

# ERA Webinar

## Generic ETCS Driver's Handbook: the Harmonised Operation Manual

26 March 2026 – 12:00-13:00 (CET)



EUROPEAN  
UNION  
AGENCY  
FOR RAILWAYS



**Jo de Bosschere**  
Head of ERTMS Unit  
ERA



**Georgios Kouparousos**  
Project Officer  
ERA



**Ignacio González Olaso**  
Project Officer  
ERA



**Mark van Dooren**  
Train Driver  
Nederlandse Spoorwegen  
(Dutch Railways)

## Main Signaling & ATP systems used in EU Member States



Systems vary in functionality :

- simple -> complex
- warning -> stop
- stop -> full train protection

In order to facilitate the establishment of a “**Single European Railway Area**” (SERA), there is a need for a harmonised signalling system -> Which is ERTMS !

Conventional approach for Driver Machine Interface:  
Simply adding legacy display systems does not work!

New development:  
Central ETCS display  
→ single interface for driver



Standard TRAXX driver's desk



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# Generic ETCS Driver's Handbook: the harmonised operation manual

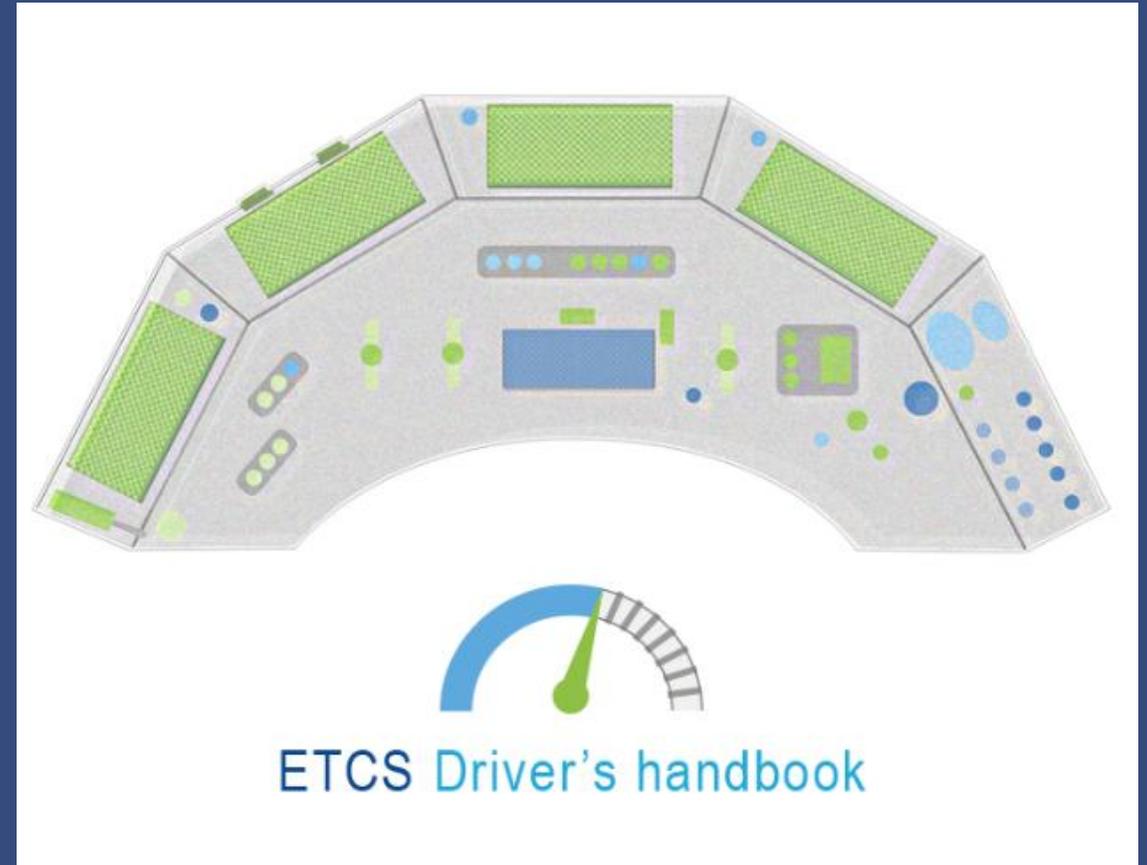
## Introduction

### Former Handbook (January 2020)

- Covers both Baseline 3 software versions (SRS 3.4.0 and SRS 3.6.0)
- Covers information relevant for the train driver in a comprehensive and concise manner
- All clauses & figures are codified
- Publicly available in ERA website for downloading in MS Word & HTML

