

TSI OPE 2023

Clarification on SMS

Operational Changes for RUs and IMs

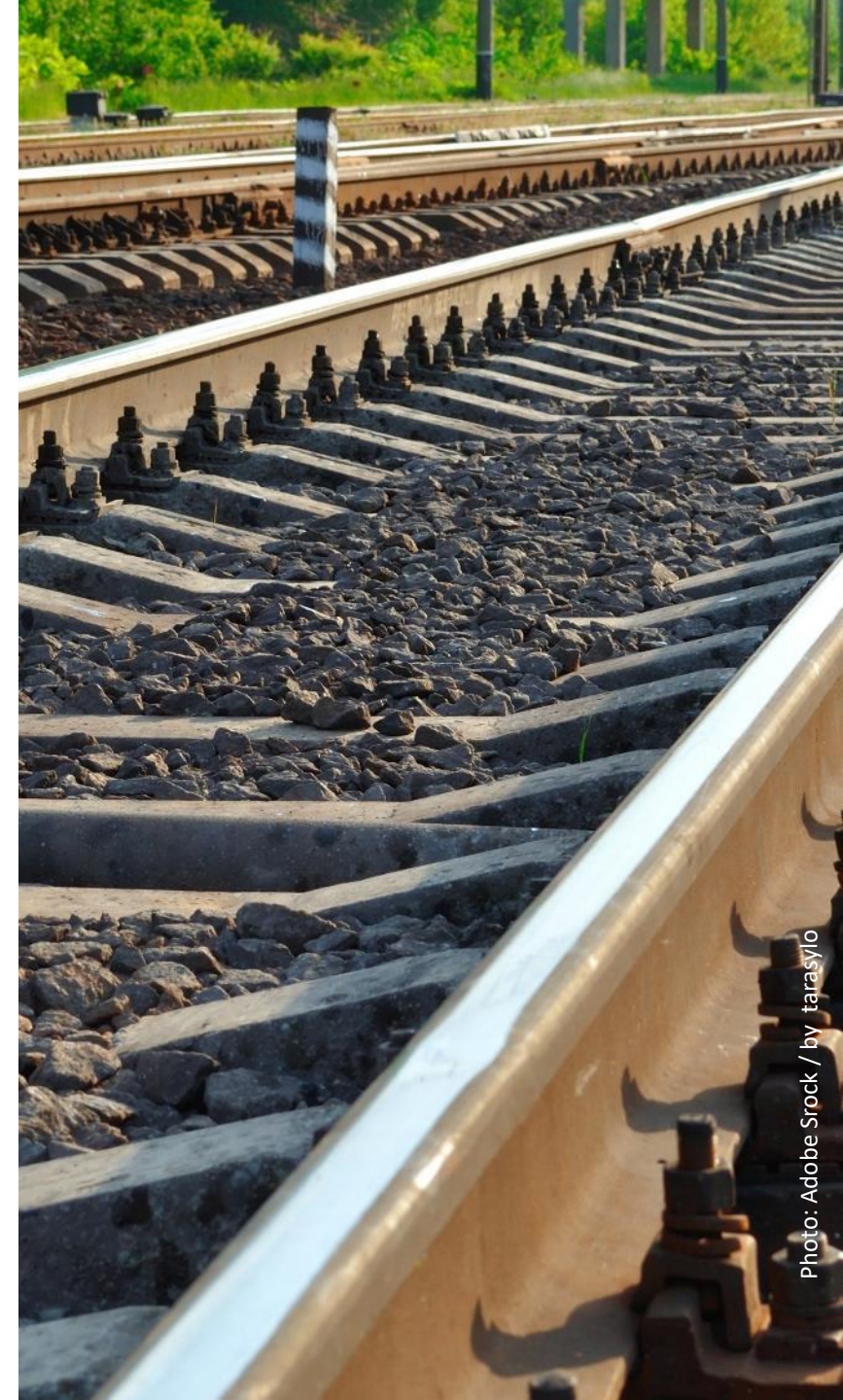
TSI Open Days | 20th of January 2025 | Warsaw



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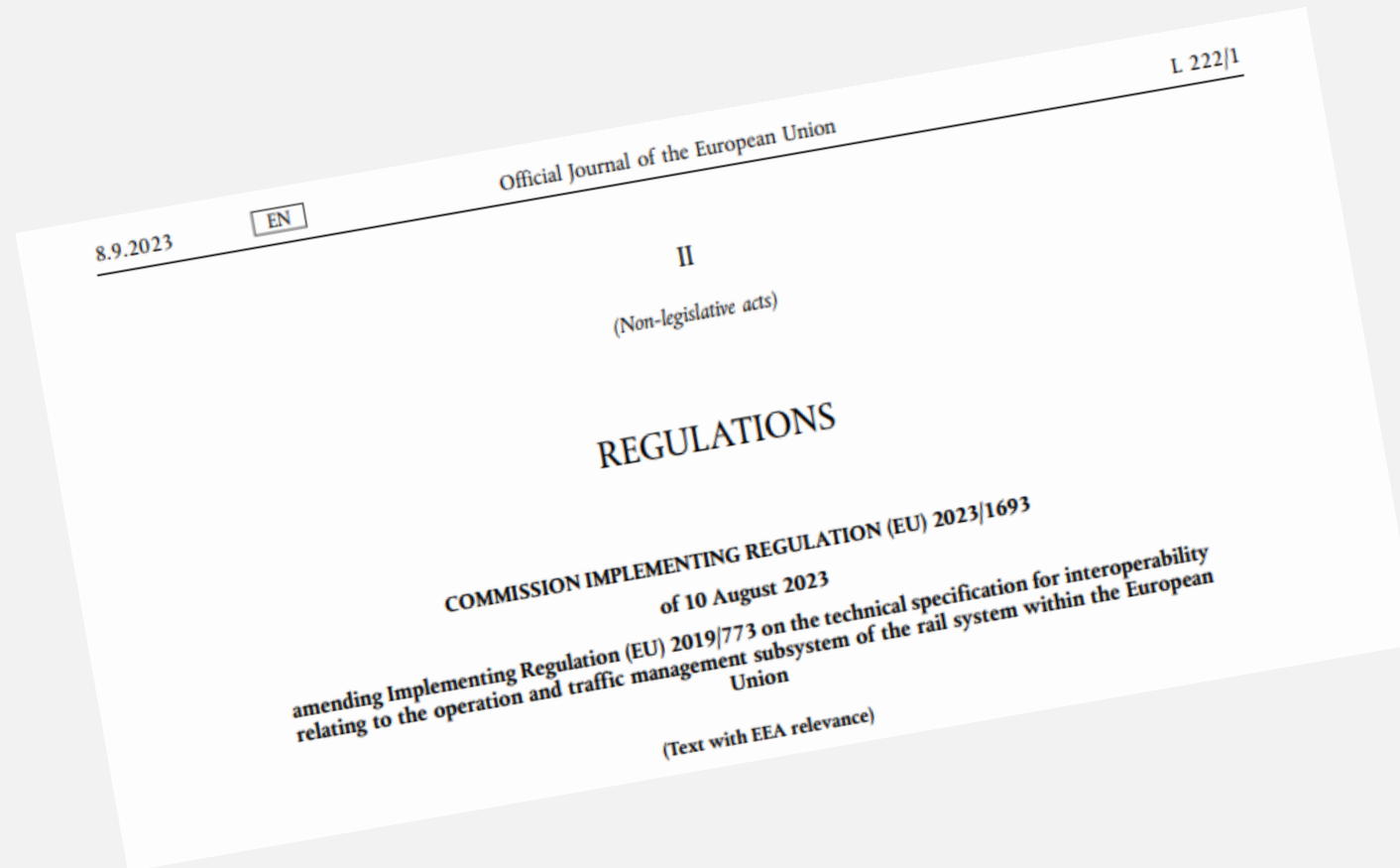
I. General Part

II. Key changes of TSI OPE and impact on SMSs



I. General part

- TSI OPE amendments have been published on the 08/09/2023 with the Commission Implementing Regulation(EU) 2023/1693.



