maximum design speed | [Number] km/h | <p>TSI LOC&PAS 1302/2014:</p> <ul style="list-style-type: none"> - 4.2.3.2.1 Axle load parameter - 4.2.8.1.2 Requirements on performance <p>CR TSI LOC&PAS 2011/291/EU:</p> <ul style="list-style-type: none"> - 4.2.8.1.2 Requirements on performance <p>HS TSI 2008/232/EU:</p> <ul style="list-style-type: none"> - 4.2.1.1b Requirements on performance <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.2 On-board ETCS functionality <p>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.</p> <p>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, they are to be reflected within parameter [3.1.2.3 Coded conditions for use and other restrictions: <i>1.3 Speed restrictions in Km/h</i>]</p> <p>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)</p> <p>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). Examples:</p> <ul style="list-style-type: none"> - S wagon (100 km/h laden) that can run 120 m/h empty: <ul style="list-style-type: none"> • Maximum design speed (parameter 4.1.2.1) -> 100 km/h (nominal) • Speed restriction (parameter 3.1.2.4 Non-Coded conditions for use and other restrictions) -> 120 km/h empty (exceptional) |
|---------|----------------------|---------------|---|

| # | Parameter | Data format | Comments and applicable TSI clauses |
|-------|--|--|--|
| | | | <ul style="list-style-type: none"> - SS wagon (120 km/h laden or empty): <ul style="list-style-type: none"> • Maximum design speed (parameter 4.1.2.1) -> 120 km/h (nominal) • No particular speed restriction in parameter 3.1.2.4 (exceptional = nominal) - S/SS wagon covered by a single type authorisation <ul style="list-style-type: none"> • Maximum design speed (parameter 4.1.2.1) -> 120 km/h (SS laden) (nominal) • Speed restriction (parameter 3.1.2.4) -> 100 km/h (S laden) - S wagon with *** marking in the load table <ul style="list-style-type: none"> • Maximum design speed (parameter 4.1.2.1) -> 100 km/h (laden) • Speed restriction (parameter 3.1.2.4) -> 120 km/h (S empty), 120 km/h S loaded in a 120 km/h train depending on overall train brake performance |
| 4.1.3 | Wheel set gauge | [character string] Selection from predefined list | TSI LOC&PAS 1302/2014: <ul style="list-style-type: none"> - 4.2.3.5.2.1. Mechanical and geometric characteristics of wheelsets TSI WAG 321/2013: <ul style="list-style-type: none"> - 4.2.3.6.2. Characteristics of wheelsets |
| 4.1.5 | Maximum number of trainsets or locomotives coupled together in multiple operation. | [number] | TSI LOC&PAS 1302/2014: <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> - 4.1.2. Description of the Rolling stock subject to the application of this TSI HS TSI 2008/232/EU: <ul style="list-style-type: none"> - 4.2.1.2. Design of trains |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|------------|---|---|--|
| 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 |
| 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) | |
| 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 |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|--------------|---|--|---|
| 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 |
| 4.4 | Fire safety | Heading (no data) | |
| 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]. |
| 4.5.2 | Design 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 |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|--------------|--|--------------------------|---|
| 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 |
| 4.5.3 | 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. <i>Position of the axles along the unit (axle spacing)</i> 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) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|----------------|---|---|--|
| 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 |
| 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/s ² | 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) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|-----------|--|---|---|
| 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 |
| 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 |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|--------------|--|--------------------------|---|
| 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 |
| 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 <i>Comments</i> 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” |
| 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 |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|----------------|--|--------------------------|---|
| 4.7.3.4 | Parking brake | [Boolean] Y/N | 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 |
| 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 |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|----------------|--|--------------------------|---|
| 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) | |
| 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 | <p>TSI LOC&PAS 1302/2014:</p> <ul style="list-style-type: none"> - 4.2.4.5.2 Emergency braking <p>CR TSI LOC&PAS 2011/291/EU:</p> <ul style="list-style-type: none"> - 4.2.4.5.2 Emergency braking <p>HS TSI 2008/232/EU:</p> <ul style="list-style-type: none"> - 4.2.4. Braking <p>Load conditions as defined in clause 4.2.2.10 of TSI LOC&PAS 1302/2014 are:</p> <ul style="list-style-type: none"> - Design mass under exceptional payload - Design mass under normal payload - Design mass in working order <p>For deceleration profile, provide the maximum deceleration for each load case.</p> |
| 4.7.6 | For general operation: Brake weight percentage (lambda) or Braked mass | Lambda (%) [number] tonnes | <p>TSI LOC&PAS 1302/2014:</p> <ul style="list-style-type: none"> - 4.2.4.5.2 Emergency braking <p>CR TSI LOC&PAS 2011/291/EU:</p> <ul style="list-style-type: none"> - 4.2.4.5.2 Emergency braking |
| 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 | <p>TSI LOC&PAS 1302/2014:</p> <ul style="list-style-type: none"> - 4.2.4.5.3 Service braking <p>CR TSI LOC&PAS 2011/291/EU:</p> <ul style="list-style-type: none"> - 4.2.4.5.3 Service braking <p>HS TSI 2008/232/EU:</p> <ul style="list-style-type: none"> - 4.2.4. Braking <p>TSI WAG 321/2013:</p> <ul style="list-style-type: none"> - 4.2.4.3.2.1. Service brake |