### New TSI package released (October 2023)

Need to update Handbook



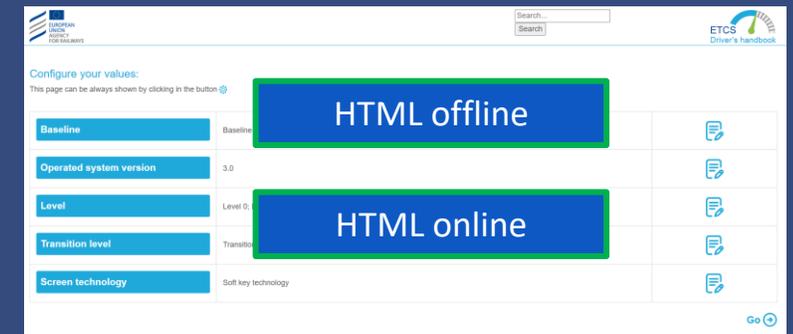
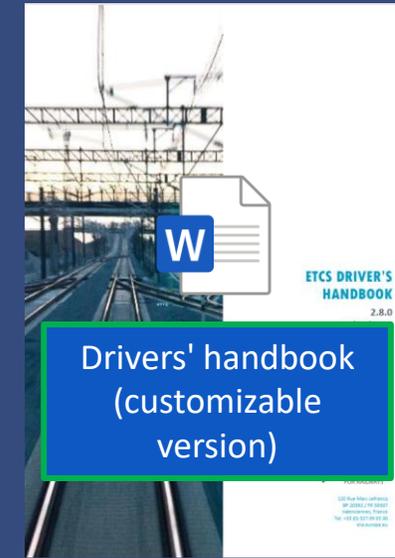
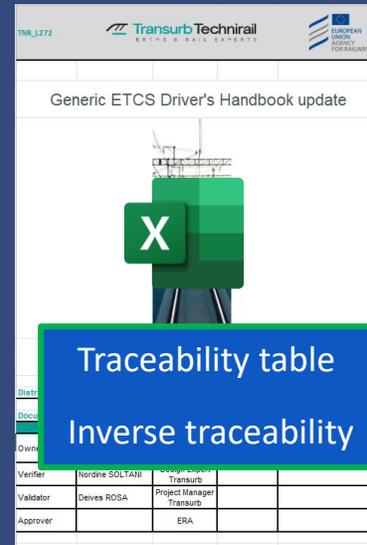
# Generic ETCS Driver's Handbook: the harmonised operation manual