28/03/2024

- Member States plan for national safety rules cleaning-up (6 months after entering into force)

16/06/2024

- TSI OPE 2019 Appendix A and Appendix C applied

28/06/2024

- RUs and IMs adapted their SMSs (9 months after entering into force)

01/01/2025

- Rear end signal by means of two reflective plates applicable on RFCs including ES and PT
- Exception for BE and FR

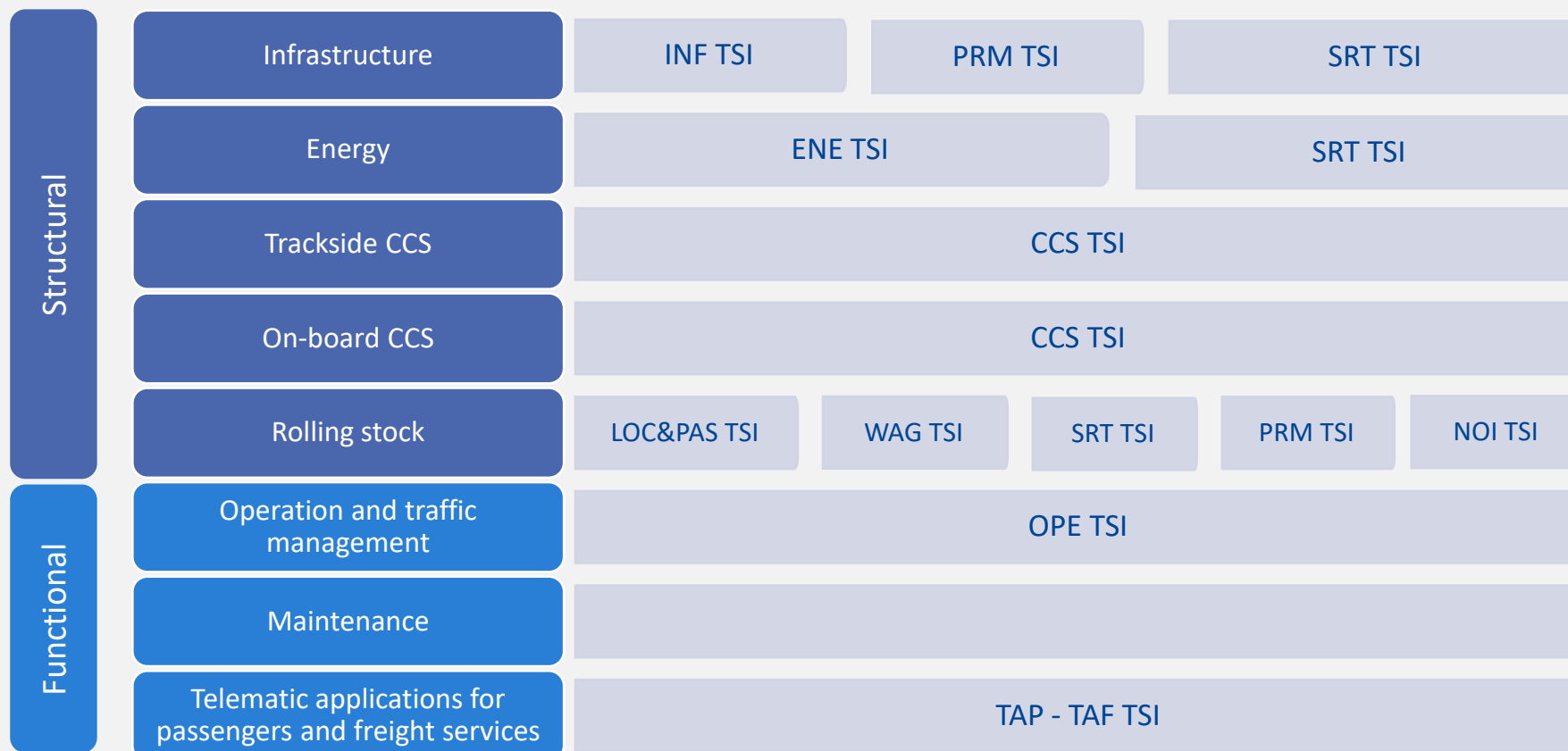
16/12/2025

- TSI OPE 2023 Appendix A and Appendix C applicable (IMs postponing implementation)

01/01/2026

- Rear end signal by means of two reflective plates applicable on all RFCs including BE and FR
- Rear end signal by means of two reflective plates applicable to the entire EU railway network

Technical specifications for interoperability



• WHAT is TSI OPE?

- ✓ Belonging to functional subsystem
- ✓ Sets out high-level requirements to be used to develop safe operational procedures as part of **the SMS**
- ✓ Focuses on the interfaces RU-IM relevant for interoperability as defined in Directive (EU) 2016/797 (IOD) – the safe and uninterrupted movement of trains
- ✓ Does not provide a complete description of railway operations → it **SHOULD NOT** be read in isolation and separated from other elements of EU legal framework, i.e., separately from directives (RSD, IOD, TDD), other TSIs, and especially CSMs on SMS, Monitoring and Risk Evaluation and Assessment

• PURPOSE of TSI OPE

- Provide a link to all operational preparations needed to ensure the safe end-to-end operation of passenger and freight trains, **in accordance with the responsibilities of Rus and Ims according to their own SMS**

- **What TSI OPE is NOT?**

- ❌ **A piece of legislation ...**

- ... RUs and IMs do not need to know about;

- ... that is not really needed as everything is covered in national rules and/ or dictated by IM;

- ... that can be introduced in the SMS without a real change in the approach (because RISK-based processes in SMS are a MUST!).

- ❌ **A set of sentences ...**

- ... that are enough for RU to say that they covered everything;

- ... to be copy/ pasted by RU without any reflection;

- ... that can be put into separate document (called e.g., SMS procedure “1a TSI OPE”) not linked to other SMS operational procedures and company rules (because lower level operational and work instructions need to be developed, etc.).

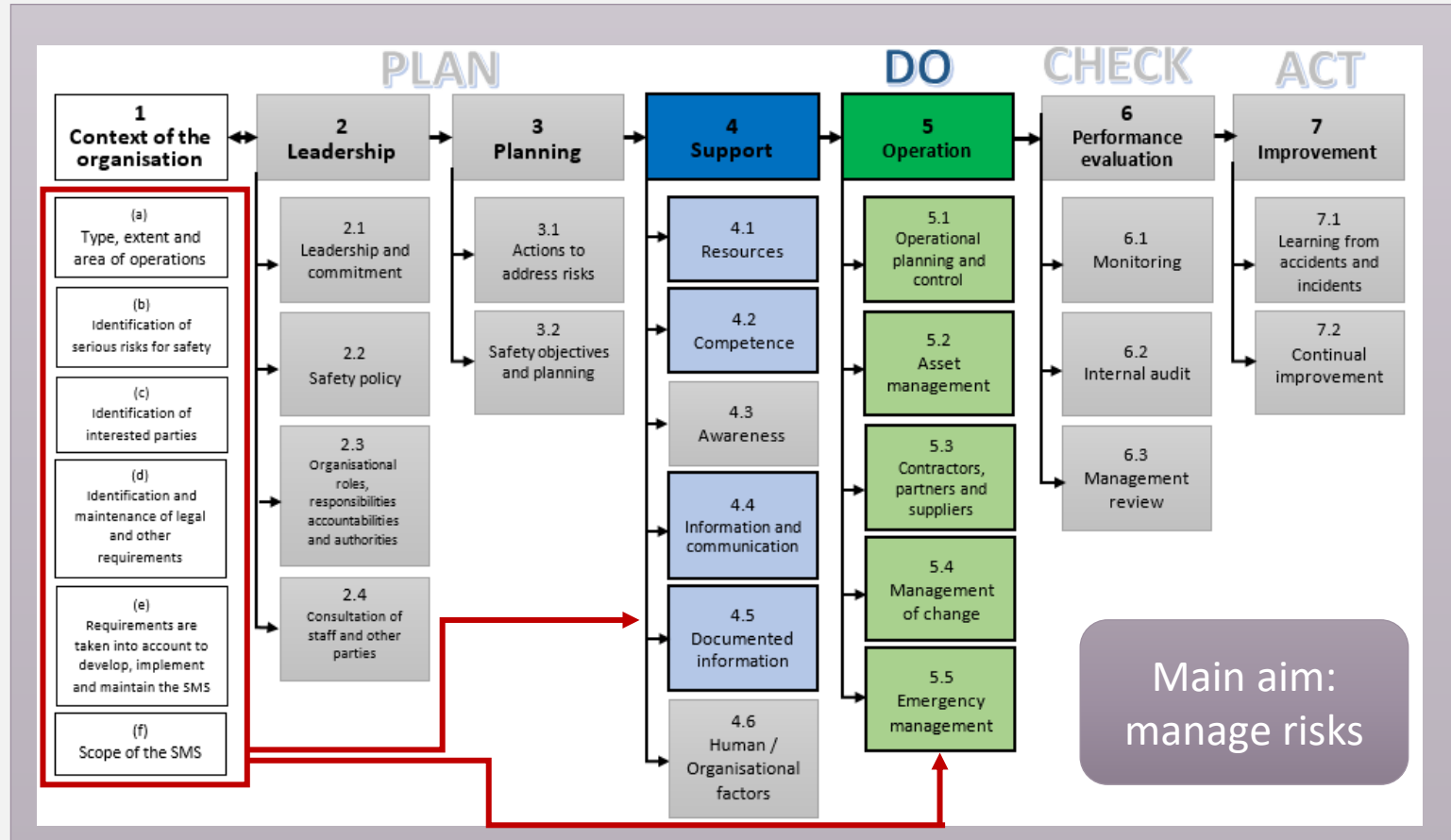


Links between the Common Safety Methods (CSM) on Safety Management System (SMS) and the Technical Specification for Interoperability Operation and traffic management (TSI OPE) with specific reference to:

Support functions to SMS elements related to criterion 4 “Support”	SMS requirements related to criterion 5 “Operation”
4.1 Resources	5.1 Operational planning and control
4.2 Competence	5.2 Asset management
4.3 Awareness	5.3 Contractors, partners and suppliers
4.4 Information and communication	5.4 Management of change
4.5 Documented information	5.5 Emergency management
4.6 Integration of HOF	

SMS criteria more related to operation

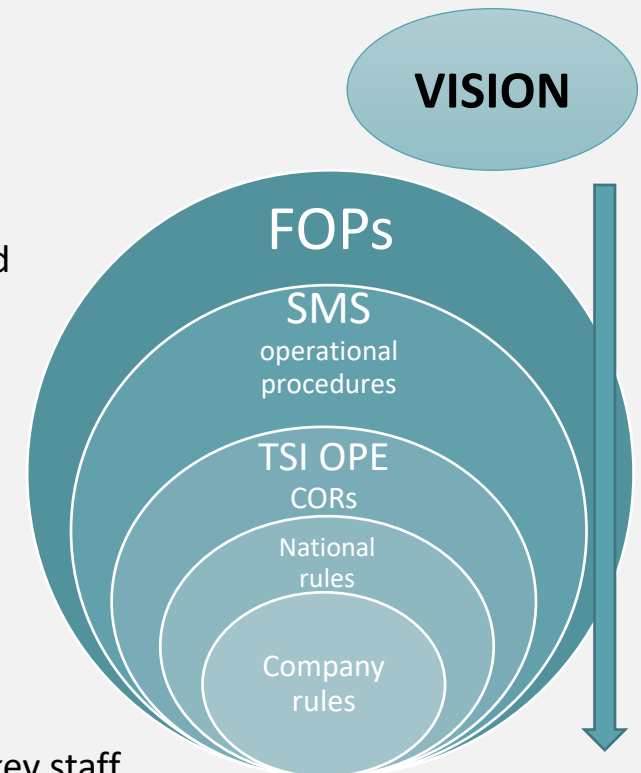
- What ?
- How many resources?
- Where ?
- The most serious risks?
- Who?
- Which applicable requirements ?
- The ‘perimeter’ of the SMS?



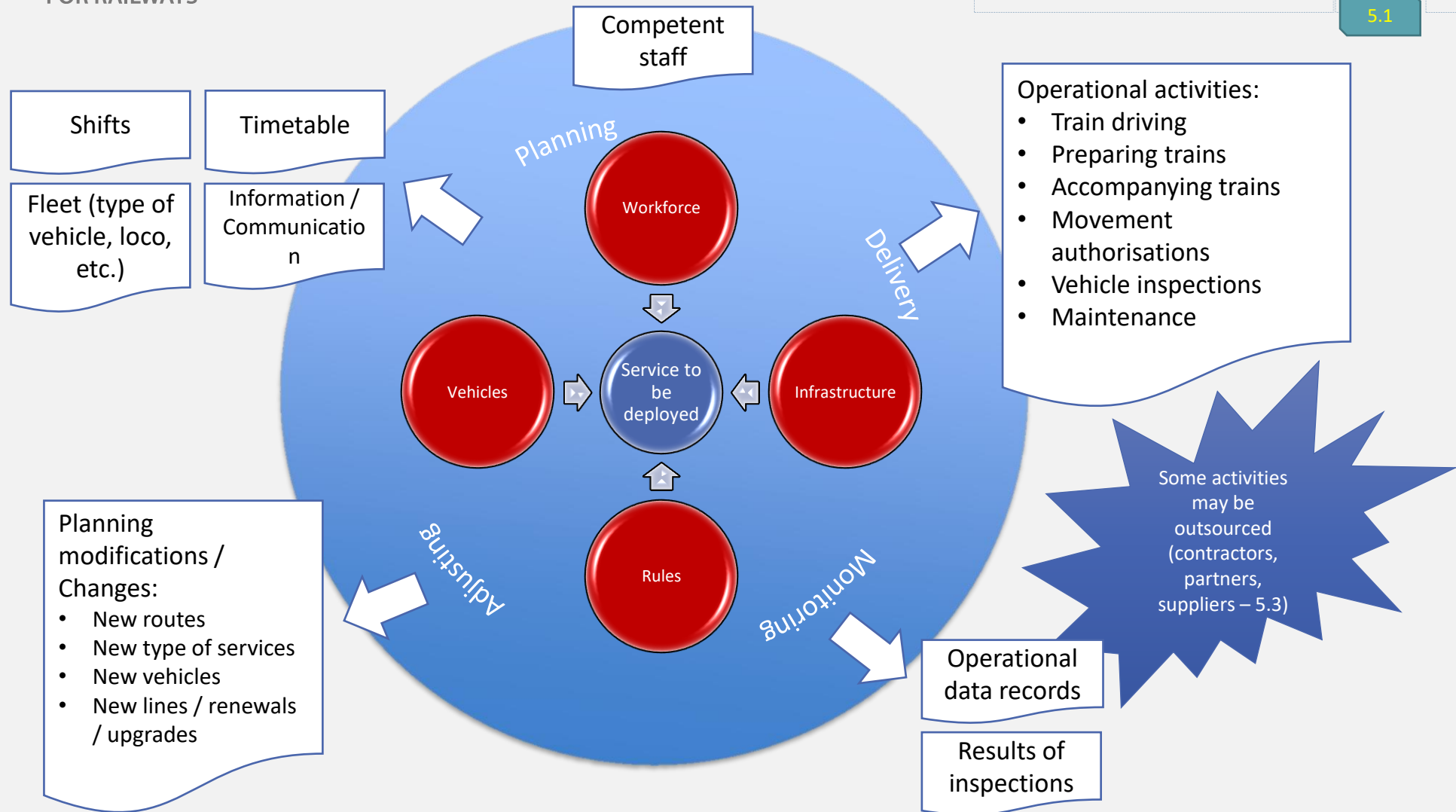
TSI OPE and SMS: process levels

1. **Vision**: Safety of railway operations
2. **Fundamental Operational Principles** (FOPs): TOP of the top set of principles describing the main high-level requirements for train operation, interfaces RU-IM and WHAT is needed to deliver and maintain safe operation
 - i. WHAT operational elements of the SMS need to be developed
 - ii. Initial starting point for operational rules/manuals inside the SMS
 - iii. Valid regardless from CCS system used (ETCS and class B both)
3. **SMS operational procedures**:
 - i. The 'HOW' based on the individual requirements for the RU (and IM) subject to risk assessment and operational needs,
 - ii. They set out what is needed for safe operations and to ensure that all risks are managed
 - iii. Link between specific requirements of TSI OPE and SMS criteria
4. **TSI OPE Common Operational Rules** (CORs):

More detailed harmonized rules for specific situations that may require further instructions in RU (IM) company rules
5. **National rules**: only permitted under Appendix I
 - i. the NR and how it is applied should be referenced in the SMS
6. **RU (IM) company rules**: within the SMS – company specific providing detailed information for key staff



PLAN				DO	CHECK	ACT
Context of the organisation	Leadership	Planning	Support	Operation	Performance evaluation	Improvement
				5.1		



II. Key changes (not all!) and their impact on SMSs

1. Legal act accompanying TSI OPE (1)

Article 5a

*By 28th of March 2024, each Member State shall notify to the Commission and the Agency any national **rules made redundant** by the entry into force of Commission Implementing Regulation (EU) 2023/1693 (*), together with a timetable for their withdrawal if not yet done.*



**New NSRs cleaning-up
process phase to be set-up**

1. Legal act accompanying TSI OPE (2)

Article 5b

By 28th of June 2024, railway undertakings and infrastructure managers shall change their safety management system as defined in Article 9 of Directive (EU) 2016/798 in accordance with the requirements laid down in the Annex to this Regulation. Such changes, if limited to those strictly necessary to apply this Regulation, as amended, shall not be considered to be substantial changes to the safety regulatory framework within the meaning of Article 10(15) of Directive (EU) 2016/798.