| # | 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 TSI WAG 321/2013: - 4.2.3.6.3 Characteristics of wheels |
| 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 |
| 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 |
| 4.9 | Equipment | Heading (no data) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|-------------|--|---|--|
| 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 |
| 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 |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|---------|--|---|--|
| 4.10.5 | Height of interaction of pantograph with contact wires (over top of rail) (to be indicated for each energy supply 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 |
| 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 |
| 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 |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|-------------|--|--------------------------|---|
| 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 |
| 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. |
| 4.12 | Passenger related characteristics | Heading (no data) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|---------------|--|---|--|
| 4.12.3.1 | Platform heights for which the vehicle is designed. | [Number] from predefined list (multiple selection possible) | <p>TSI PRM 1300/2014:</p> <ul style="list-style-type: none"> - 4.2.2.11. Step position for vehicle access and egress <p>TSI PRM 2008/164/EU:</p> <ul style="list-style-type: none"> - 4.2.2.12. Step position for vehicle access and egress <p>For Locomotives it is not applicable. Therefore, please indicate, by using the option “Other”, the text “Not applicable for locomotives”:</p> <div> <input type="checkbox"/> <input checked="" type="checkbox"/> Other (specify) <input type="text"/> </div> <div> Value: <input type="text"/> Not applicable for locomotives </div> |
| 4.13 | On-board CCS equipment (for vehicles with a driving cab only) | Heading (no data) | |
| 4.13.1 | Signalling | Heading (no data) | |
| 4.13.1.1 | ETCS equipment on-board and the set of specifications from CCS TSI Annex A | [Character string] From a predefined list | <p>The regulation or the latest amendment applicable to the subsystem as indicated in the EC Declaration of Verification.</p> <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.2 On-board ETCS functionality <p>The predefined list values are defined in the CCS TSI Annex A (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02016R0919-20200311).</p> |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|---------------|---|---|---|
| 4.13.1.5 | Class B or other train protection, control and warning systems installed (system and, if applicable, version) | [Character string] From a predefined list (more than one option possible) | CCS TSI 2019/776: <ul style="list-style-type: none"> - 2.2 (1) train protection 4.2.6.1 ETCS and Class B train protection Note on the predefined list values: <ul style="list-style-type: none"> - 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 Table 3 and 5 of the Agency's technical document "List of harmonised and national restriction codes" (ERA/TD/2011-09/INT). 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 2019/776: <ul style="list-style-type: none"> - 4.2.2 On-board ETCS functionality - 7.2.1a.1.11 System Identifier |
| 4.13.1.8 | ETCS System Compatibility | [Character string] From a predefined list (more than one option possible) | CCS TSI 2019/776: <ul style="list-style-type: none"> - 4.2.17.1 ETCS System Compatibility Note on the predefined list values: <ul style="list-style-type: none"> - "Not applicable": ETCS is not installed or not authorised in the vehicle. - "ESC-EU-0": The on-board subsystem only have 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 <i>ESC/RSC Technical document</i> (https://www.era.europa.eu/sites/default/files/activities/docs/era_td-011rec1028_esc-rsc_technical_document_en.pdf) |
| 4.13.1.9 | Managing information about the completeness of the train | [Boolean] Y/N | CCS TSI 2019/776: <ul style="list-style-type: none"> - 4.2.2 On-board ETCS functionality |
| 4.13.2 | Radio | Heading (no data) | |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|----------|---|---|---|
| 4.13.2.1 | GSM-R Radio voice on board and its Baseline | [Character string] From a predefined list | <p>The regulation or the latest amendment applicable to the subsystem as indicated in the EC Declaration of Verification.</p> <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.4 Mobile communication functions for railways GSM-R - 4.2.4.2 Voice and operational communication application <p>The predefined list values are defined in the CCS TSI Annex A (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02016R0919-20200311).</p> |
| 4.13.2.3 | Class B or other radio systems installed (system and, if applicable, version) | [Character string] From a predefined list (more than one option possible) | <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 2.2 (2) voice radio communication - 4.2.5.1 Radio communication with the train <p>Note on the predefined list values:</p> <ul style="list-style-type: none"> - 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 Tables 4 and 6 of the Agency's technical document "List of harmonised and national restriction codes" (ERA/TD/2011-09/INT). A reference to the version of the system may also be included in the additional data field. |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|----------|--|---|--|
| 4.13.2.5 | Radio Voice System Compatibility | [Character string] From a predefined list (more than one option possible) | <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.17.2 Radio System Compatibility <p>Note on the predefined list values:</p> <ul style="list-style-type: none"> - “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. <p>The predefined list values are contained in the <i>ESC/RSC Technical document</i> (https://www.era.europa.eu/sites/default/files/activities/docs/era_td-011rec1028_esc-rsc_technical_document_en.pdf)</p> |
| 4.13.2.6 | Voice and operational communication implementation | [Character string] | <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.4 Mobile communication functions for railways GSM-R - 4.2.4.2 Voice and operational communication application |
| 4.13.2.7 | GSM-R Radio Data communication on board and its Baseline | [Character string] From a predefined list | <p>The regulation or the latest amendment applicable to the subsystem as indicated in the EC Declaration of Verification.</p> <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.4 Mobile communication functions for railways GSM-R - 4.2.4.3 Data communication applications for ETCS <p>The predefined list values are defined in the CCS TSI Annex A (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02016R0919-20200311).</p> |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|-----------|--|---|--|
| 4.13.2.8 | Radio Data System Compatibility | [Character string] From a predefined list (more than one option possible) | <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.17.2 Radio System Compatibility <p>Note on the predefined list values:</p> <ul style="list-style-type: none"> - “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. <p>The predefined list values are contained in the <i>ESC/RSC Technical document</i> (https://www.era.europa.eu/sites/default/files/activities/docs/era_td-011rec1028_esc-rsc_technical_document_en.pdf)</p> |
| 4.13.2.9 | Data communication application for ETCS implementation | [Character string] | <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.4 Mobile communication functions for railways GSM-R - 4.2.4.3 Data communication applications for ETCS |
| 4.13.2.10 | Voice SIM Card GSM-R Home Network | [Character string] From a predefined list | <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.4 Mobile communication functions for railways GSM-R - 4.2.4.1 Basic communication function <p>The predefined list is made with the values agreed at the NMG group at UIC and published in the UIC document <i>N-9018 GSM-R network names and codes</i>. Please refer to the UIC for the document.</p> |
| 4.13.2.11 | Data SIM Card GSM-R Home Network | [Character string] From a predefined list | <p>CCS TSI 2019/776:</p> <ul style="list-style-type: none"> - 4.2.4 Mobile communication functions for railways GSM-R - 4.2.4.1 Basic communication function <p>The predefined list is made with the values agreed at the NMG group at UIC and published in the UIC document <i>N-9018 GSM-R network names and codes</i>. Please refer to the UIC for the document.</p> |