## Making of

Former handbook (2020) + list of errors

### Relevant technical documents

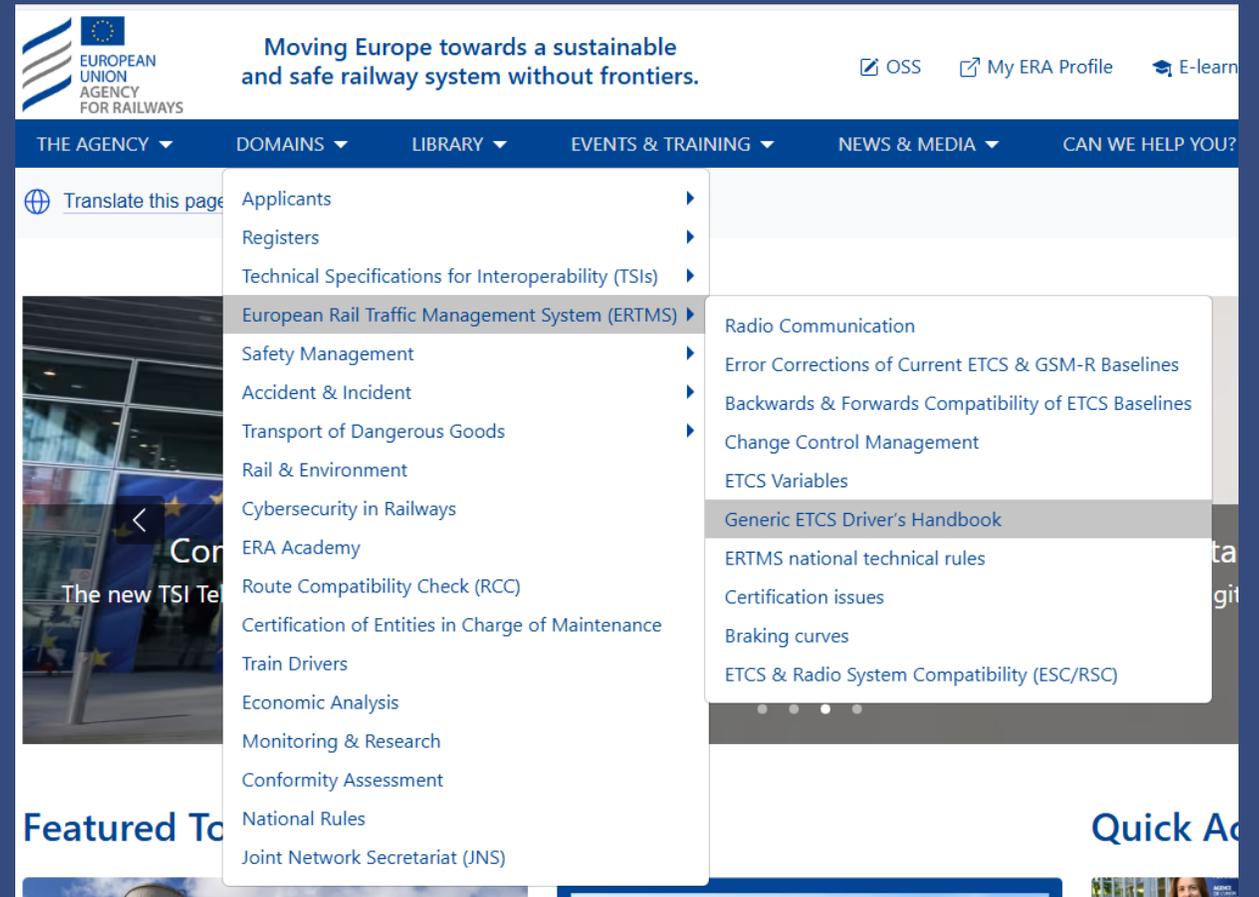
- ✓ Subset 026 SRS
- ✓ Subset 034 Train interface
- ✓ Subset 125 ERTMS/ATO System Requirement Specification
- ✓ Subset 153 Exceptions for on-board reduced envelopes of system versions
- ✓ CCS TSI ERA\_ERTMS 015560 - ETCS Driver Machine Interface (version 4.0.0)
- ✓ TSI LOC PAS 2023
- ✓ TSI OPE 2023



# Generic ETCS Driver's Handbook: the harmonised operation manual

## Updated Handbook publication

era.europa.eu



Moving Europe towards a sustainable and safe railway system without frontiers.

THE AGENCY ▾ DOMAINS ▾ LIBRARY ▾ EVENTS & TRAINING ▾ NEWS & MEDIA ▾ CAN WE HELP YOU?