SMS update

Modified topic	TSI OPE references to annex points and appendices	# of slides
Content and description of scope	1.3 + 2	1
Specifications relating to staff	4.2.1.1 + 4.6 + 4.7 + Appendix F + Appendix G	11
Information exchange between IMs and RUs, including information for staff executing safety-critical tasks	4.2.1.2. + 4.2.1.2.4	6
Documentation for staff: - Rule Book - Route Book	4.2.1.2.1. 4.2.1.2.2.	6
RINF Future development	4.2.1.2.	1
Safety related communication	7.1.1. + Appendix C	2
Front-end lights	4.2.2.1.2	1
Route Compatibility	4.2.2.5.1	1

2. Annex and appendices

Summary table (1/2)

Modified topic	TSI OPE references to annex points and appendices	# of slides
Checks and tests before departure, including train braking	4.2.3.3.1 + 4.2.2.6 	2
Common Operational Rules	Appendix B2	4
National rules	Appendix I	3
Glossary terms and abbreviations	Appendix J	3

Content and description of scope

TSI OPE Annex points 1.3 + 2



1. Legal act accompanying TSI OPE (2)

1.3 Content

[...] this TSI lays down the essential requirements for the ‘operation and traffic management’ subsystem and establishes the **fundamental operating principles** and **common operating rules** to the Union railway system. Furthermore, it establishes the interface requirements between infrastructure managers and railway undertakings.’;

2. Description of scope

[...] This TSI relates to **processes and procedures**, as well as to **physical elements of vehicles and fixed installations** that are important for their operational function in the context of this TSI and requirements applicable to **staff executing safety-critical tasks** [...]



TSI OPE does not only cover RU/IM interfaces

Specifications relating to staff

TSI OPE Annex points 4.2.1.1 + 4.6 + 4.7

Appendix F + Appendix G



4.2.1.1 General requirements

In its Safety Management Systems (SMS) established in accordance with Annexes I and II to Commission Delegated Regulation (EU) 2018/762¹, **each RU and IM shall identify its safety-critical tasks and safety-related functions**, and the staff responsible for executing them. RUs and IMs shall define and describe in their **SMS procedures and requirements to train, assess and monitor the competence of their staff** executing safety-critical tasks, except the requirements [...]

[...] The documents **providing evidence of training, experience and professional competences** shall be delivered to the concerned staff executing safety-critical tasks, upon request.

Such a qualification shall allow the member of staff executing safety-critical tasks to undertake similar tasks for another RU or IM, subject to the identification of additional training needs on geographical and technical specifications and the SMS of the RU or IM in accordance with point 4.6.3.2², and to the satisfactory completion of that training.

¹ Commission Delegated Regulation (EU) 2018/762 of 8 March 2018 establishing common safety methods on safety management system requirements

² Point 4.6.3.2 is about Analysis and update of training needs

4.6.1 Professional competence

Railway undertakings and Infrastructure managers shall define their own risk-based competence management system within their Safety Management Systems processes, in accordance with Annexes I and Annex II to Commission Delegated Regulation (EU) 2018/762*

Appendices F and G defines professional requirements relevant to the competence management system.

In appendixes F and G the word “minimum” has been cancelled from the title:

- Elements relevant to professional qualification for the tasks associated with “accompanying trains”
- Elements relevant to professional qualification for the task of preparing trains

4.7.1 health and safety conditions

[...]

Railway undertakings and infrastructure managers shall set up and document the process they put in place to meet the medical, psychological and health requirements for their staff within their safety management system in accordance with EU Regulation 2016/762 defining common safety method on SMS.

Medical examinations as specified in point 4.7.2 and 4.7.3 on the individual fitness of staff shall be conducted by a person established as medical doctor or a psychologist qualified to carry out such examinations. The results must be accepted by every IM and RU as proof of fitness of staff or potential staff members.

Such examinations shall allow the member of staff executing safety-critical tasks to undertake similar tasks for another RU or IM, subject to the identification of additional medical, psychological and health requirements in the SMS of the RU or IM and to the satisfactory fitness of staff or potential staff members.

Fitness requirements set in point **4.7.2** and in point **4.7.3** are applicable to:

- Staff 'accompanying trains' other than the train driver;
- Staff undertaking the task of preparing trains;
- Staff undertaking the task of dispatching and authorising the movement of trains.

Appendix J – definitions:

Term	Definition
Safety-critical task	Task, affecting railway safety , performed by staff preparing, operating, controlling or otherwise involved in the movement of a trains.

Appendix I – list of open point:

(f) Professional competences (see point 4.2.1.1 and 4.6)

- Elements relevant to professional qualification for the tasks associated with dispatching trains and authorising train movements.
- Evidence of professional competences.

(g) Health and safety conditions (see point 4.7)

- Alcohol, drugs and psychotropic medication limits (see 4.7.1).

2. Annex and appendices

Specifications relating to staff (5/11)



- Where not otherwise specified, TSI OPE applies to all staff as identified in the SMSs.
- Appendix F and G define elements
- Training and qualification methods are for the SMS
- Documents proving training and medical examination shall be recognized by other IMs/RUs

Competences	Safety-critical tasks	Safety-related functions
Identification	SMS	SMS
Elements relevant to professional qualification	SMS + <ul style="list-style-type: none"> • Appendix F • Appendix G • TDD • National rules (dispatching and authorizing train movement) 	SMS
Health and safety conditions	<ul style="list-style-type: none"> • SMS • 4.7.2 • 4.7.3 • National rules on drug limits 	<ul style="list-style-type: none"> • SMS • National rules on limits

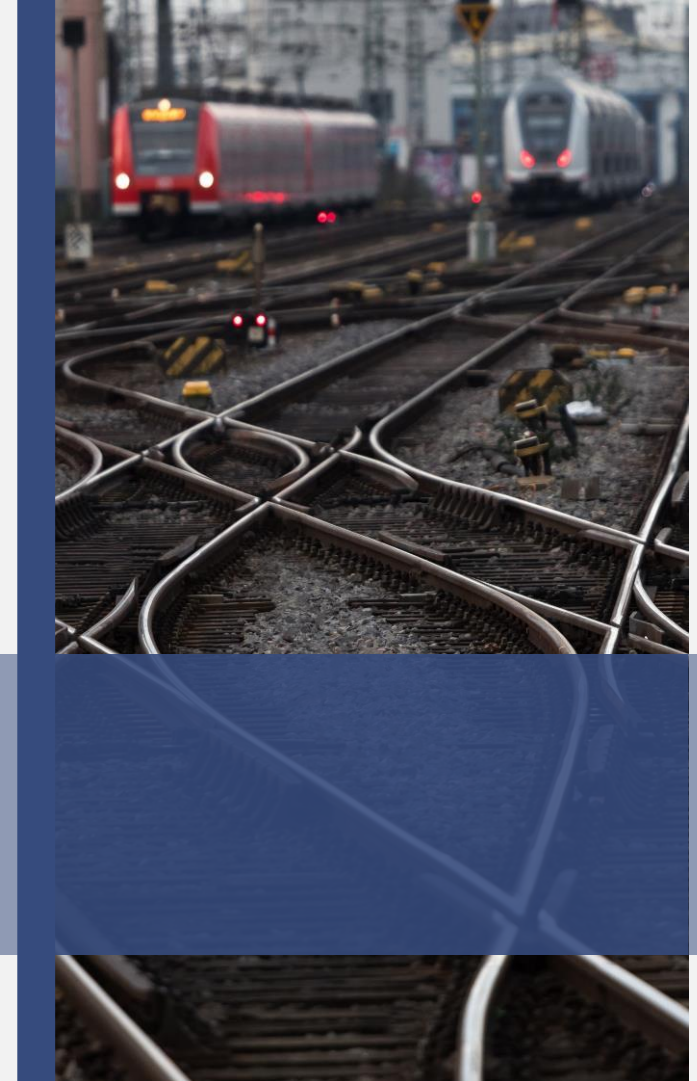
On the novelties regarding competencies and emergency management, a clarification note has been issued in order to:

- facilitate their definition and description in the Safety Management Systems (SMS) of the Railway Undertakings (RUs) and the Infrastructure Managers (IMs),
- make the process of cleaning up national rules smooth and consistent.