| # | Parameter | Data format | Comments and applicable TSI clauses |
|-------------|--|---|---|
| 4.13.2.12 | Voice SIM Card support of Group ID 555 | [Boolean] Y/N | CCS TSI 2019/776: - 4.2.4 Mobile communication functions for railways GSM-R - 4.2.4.2 Voice and operational communication application |
| 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 2019/776: - 4.2.10. Trackside Train Detection Systems - 4.2.11. Electromagnetic Compatibility between Rolling Stock and Control-Command and Signalling trackside equipment |

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.1. Register new type: Registration regime: <i>Directive (EU) 2016/797</i> . Registration method: <i>New type</i> |
| | | | A.2. New variant → allowed | A.2. Register new type: Registration regime: <i>Directive (EU) 2016/797</i> Registration method: <i>New variant</i> |
| | | | A.3. New version (2016/797) → allowed | A.3. Register new type: Registration regime: <i>Directive (EU) 2016/797</i> Registration method: <i>New version</i> |
| | | | 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.6.c. Register new type: Registration regime: <i>Directive (EU) 2016/797</i> Registration method: <i>New version of a registered type</i> |

| | 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. <i>New type</i> → allowed | B.1. Register new type: Registration regime: <i>Directive 2008/57/EC</i> Registration method: <i>New type of a new platform/registered platform</i> | Not applicable | Not applicable |
| | B.2. <i>New variant</i> → not allowed B.3. <i>New version (2016/797)</i> → not allowed B.4. <i>New version (2008/57)</i> → allowed B.5. <i>Additional type authorisation (2008/57)</i> : 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.4 Register new type: Registration regime: <i>Directive 2008/57/EC</i> Registration method: <i>New version of a registered type</i> B.5.a: Register authorisation | | |