Translate this page

- Applicants
- Registers
- Technical Specifications for Interoperability (TSIs)
- European Rail Traffic Management System (ERTMS) ▾
  - Radio Communication
  - Error Corrections of Current ETCS & GSM-R Baselines
  - Backwards & Forwards Compatibility of ETCS Baselines
  - Change Control Management
  - ETCS Variables
  - Generic ETCS Driver's Handbook**
  - ERTMS national technical rules
  - Certification issues
  - Braking curves
  - ETCS & Radio System Compatibility (ESC/RSC)
- Safety Management
- Accident & Incident
- Transport of Dangerous Goods
- Rail & Environment
- Cybersecurity in Railways
- ERA Academy
- Route Compatibility Check (RCC)
- Certification of Entities in Charge of Maintenance
- Train Drivers
- Economic Analysis
- Monitoring & Research
- Conformity Assessment
- National Rules
- Joint Network Secretariat (JNS)

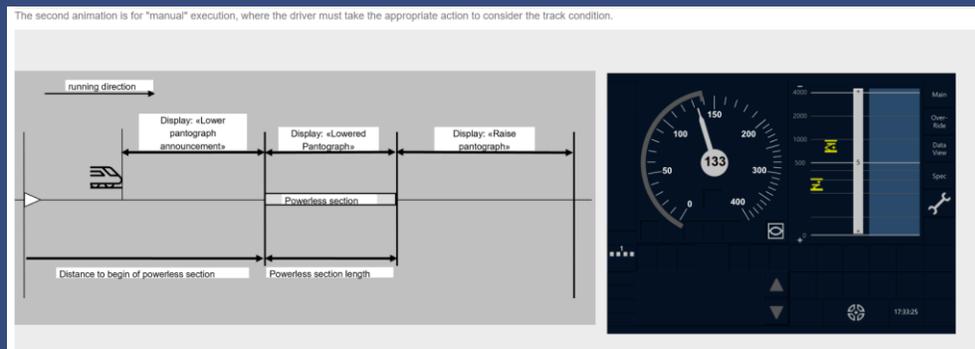
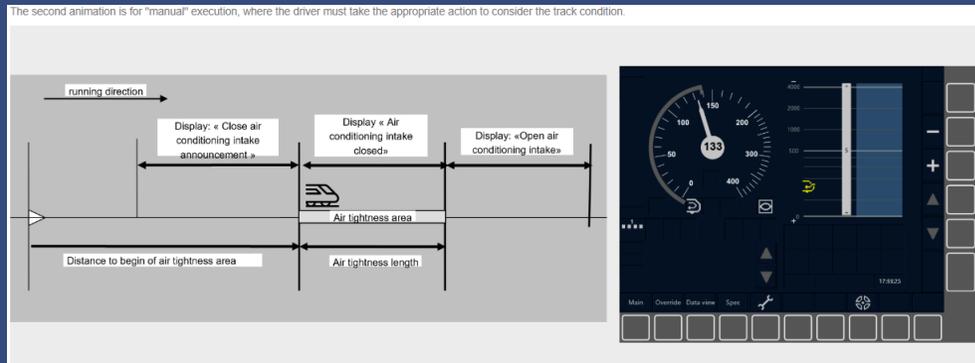
Featured To

Quick Ad

# Generic ETCS Driver's Handbook: the harmonised operation manual

## Improvements / added value (HTML version)

- ✓ Improved configuration menu
- ✓ Videos
- ✓ Track conditions animations



Video: VBC entering and removing in level 2 (touch screen technology)



Video: Entry in TR in level 1 (touch screen technology)

# Generic ETCS Driver's Handbook: the harmonised operation manual

## Improvements / added value

- ✓ New sections: ATO, Supervised Maneuvers etc.
- ✓ Search function (HTML version)
- ✓ Merger of previous (Baseline 3) and updated (Baseline 4) Handbook
- ✓ Error corrections from previous Handbook
- ✓ Merger of Customization and Maintenance guide
- ✓ Merger of Traceability table and Inverse Traceability table



**SEARCH RESULTS**

Found 160 results for "trip":

[INT - Introduction \(INT\)](#)  
Post **trip** Mode

...that is entered after a train **trip** when the train has been broug...