The clarification was shared with the European Commission



https://www.era.europa.eu/system/files/2023-10/Clarification%20note_v1.pdf



2. Annex and appendices

Specifications relating to staff (7/11)

Legal text (Point 4.2.1.1 as replaced with regulation 2023/1693)

RUs and IMs shall define and describe in their SMS procedures and requirements to train, assess and monitor the competence of their staff executing safety-critical tasks, except the requirements laid down in the following provisions:

- (i) training, fitness and certification requirements for train drivers (addressed by Directive 2007/59/EC of the European Parliament and of the Council**));
- (ii) elements relevant to professional qualification applicable to staff 'accompanying trains' other than the train driver, to which Appendix F of this Annex shall apply;
- (iii) elements relevant to professional qualification applicable to staff 'preparing trains' other than the train driver, to which Appendix G of this Annex shall apply.

Legal text (Point 4.6.1 as replaced with regulation 2023/1693)

Railway undertakings and Infrastructure managers shall define their own risk-based competence management system within their Safety Management Systems processes, in accordance with Annexes I and Annex II to Commission Delegated Regulation (EU) 2018/762.

It is necessary to clarify that the exception set out in Point 4.2.1.1 is NOT from the SMS competence management system process. The exception points to the harmonized requirements as set out in the Train Driver Directive and in the TSI OPE Appendices F and G. These harmonized requirements shall apply and shall not be subject to description and definition by each RU and IM.

Therefore, Member States are not allowed to set in national rules any additional requirements to those already set out in a harmonized manner by EU legislation. National rules on competences requirements shall not exist, except as permitted by the TSI OPE Appendix I.

However, the process for applying the harmonized EU provisions of Appendix F and G and Train Driver Directive shall be implemented through the SMS (4.6.1 of OPE TSI).

Legal text (Appendix I 2 (f) as replaced with regulation 2023/1693)

Professional competences (see point 4.2.1.1 and 4.6)

- Evidence of professional competences

Appendix I point 2 contains a list of open points. One of these points is point (f).

It has to be clarified that the second element point (f) concerns merely a harmonized way of providing evidence, namely of documenting the professional competences of staff. This harmonized documentation is used in cases such staff moves to a new employer.

Point (f) does neither introduce nor relate to a national certification regime, which is not permitted as a national rule. Only the format of the evidence/documentation can be considered as a national rule.

2. Annex and appendices

Specifications relating to staff (9/11)

Legal text (Appendix I 2 (f) as replaced with regulation 2023/1693)

Professional competences (see point 4.2.1.1 and 4.6 as replaced with regulation 2023/1693)

- Elements relevant to professional qualification for the tasks associated with despatching trains and authorising train movements.

This open point should relate exclusively to IM staff who are signallers and/or IM staff dispatching trains and authorising train movements.

Legal text (Point 4.2.1.1 as replaced with regulation 2023/1693)

In its Safety Management Systems (SMS) established in accordance with Annexes I and II to Commission Delegated Regulation (EU) 2018/762, each RU and IM shall identify its **safety-critical tasks and safety-related functions**, and the staff responsible for executing them.

The harmonised safety critical tasks referred to in the TSI OPE7 are those covered by the Train Driver Directive and the TSI OPE Appendices F and G as well as tasks carried out by IM staff dispatching trains and/or authorizing train movements. Other safety-critical tasks (and the staff executing them) which are not covered by TSI OPE and Train Driver Directive) shall be defined and described in the SMS of RU/IM (e.g. track workers, staff operating in a marshalling yard, etc.).

There are also staff which can have safety related functions; such staff are, for example, train and timetable planners, train driver managers, safety managers (e.g., Betriebsleiter - AT, RSGS – IT). Both safety critical tasks and safety related functions must be covered by the SMS. There cannot be any national rules on issues such as the identification of such staff, selection principles (except those for train drivers and staff covered by TSI OPE Appendices F and G which set out educational and medical fitness requirements), training methods and requirements or competence schemes. All these aspects shall be described in the RU and IM competence management system processes.

Legal text (4.7.1 as replaced with regulation 2023/1693)

...Railway undertakings and infrastructure managers shall set up and document the process they put in place to meet the medical, psychological and health requirements for their staff within their safety management system in accordance with EU Regulation 2016/762 defining common safety method on SMS.

Medical examinations as specified in point 4.7.2 and 4.7.3 on the individual fitness of staff shall be conducted by a person established as medical doctor or a psychologist qualified to carry out such examinations. The results must be accepted by every IM and RU as proof of fitness of staff or potential staff members.

Such examinations shall allow the member of staff executing safety-critical tasks to undertake similar tasks for another RU or IM, subject to the identification of additional medical, psychological and health requirements in the SMS of the RU or IM and to the satisfactory fitness of staff or potential staff members....

Legal text (Appendix I 2 (g) as replaced with regulation 2023/1693)

Health and safety conditions (see point 4.7)

Alcohol, drugs and psychotropic medication limits (see 4.7.1).

The SMS of the RU and IM shall set up and document the processes they put in place on the medical requirements be implemented. Train Driver Directive and TSI OPE point 4.7 set them for some staff. For all other staff (e.g., staff having safety-related functions) the RU and IM should determine what is needed on a risk-based approach (having in place procedures to control the risk, pursuant also to Point 4.7.1.1.). National rules are only permitted for alcohol, drugs, and psychotropic medication limits.

Information exchange between IMs and RUs, including information for staff executing safety- critical tasks

TSI OPE Annex points 4.2.1.2. + 4.2.1.2.4



4.2.1.2 Information exchange between IMs and RUs, including information for staff executing safety-critical tasks

IMs and RUs shall plan, prepare and operate trains and instruct staff in accordance with the information contained in Rule Book and Route Book.

Their staff executing safety-critical tasks shall be trained, and train drivers certified, based on the information provided in the Rule Book and the Route book in accordance with their SMS.

IMs and RUs shall cooperate to exchange information and follow a process for establishing and regularly updating the Rule Book and Route Book as appropriate. Such information shall be applicable for normal, degraded and emergency operations.

The IM, in consultation with the RUs operating on its network, shall define the appropriate procedures for communication in real time and emergency situations in order to ensure that information relevant for operation is provided to the RU and/or the driver as soon as such information is available.

IMs and RUs shall ensure that all infrastructure information and rules relevant for planning, preparing and operating of trains are shared and communicated to staff executing safety-critical tasks in accordance with each staff member's tasks in all the IMs and RUs respective operating language(s).

IM and RUs may group the Rule Book and Route Book information into support for individual staff and/or individual operations.

IMs and RUs shall supply to each member of their respective staff executing safety-critical tasks, including train drivers, with versions of the Rule Book and the Route Book tailored to the information necessary for their operations. This shall include the interface information where staff executes safety-critical tasks with a direct interface between IM and RU, in particular to ensure safety-related communication between staff authorising the movement of trains and staff onboard trains.

4.2.1.2.4 Informing the driver in real time during train operation

The infrastructure manager shall inform and instruct drivers in real time about last-minute changes to operations regarding the line or relevant lineside equipment, in accordance with the communication methodology established between IM and RU in line with Appendix C.

Real time information shall be limited to situation and changes that have not been managed under 4.2.1.2.2 and 4.2.1.2.4 in accordance with IMs and RUs SMS procedures and are directly affecting the driver's route.

For emergency situations, appropriate alternative means of communication shall be established between the IM and RU in order to ensure that relevant information is made available.

Infrastructure managers and railway undertakings must have a process in place to be able to confirm the suitability of the vehicles and the drivers in respect of route knowledge for real time route deviation.

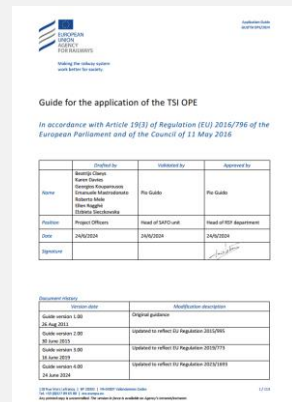
2. Annex and appendices

Information exchange between IMs and RUs (3/3)

	“Normal” communication	“As soon as it is available”	“Real-time” communication	“Emergency” communication
Communication flow	From IM to RU	From IM to RU	Signaller <-> Driver	Signaller <-> Driver
Means	RINF (Rule & Route Books)	RINF (Rule & Route Books)	Operational Instructions	Any means

In any case the message should reach the recipient, on time, and this might be in parallel if needed

SMS integration



Documentation for staff

- rule book
- route book

TSI OPE Annex points 4.2.1.2.1 + 4.2.1.2.2



General principle: key operational information (including Rule Book) must be:

- Complete
- Appropriately updated
- Controlled
- Consistent and easy to understand (incl. the language used)
- Staff are aware of its existence before it needs to be applied
- Easily accessible to staff and where required copies are formally given to them

Collecting information, compiling them appropriately and supplying staff with them should be a part of SMS process – **Link to requirement 4.4 and 5.1.5 of CSM on SMS!**

2019 VERSION

Responsibility of the **RU to supply**

- **the driver with all necessary information and documentation** required to carry out her/his duties
 - Paper based or electronic format
 - Includes information for operation in normal, degraded and emergency situations
 - For the routes to be worked over and the rolling stock used on those routes (4.2.1.2)
- **staff other than train drivers** (whether on train or otherwise) who undertake safety-critical tasks involving a direct interface with the staff, equipment or systems of the infrastructure manager **with the rules, procedures, rolling stock and route specific information** it deems appropriate to such tasks (applicable in both normal and degraded operation) (4.2.1.3)

2019 VERSION

Driver's rule book:

- Contains all the necessary operational rules and procedures that the driver has to know and apply (not only topics mentioned in TSI OPE)
- RU responsible for preparing and updating it
- RU to compile it in such a way that it is complete and accurate
- Language chosen by RU, potentially resulting in problems arising from the translation of the original language
- In clear format for the entire infrastructure over which the drivers will work
 - Consistent manner of presenting the rules for various networks
- Included aspects: staff safety and security, signalling and control command, train operation including degraded mode, traction and rolling stock, incidents and accidents
- 2 appendices included:
 - Manual of communication procedures and
 - Book of Forms

2023 VERSION

Rule book:

- From “**Driver’s Rule Book**” (TSI OPE 2019) to “**Rule Book**” (TSI OPE 2023 revision)
- Rule Book is for the **IM and the RU**
- Rule Book: a description of the operational rules and procedures for a network or a part thereof and vehicles operated on that network or its part(s) in normal, degraded operation and emergency situations. It shall be **consistent across all the lines over which the RU operates**, and it shall be **consistent across all the lines managed by the IM**
- Rule Book is part of the SMS of the RU / IM and shall be tailored to the information necessary for their operations
- Cooperation IM-RU to exchange information and **follow a process for establishing and regularly updating the Rule Book** (and Route Book) as appropriate
 - Such information shall be applicable for normal, degraded and emergency operations

2019 VERSION

Route book:

- Drivers to be provided with description of the lines and the associated line-side equipment for the lines over which they shall operate and relevant to the driving task → **ROUTE BOOK**
- As a minimum to be provided in the Route Book:
 - the general operating characteristics
 - indication of rising and falling gradients
 - detailed line diagram
- RU responsible for complete and correct compilation of the Route Book
- The same format for all infrastructures operated on by the trains of that RU
- IM to provide RU for the Route Book with at least the information as defined in Appendix D2 through Register of Infrastructure (RINF)
 - *Other means than RINF to distribute the information possible*
- IM to inform RU of any permanent or temporary modifications to information supplied for the Route Book
- Real time information from IM to drivers if changes not advised as modifications to information for Route Book

2023 VERSION

Route book:

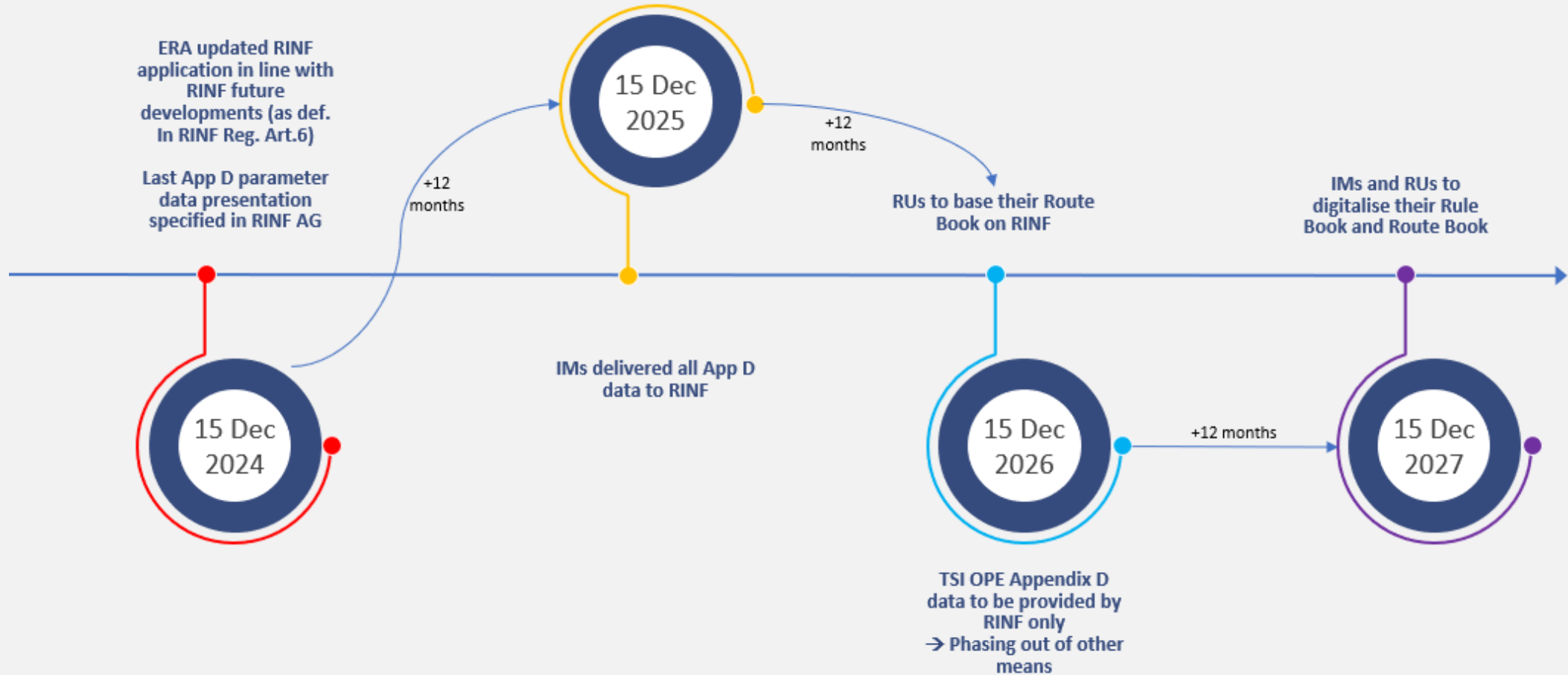
- Route Book is for the IM and the RU
- Information for the Route Book to be exchanged via RINF
- The IM to inform the RU of any changes to the infrastructure information, whenever such information becomes available and affects train operations, including permanent or temporary restrictions and modifications
- **SMS process:** to govern the sources, the exchange of information on the data compiled in the Route Book, its updates and modifications, the communication to staff → see requirement 4.4 of CSM on SMS
 - *Link with SMS visibly highlighted in the new text of TSI OPE*

RINF Future development

TSI OPE Annex points 4.2.1.2



2. Annex and appendices RINF future developments



The figure above is a representation of the timeline for future developments as described in the TSI OPEv2023, annex, point 4.2.1.2. ERA will work on the set of parameters in RINF and publish it in one/two batches. When a batch is launched the application guide will be updated accordingly. The last batch will start running by Dec '24.

PM: The digitalisation of rule book means basically the moving away from the paper form. The route book digitalisation is clearly linked to RINF. Further details on exactly what “digitalising” these means are yet to be defined.

Safety related communication

TSI OPE Annex point 7.1.1

Appendix C



Article 5

Decision 2012/757/EU is repealed with effect from 16 June 2021.

*However, **Appendix A and C of the Annex to Decision 2012/757/EU may continue to apply by 16 June 2024 at the latest.***

Appendix C of 2012/757/EU version of TSI OPE repealed;



Appendix C of (EU) 2019/773 version of TSI OPE,
amended by (EU) 2020/778, (EU)2021/2238 and
(EU)2023/1693 will be applicable.

However, point 7.1.1. states specific transition rules for Appendices A and C: IMs may **postpone**, in coordination with the RUs operating on their networks and in accordance with CSM on SMS, **the implementation of Appendix A and Appendix C to 16 December 2025 at the latest.** The conditions for being allowed to do so are described in this point.