Train **trip**

**trip** Mode

[CNT - ETCS control elements \(CNT\)](#)  
**trip**

Index of the handbook:

Introduction (INT)	+
ETCS control elements (CNT)	+
European Instructions (EI)	
No Power (NP)	+
Stand-By (SB)	+
Shunting (SH)	+
Supervised Manoeuvre (SM)	+
Full Supervision (FS)	+
Automatic Driving (AD)	+
Limited Supervision (LS)	+
Staff responsible (SR)	+
On sight (OS)	+
Sleeping (SL)	
Non-Leading (NL)	
Unfitted (UN)	
Trip / Post Trip (TR)	+
System Failure (SF)	
Isolation (IS)	+
National System (SN)	
Reversing (RV)	+
Entering and operating in a level (LTR)	+
Level Crossing (LX)	
Announced Track conditions (TKC)	+
Approaching an EOA, signal or marker board (APP)	+
Authorising the passing of an EOA (OVR)	+
Other procedures (OTH)	+
Locomotive and Passenger-related information (L&P )	+
National Functions (NFN)	
Degraded situations (DEG)	+
Shutdown of the system (OFF)	+
Class B system (CBS)	+

# Generic ETCS Driver's Handbook: the harmonised operation manual

## Guides & Customisation

### Customisation & Maintenance Guide

- Explains the principles of codification scheme
- Explains how to use the Handbook as a template to produce model-specific manuals (HTML & Word):
  - ✓ Remove not relevant parts
  - ✓ Complement with specific rolling stock information and other relevant information
- Explains how to maintain the Handbook when a new version of the ETCS reference documentation is released.
  - ✓ Analysis of the changes (traceability table)
  - ✓ Modifications/adding clauses/sections
  - ✓ Clause codification principles are explained

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# Generic ETCS Driver's Handbook: the harmonised operation manual

## Guides & Customisation

Section information				Clauses attributes						Number									
TIT	-	CHA	-	SEC	-	[	BSL	.	VER	.	LEV	.	LTR	.	TEC	.	TYP	]	N

Baseline Code	Meaning
B3M1	B3MR1
B32	B3R2
B3	B3MR1 & B3R2
B3241	B3R2 & B4R1
B41	B4R1

Screen technology Code	Meaning
S	Soft key
T	Touch screen

System version Code	Meaning
11	1.1
20	2.0
21	2.1
22	2.2
23	2.3
30	3.0

# Generic ETCS Driver's Handbook: the harmonised operation manual

## Guides & Customisation

### HTML guide

- Explains how to install HTML version (offline)
- Explains how use the HTML version:
  - ✓ Search function (offline)
  - ✓ How to use configuration menu
  - ✓ How to play videos, chronograms etc.

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EUROPEAN UNION AGENCY FOR RAILWAYS

Search...  
Search

ETCS Driver's handbook

### ON SIGHT (OS)

OS.APP APPROACHING AN OS AREA (APP)

- When the train is approaching an OS area, the Acknowledgement for On Sight mode symbol (MO08) is displayed. The driver shall acknowledge the OS mode as indicated in following section [OS ACK Acknowledge of OS mode \(ACK\)](#).

Presentatie laatste opgeslagen: Zojuist



MO08: Acknowledgement for On Sight mode

If the OS mode is requested for the current location, the transition to OS mode is performed immediately and the Acknowledgement for On Sight mode symbol (MO08) is displayed.

OS.ACK ACKNOWLEDGE OF OS MODE (ACK)

- When the Acknowledgement for On Sight mode symbol (MO08) is displayed, the driver shall:
  - Acknowledge,
  - Start or continue running on sight, meaning:
    - Proceed with caution, controlling the speed having regard to the visibility of the line ahead, so that it is possible within the free visible part to stop short of any vehicle, stop aspect or obstacle on the infrastructure; and
    - Not exceed the maximum speed for running on sight.

To acknowledge the OS mode, the driver shall press the  button as indicated in Figure OS.ACK-[L2.T]F1.

ERTMS...  
Operationele Regels ERTMS Nederland

### 1.5 On Sight (OS)

#### 1.5.1 Gebruik van de mode On Sight

OS./noot49

Met de mode On Sight kan de trein in een gebied rijden dat mogelijk bezet is door een andere trein. De mode On Sight wordt opgelegd door de infrastructuur als er een rijweg is ingesteld en de positie van de trein binnen het ETCS-systeem bekend is. De mode On Sight kan niet door de machinist worden gekozen. De maximale snelheid van de trein, de opdrachten naar de trein (track conditions) en het einde van de rijweg worden bewaakt door de boordapparatuur. Het stoppen van de trein voor een spoorbezetting moet door de machinist gedaan worden, er is hier geen bewaking op vanuit de boordapparatuur. Wanneer een rijweg wordt ingesteld in de mode On Sight die niet in de dienstregeling opgenomen is, wordt de machinist door de treindienstleider hierover van te voren ingelicht.

#### 1.5.2 Naderen On Sight gebied

OS.APP/ OS.ACK/GP-10/noot46/47

Als een baangedeelte wordt genaderd waar een rijweg in de mode On Sight is ingesteld dan:

- Wordt bij het rijden in de mode Full Supervision een EOA getoond op de DMI;
- Kan bij een snelheid lager dan 40km/h de overgang naar On Sight komen;
- Is de overgang naar On Sight uiterlijk bij het passeren van de blokgrens;
- Moet de machinist de modetransitie altijd bevestigen.

Tussen het bevestigen van de mode On Sight en de omschakeling naar de mode On Sight kan enige vertraging zitten.

#### 1.5.3 Rijden in On Sight

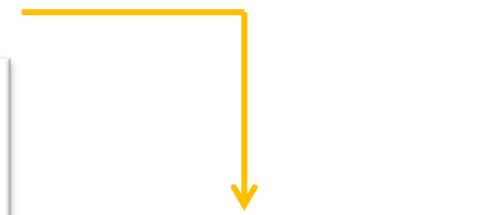
OS.RUN/noot4/364

Bij het rijden in de mode On Sight moet de machinist kunnen stoppen voor elke logische spoorbezetting.

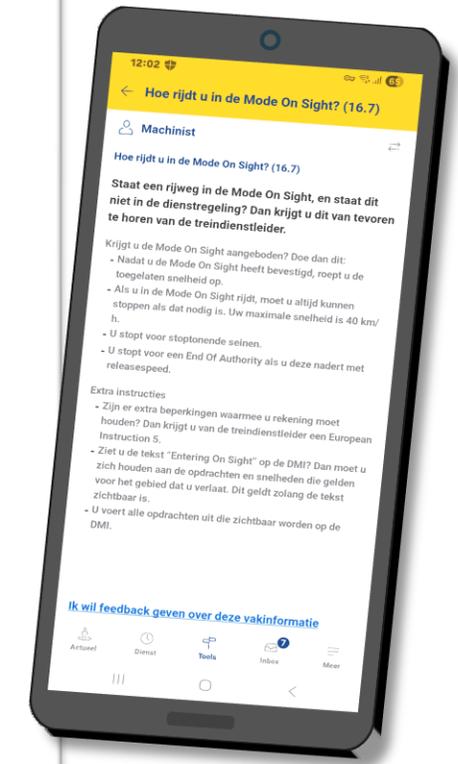
Als er aanvullende beperkingen gelden waarmee de machinist rekening moet houden, krijgt hij van de treindienstleider een **European Instruction 5** of **European Instruction 6**. De maximale snelheid wordt getoond op de DMI als deze door de machinist is opgeroepen. Als de tekst "Entering On Sight" wordt getoond op de DMI, moet de machinist zich houden aan de opdrachten en snelheden die gelden voor het gebied dat verlaten wordt, dit geldt zolang de tekst zichtbaar is.

De opdrachten uit de infra (trackconditions) die zichtbaar worden op de DMI, moeten worden opgevolgd. De kleur van het symbool bepaalt of dit door de trein automatisch wordt gedaan of dat er een handeling van de machinist noodzakelijk is (bedieningsvoorschrift van het materieel).