2. Annex and appendices Safety related communication (2/2)

TSI OPE 2019 version

A Train No

B Date

C Location of issuer

D Location of Train

E Unique identification

☐ **European Instruction 5 – Obligation to run with speed restriction**

☐ Run with a maximum speed of x.31 Km/h/Mph

Between/in x.32 Location/Km/Signal and x.33 Location/Km/Signal on 5.39 Track/Line

from x.35 Location/Km/Signal to x.36 Location/Km/Signal Lineside boards ☐ 5.37 Yes ☐ 5.38 No

☐ Examine the line for the following reason x.46 Free text

☐ Report findings to x.51 Free text

☐ Additional instruction x.91 Free text

M ID of Driver **N** ID of Issuer **O** Time

TSI OPE 2023 version

A Train No | Shunting composition No

B Date

C Location of train | Location of shunting composition

D Location of issuer

☐ **European Instruction 5 – Obligation to run with speed restriction**

☐ Do not exceed the speed of x.42.1 Km/h | x.42.2 Mph between | in x.43 Location and x.44 Location

on x.45.1 Track | x.45.2 Line and x.46.1 Track | x.46.2 Line

from x.47.1 Km | x.47.2 Signal to x.48.1 Km | x.48.2 Signal

Speed restriction indicated by lineside boards

☐ Yes 5.67

[or]

☐ No 5.68

☐ Examine the line for the following reason x.91 [free text] and report findings to x.92 [free text]

Additional instructions x.96 [free text]

V ID of driver **W** ID of issuer

Y Time **Z** Unique identification

User instructions:
Mark with a cross the tick boxes that become valid, as follows: ☒ In case of multiple options for the information, delete the non-valid options, as follows: ☐ In the valid fields, fill in the information on the dotted lines.

Front-end lights

TSI OPE Annex points 4.2.2.1.2



2019 VERSION

By the dates mentioned below for the harmonisation of the rear end signal as per section 4.2.2.1.3.2, the luminous intensity of vehicle headlamps shall be in accordance with point (5) of section 4.2.7.1.1 of the Annex to Commission Regulation (EU) No 1302/2014 (4) (Loc&Pas TSI) in order to access the lines identified in RINF where permissive driving is used.

2023 VERSION

In order to access lines identified in RINF where **permissive driving is used**, by the dates mentioned below for the harmonisation of the rear-end signal as per Section 4.2.2.1.3.2, the luminous intensity of vehicle headlamps shall be in accordance with the level defined for the **full-beam headlamps** in point (5) of Section 4.2.7.1.1 of the Annex to Commission Regulation (EU) 1302/2014 (4) ('TSI Loc&Pas')

Route compatibility

TSI OPE Annex points 4.2.2.5.1



- New specific requirements for Combined Transport (4.2.2.5.1, D)
- Operational procedures applicable to combined transport shall comply with the specifications set out in point 3 of the ERA Technical Document on codification of combined transport (ERA/TD/2023-01/CCT v1.0 06/03/2023).

Checks and tests before departure

TSI OPE Annex point 4.2.3.3.1



2. Annex and appendices

Checks and tests before departure including braking (1/2)

- **FOP 2-3: the top principles**
- Link to CSM on SMS requirement **5.1.2 and 5.1.3 of Annex I**
- **Braking is an exclusive responsibility of the RU!**
 - This principle has been reinforced in TSI OPE 2023: the RU shall set up and implement braking requirements in accordance with points 4.2.2.6.1 and 4.2.2.6.2 and shall manage them within its SMS
- Clear interface between IM and RU:
 - Allocation of responsibilities
 - The IM **CANNOT** set braking requirements; it only provides the RU with strictly defined information (e.g., signalling distances, gradients, max permitted speeds)
 - Information provided via RINF
 - The RU uses this information to properly determine braking capability of the train and corresponding maximum speed to ensure that the trains run safely on the intended route
 - Communication related to braking performance
- No national rules for braking, including braking tables!

A. TABULKY BRZDICÍCH PROCENT

I. způsob brzdění
zábrzdná vzdálenost 400 m

Tabulka I.4

(Rozhodou- spá)		Brzdící procenta při povolené rychlosti až do													
promile		15	20	25	30	35	40	45	50	55	60	65	70	75	80
		kilometrů za hodinu													
0	6	6	6	6	11	14	18	22	27	34	43	54	67	80	93
1	6	6	6	6	11	14	18	22	28	35	45	55	68	82	96
2	6	6	6	6	11	15	19	23	29	36	46	57	70	84	98
3	6	6	6	6	11	15	19	23	30	37	47	59	72	85	100
4	6	6	6	6	11	15	19	23	30	38	48	61	74	87	102
5	6	6	6	6	11	15	20	24	30	39	49	62	75	89	104
6	6	6	7	9	12	15	20	25	31	40	50	64	77	91	106
7	7	7	7	10	13	16	21	26	32	41	52	65	79	93	109
8	7	8	10	13	17	21	26	32	42	54	67	81	96	112	
9	8	8	11	14	18	22	27	34	43	55	69	84	99	115	
10	8	9	12	15	19	23	28	35	44	56	71	86	102	118	
11	9	10	12	16	20	24	29	36	45	58	74	91	108		
12	10	11	13	16	20	25	30	37	46	59	76	94	114		
13	10	12	14	17	21	26	31	38	47	60	78	97	119		
14	11	13	15	18	22	27	32	39	48	62	80	100			
15	11	13	15	19	23	28	33	40	49	64	83	104			
16	12	14	16	20	24	29	34	41	50	66	86	108			
17	12	14	17	21	25	30	35	42	52	69	89	112			
18	13	15	18	22	26	31	36	43	54	72	93	116			
19	14	16	19	23	27	32	37	44	56	75	97	120			
20	15	17	20	24	28	33	38	46	58	77	102				
21	15	17	20	24	29	34	40	49	60	79					
22	16	18	21	25	30	35	41	51	62	81					
23	16	18	21	25	30	36	42	52	63	82					
24	17	19	22	26	31	37	43	54	65	84					
25	17	19	22	26	32	38	44	55	66	86					
26	18	20	23	27	33	39	45	56	69	88					
27	18	20	23	28	34	40	47	58	71	90					
28	19	21	24	29	35	41	49	60	73	93					
29	20	22	25	30	36	42	50	61	74	95					
30	20	22	25	30	36	43	51	62	75	96					
31	21	23	27	31	37	44	53	64	77	100					
32	21	23	27	32	38	46	55	66	79						
33	22	24	28	33	39	47	56	67	81						
34	23	25	29	34	40	48	57	69	83						
35	23	25	29	35	41	49	59	71	85						
36	24	26	30	36	42	50	60	72	87						
37	24	26	30	36	43	51	62	74	89						
38	25	27	31	37	44	52	63	75	91						
39	25	27	31	37	45	54	65	77	93						
40	26	28	32	38	46	55	66	78	95						

2. Annex and appendices

Checks and tests before departure including braking (2/2)

- Considering identified risks, performed risk assessment and operational conditions, the RU must establish procedures for train composition and for determining the braking capability of the trains and corresponding maximum speed to ensure that the trains run safely on the intended route (in normal and degraded mode operation)
- AMOC on checks and tests includes good practices for brake settings, content and format of the brake sheet and wagon list for use in freight traffic

Train number: _____ Departure date: _____

International brake sheet and wagon list

5. Country code: _____

1. Issuing RU	2. Train number	3. Departure date	6. Train profile:
4a. Valid from station	4b. Valid to station	7. V_{max} , km/h:	

Train parameters

8. Remarks during the journey	9. Special features of the train
-------------------------------	----------------------------------

<input type="checkbox"/> 10. Dangerous goods in train	16a. Valid from station	16b. Valid to station	16c. Valid from station	16d. Valid to station
<input type="checkbox"/> 11. Exceptional consignment in train	17a. # of first wagon	18a. # of last wagon	17c. # of first wagon	18c. # of last wagon
<input type="checkbox"/> 12. Additional documents about restrictions added	a	b	a+b	c
<input type="checkbox"/> 13. Waste shipments in train	Active locomotives	Wagons and inactive locomotives	Total	Active locomotives
				Wagons and inactive locomotives
				Total

19. Count, pcs				
20. Length, m				
21. Hand brake holding force, t / kN				
22. Braked weight after deduction, t				
23. Gross weight, t				

14. Required line classification	15. Brake setting G P GP P+LL R	24. Available brake %:	24. Available brake %:
		25. Required brake %:	25. Required brake %:
		26. Missing brake %:	26. Missing brake %:
		27. % of braked weight braked by cast iron blocks:	27. % of braked weight braked by cast iron blocks:

Active locomotives in train

28. Seq.	29. Number	30. Class	31. # of axles	32. Length over buffers, m	33. Gross weight, kg	34. Brake block type	35. Brake position	36. Braked weight, t	37. Remarks
1									
2									
3									
4									
5									

38. Date of issue	39. Time of issue	40. Issued by
41. Date of review	42. Time of review	43. Reviewed by
44. Remark		

v1.2, November 2021 – created by Xral / UIC Unified Braking Scheme workshop – feedback at operations@xral.eu

Page 1 of ...