Versie 2.1



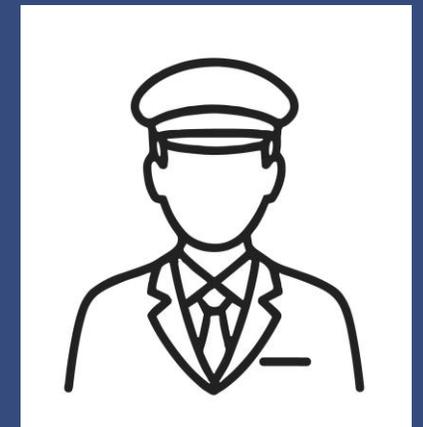
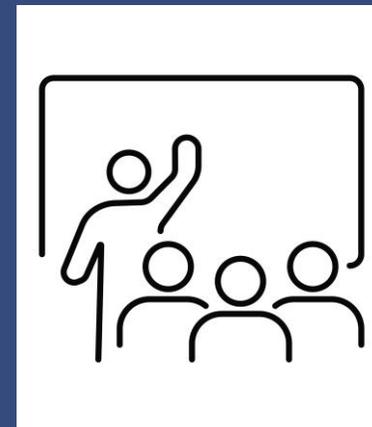
NS Driver's manual  
Including ETCS-procedures



# Generic ETCS Driver's Handbook: the harmonised operation manual

## Potential uses

- Be a reference user's manual for all possible B3 or B4 OBU configurations;
- Be used to derive dedicated drivers' manuals for specific OBU implementations in specific rolling stock types;
- Constitute a comprehensive harmonized tutorial for drivers' training purposes;
- Serve to elaborate questions for drivers' competence certification;



# Questions & Answers



# ERTMS 2026 CONFERENCE



*Register Now!*



21-23 April 2026 Valenciennes, France

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Moving Europe towards a sustainable and safe railway system without frontiers.

Translate this page

ERA study on rail traction energy measurement and consumption data exchange

ERA has just published a report presenting findings and recommendations on rail traction energy measurement and cross-border interoperability across the EU.

**Featured Topics**

- Work for ERA! APPLY BY 25 MARCH 2026 - Be informed that an external call for applications for posts of project officers at ERA is currently open.
- ERA Webinar - ETCS Drivers' Handbook: the Harmonised Operation Manual
- ERTMS 2026 Conference
- On Track with the Director
- Vacancies at ERA
- CCS TSI Appendix A - Mandatory specifications
- ESC/RSC Technical Document
- Generic ETCS Driver's Handbook
- Railway Terminology Collection
- Railway Factsheets
- Training Catalogue
- Railway Educational Inventory

**Quick Access**

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ERTMS 2026 Conference

On Track with the Director

Vacancies at ERA

CCS TSI Appendix A - Mandatory specifications

ESC/RSC Technical Document

Generic ETCS Driver's Handbook

Railway Terminology Collection

Railway Factsheets

Training Catalogue

Railway Educational Inventory

**Latest Updates**

- European Rail Traffic Management System (ERTMS)
- European Railway Station Accessibility Database (ERSAD)
- Risk Management Beyond Compliance Training - October 2026
- ERTMS 2026 Conference
- ERA Training Catalogue
- ERA study on rail traction energy measurement and consumption data exchange

**Latest Videos**

Webinar: Telematics Applications TSI

WATCH THE REPLAY and download the presentation of the webinar organised on 10 March 2026 designed to support stakeholders by providing information on the new Telematics Applications TSI.

ERTMS 2026 CONFERENCE

Register Now!

21-23 April 2026 - Valenciennes, France

ERTMS 2026 Conference

On 21 April 2026, 10:00 - Thursday 23 April 2026, 16:00 (Europe/Paris)

City: Cité des Congrès Valenciennes, 1 Esplanade des Roses-Cathédrale de Tournai, 59401 Valenciennes, France

The European Union Agency for Railways welcomes you to the ERTMS 2026 Conference scheduled from 21 to 23 April 2026 in the city of Valenciennes, France.

This international conference will present a strong and high-quality agenda, featuring conference sessions and a variety of workshops that will open the full spectrum of topics in the field of ERTMS. The event will bring together policy makers, industry representatives, railway undertaking and infrastructure managers as well as key stakeholders in order to share experiences and drive forward the rollout of European Rail Traffic Management System (ERTMS) in Europe and beyond.

Discover below the newly published, comprehensive descriptions of the workshop sessions.

Join us to learn about the latest developments in ERTMS, expand your professional network and help shape the future of the industry. Should you have any questions, please contact the conference team at [ERTMSConference@era.europa.eu](mailto:ERTMSConference@era.europa.eu).

Please follow us on LinkedIn using the hashtag #ERTMS2026.

We are looking forward to welcoming you in Valenciennes!

Register now!

**Oana Gherghinescu: "Join us in Valenciennes! Be part of the progress!"**

Watch the video that ERA's Executive Director recorded ahead of the ERTMS 2026 conference.

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**Why should you attend?**

The ERTMS 2026 Conference will provide an in-depth exploration of ongoing projects and successful deployment cases of ERTMS across Europe and worldwide. The agenda will focus on challenges encountered, improvements achieved, and strategies for cost reduction and certification process optimisation. It will also highlight how new technical and technological advancements can further enhance efficiency and performance. Additionally, the conference will address the future of railway communications, including the migration towards 5G/6G, offering a holistic view on innovation and sustainability in the sector.

**Agenda**

Discover all the workshops, sessions, and speakers for the ERTMS 2026 Conference. This agenda will be regularly updated.

ERTMS 2026 Conference Agenda

**Conference fees**

Registration Packages	Standard Fee
Conference participation (21-23 April 2026)	500€
Webinar on 22 (a.m and p.m) and 23 (a.m) April 2026	50€

Register now!

We would like to inform you that:

- Participants are responsible for their own travel costs and accommodation.
- The registration for the conference will only be valid after receipt of the full registration fees.
- On-site registration will not be possible.

**Accommodation**

The nearby hotel below offer special rates to participants of the ERTMS 2026 Conference. To take advantage of this offer, please contact the hotel by email as indicated:

- Royal Intercity (\*\*\*\*) (breakfast included): 155€ TTC single / 209€ TTC double room, reservation to be made at [reservation@intercityhotel.com](mailto:reservation@intercityhotel.com) / +33 2078 9191, refer to ERA and code ERTMS26.
- Marquis Valenciennes (\*\*\*\*) - 160 € / Night (breakfast included), reservation to be made at [RES@marquis.com](mailto:RES@marquis.com) / +33 3 27 23 50 40, refer to ERA and for the conference on 21-23 April.
- Les Valenciennes (\*\*\*\*) - 100 € (breakfast included), reservation to be made at [RES@lesvalenciennes.com](mailto:RES@lesvalenciennes.com) / +33 3 27 22 80 80, refer to ERA and for the conference on 21-23 April.
- Hotel Backpack (\*\*\*\*) - 110 € (breakfast included), reservation to be made at [RES@hotelbackpack.com](mailto:RES@hotelbackpack.com) / +33 3 27 82 80 80, refer to ERA and for the conference on 21-23 April.

Disclaimer: Subject to availability of the room and rate. Be informed that there are just select hotel options, please check competitors and booking engines to obtain all accommodation possibilities and prices.

**Previous Editions**

ERTMS 2026 CONFERENCE

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ERTMS 2026 Conference Agenda

Discover all the workshops, sessions, and speakers for the ERTMS 2026 Conference. This agenda will be regularly updated.

Print to PDF

21 April 2026 | 22 April 2026 | 23 April 2026

08:30 - 09:00 | Registration and ERA Staff Welcome

09:00 - 09:45 | Official opening

09:45 - 11:15 | Session 1: ERTMS Status and Outlook

Objective of the session:

- Provide a high level overview of the current ERTMS deployment status in Europe.
- Highlight regulatory, technical, institutional and financial challenges impacting the roll out.
- Share the perspectives of major sector organisations on upcoming priorities.
- Facilitate a structured debate on the future direction and strategic roadmap of ERTMS.

**Moderator**

Kristian Schmidt  
European Commission (DG MOVE)

09:45 - 10:00 | ERTMS Workplan

Matthias Ruete  
European Commission (DG MOVE)

10:00 - 10:15 | ERTMS Roadmap

Joachim Lücking  
European Commission (DG MOVE)



# THANK YOU

Moving Europe towards a sustainable and safe railway system without frontiers.

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Commission