Common operational rules

TSI OPE Appendix B2



COR 1 – Sanding

COR 2 – Departure of train

COR 3 – No authorisation for train movement at the expected time

COR 4 – Complete failure of front-end lights

4.1 – During good visibility

4.2 – During darkness or poor visibility

COR 5 – Complete failure of rear end signal

COR 6 – Failure of the audible warning device of a train

COR 7 – Failure of level crossing

7.1 – Stopping trains passing over a defective level crossing

7.2 – Passing trains over the defective level crossing (if authorized)

COR 8 – Failure of voice radio communication

8.1 – Failure of train radio detected during train preparation

8.2 – Failure of voice radio communication when the train has entered service

COR 9 – Running on sight

COR 10 – Assistance to a failed train

COR 11 – Authorisation to pass a signal showing a stop aspect/indication (2023*)

COR 12 – Anomalies in lineside signalling

COR 13 – Emergency call (2023*)

COR 14 – Immediate actions to prevent danger to trains (2023*)

COR 15 – Failure of on-board equipment (2023*)

COR 16 – End of authority passed without permission

COR 17 – Failure of trackside equipment including catenary

COR 18 – *Entering an occupied track section within a station (2023*)*

Amendments to COR 11, 13, and 14

- 11. AUTHORISATION TO PASS AN END OF AUTHORITY
 - from “a signal showing a stop aspect/indication” to **“End of Authority”**
- 13. EMERGENCY CALL
 - is added: **“Anyone who receives an emergency call shall listen, not intervene in the communication that is in progress except to provide elements relevant to the context”**
- 14. IMMEDIATE ACTIONS TO PREVENT DANGER TO TRAINS

Any railway undertaking/infrastructure manager staff who becomes aware of a danger to trains shall take immediate action to stop any trains which may be affected, **alert the signaller** and take any other action as necessary to avoid harm or loss, **and in particular:**

 - (1) Any driver made aware of a danger to their train shall stop as soon as it is safe to do so and alert the signaller immediately to the danger using the emergency call.**
 - (2) Any signaller made aware of a danger shall alert all drivers as appropriate through an emergency call or using any other available means.’**

Amendments to COR 15

15. FAILURE OF ON-BOARD EQUIPMENT

The railway undertaking shall determine the cases in which a failure of an on-board equipment affects the running of the train.

The railway undertaking shall give the necessary information to the driver and/or train crew of what action to take in the case of on-board failures that affect the running of the train.

If the driver becomes aware of a failure of any on-board equipment that affects the running of the train, the driver shall:

- **Inform the signaller of the situation, the location and the restrictions on the train should the train be allowed to continue its mission**
- **Not commence or recommence the mission until permission to do so has been granted by the signaller**
- **If the signaller gives permission for the train to start or continue its mission then the driver shall proceed in accordance with the restrictions placed upon the train**

If the signaller does not give permission for the train to commence or recommence its mission then the driver shall follow the instructions given by the signaller

New COR 18 added

18. ENTERING AN OCCUPIED TRACK SECTION WITHIN A STATION

In case of an unplanned entry into an occupied track section, the signaller shall, before authorising the entry to the occupied track section, ensure that the involved drivers are informed of the circumstances.

In all cases when a train has to enter an occupied track section, the signaller shall, before authorising the entry to the occupied track section, obtain confirmation that the occupying train or vehicles will not move towards the train entering the occupied track section.

National rules

TSI OPE Appendix I



1. AREAS FOR NATIONAL RULES

2019 VERSION

Shunting

Signalling rules

Rules related to the operational use of the national signalling system

Maximum speeds in degraded mode including running on sight

Running at caution

Local operational rule

Relating to specific local conditions where additional information may be needed – this is limited to requirements not covered by this Regulation

Operation during works

Safe operation of test trains

Train visibility

Front end (see point 4.2.2.1.2)

Existing Non TSI conform vehicles

Managing an emergency situation and emergency responses (see point 4.2.3.7)

Role of local/national authorities and emergency services

Notification of accidents and incidents: national instructions on modalities for notifications to authorities

Safety-related communications methodology

National operational instructions

Requirements on route knowledge under the national transposition of Directive 2007/59/EC

2. Annex and appendices National rules(1/3)

2023 VERSION

1. AREAS FOR NATIONAL RULES

(a) Shunting

- **Excluded are operating rules for Digital Automatic Coupling (DAC)**
- **National rules for ERTMS shunting are limited to the areas defined in in Part C of Appendix A**

[...]

(e) Local operational rule

- **Rules of a strictly local nature** relating to specific local conditions, **when not mentioned in RINF in accordance with Article 14(11) of Directive (EU) 2016/797**

[...]

(i) Managing an emergency situation and emergency responses (see point 4.2.3.7)

- Role of local/national authorities and emergency services, **and their contact details.**
- **Methods and procedures in emergency situation not covered by the requirement of this Regulation, including** notification of accidents and incidents: national instructions on modalities for notifications to authorities.

2. LIST OF OPEN POINTS

Exceptional transport

Timetable (see 4.2.1.2.3)

Additional information

Recording of supervision data outside the train (see 4.2.3.5.1)

Additional information

Recording of supervision data on-board the train (see 4.2.3.5.2)

Additional information

Professional competences (see point 4.6)

- Staff with safety critical tasks other than train drivers;
- Additional information for staff undertaking the safety critical tasks associated with accompanying a train other than train driver;
- Additional information for staff undertaking the safety critical tasks associated with the last preparation of a train before it is scheduled to cross a border and work beyond any location(s) designated as the 'frontier' in the network statement of an infrastructure manager and included in its safety authorization.

Health and safety conditions (see point 4.7)

- Staff with safety critical tasks other than train drivers;
- Additional information for staff undertaking the safety critical tasks associated with accompanying a train other than train driver;
- Alcohol limits (see 4.7.1).

Common operational principles and rules (See 4.4 and Appendix B)

- Sanding — automatic sanding equipment and report in case of use of the sanding equipment;
- Failure of level crossing — additional information;

Safety-related communications terminology (see Appendix C)

Additional terms

Operations in long tunnels (see 4.3.5)

Additional information

2019 VERSION

2. Annex and appendices National rules(2/3)

2023 VERSION

2. LIST OF OPEN POINTS

- (b) **Specific requirements to operate combined transport trains exceeding the loading gauge but not exceeding the codification of the line**
- (c) **Train running information for drivers (see 4.2.1.2.3)**
 - Additional information
- (d) Recording of **monitoring** data outside the train (see 4.2.3.5.1)
 - Additional information
- (e) Recording of **monitoring** data on-board the train (see 4.2.3.5.2)
 - Additional information
- (f) Professional competences (see point 4.2.1.1 and 4.6)
 - **Elements relevant to professional qualification for the tasks associated with dispatching trains and authorising train movements**
 - **Evidence of professional competences**
- (g) Health and safety conditions (see point 4.7)
 - Alcohol, drugs and psychotropic medication limits (see 4.7.1)

Glossary of terms and abbreviations

TSI OPE Appendix J



New Terms

Term	Definition
Combined transport train	A Combined Transport train is a freight train composed completely or partly of freight wagons loaded with intermodal loading unit(s) (e.g., swap bodies, semi-trailers, containers, roller units).
End Of Authority	Location up to which a train or a shunting composition is authorised to proceed.
Shunting composition	A traction unit coupled or not to a set of vehicles and intended to be moved under shunting conditions without train data.
Train composition	Train composition is the sequence of vehicles in a train. This means both the formation of vehicles within a train and their specific vehicle characteristics.

Amended definitions

Term	Definition
Degraded operation	Operation resulting from an unplanned event that prevents the normal delivery of train services .
Emergency call	Call set up in some dangerous situations to warn all trains /shunting movements compositions in a defined area.
Safety-critical task	Task, affecting railway safety , performed by staff when they control preparing, operating, controlling or affect otherwise involved in the movement of a trains which could affect railway safety .
Signaller	Performer Staff in charge of the route setting of trains /shunting movements compositions and of issuing instructions to drivers.

Amended definitions

Term	Definition
Train	A train is defined as (a) traction unit(s) with or without coupled railway vehicles with train data available operating between two or more defined points according to an allocated train path and identified by means of a unique train running number.
Train preparation	Process for ensuring that a train is in a fit condition to enter service, that the train equipment is correctly deployed, and the train composition matches the train's designated route(s). It includes the coupling or decoupling of vehicles, connecting or disconnecting of pipes, services, cabling and the indication of a rear end signal. Train preparation also includes technical brake configuration setting and the inspections carried out prior to entering service, tests, and checks before departure. Note: The movement to get a vehicle in or out of the train composition is a shunting movement.

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Beatrijs.claeys@era.Europa.eu

Roberto.mele@era.Europa.eu

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