EUROPEAN UNION AGENCY FOR RAILWAYS

Making the railway system work better for society.

ANNEX

Light Impact Assessment

ERTMS –Opinion 2017-5

	Elaborated by	*Validated by*	*Approved by*
Name	O. Rebollo W. Malfait	O. Gherghinescu	J. Engelmann P. Guido
Position	Project Officer Economic evaluation officer	Economic evaluation officer	Head of Unit
Date			
Signature			

Document History

Version	*Date*	*Comments*
First draft	12/10/2017	Created by Oscar Rebollo
Second draft	13/10/2017	Includes comments from Wouter MALFAIT

Contents

1. Context and problem definition

<table>
<tr><td>1.1.</td><td>Problem and problem drivers</td><td>The European Rail Traffic Management System (ERTMS) is a complex software-based system that needs constant monitoring, update and upgrading; In its capacity as System Authority for the ERTMS, the Agency has set up a change control management system for the ERTMS specifications, involving the Sector organizations, in order to collect feedback from the implementation of the system.

The revised TSI for the onboard and trackside CCS subsystems has been adopted by Commission Regulation (EU) 2016/919 (hereafter CCS TSI) published in the Official Journal of the European Union on the 15th June 2016.

The specifications defining the functional behaviour for the ERTMS/ETCS is set up in the Index 4 of the Annex A (System Requirements Specifications) of the Commission Regulation (EU) 2016/919.

The corresponding on-board test requirements documents are indicated in the Index 37b), 37c) and 37 d) of Annex A of the Commission Regulation (EU) 2016/919, the so called ETCS Subset-076.

The corresponding laboratory architecture to the test requirements are indicated in Index 31 of Annex A of the Commission Regulation (EU) 2016/919, the so called ETCS Subset-094.

The Agency has received feedback from the ERTMS accredited laboratories and the European Industry (UNIFE/Unisig) concerning deficiencies in the Index 37 b), 37c) and 37 d) of Table 2.2 of Annex A of the Commission Regulation (EU) 2016/919 (B3 MR1).

The current Index 31, 37 b), 37c) and 37 d) of Table 2.3. of Annex A of the Commission Regulation (EU) 2016/919 (B3 R2) are indicated as "reserved" and the note 13 of the Annex A states that these indexes will be set out in a technical opinion of the Agency.

Problem addressed:
The Agency has detected deficiencies in the Index 37 b), 37c) and 37 d) of Table 2.2 of Annex A of the Commission Regulation (EU) 2016/919. The Agency wishes to close the reserved documentation in Index 31, 37 b), 37c) and 37 d) of Table 2.3. of Annex A of the Commission Regulation (EU) 2016/919</td></tr>
<tr><td>1.2.</td><td>Main assumptions</td><td>N.a.</td></tr>
<tr><td>1.3.</td><td>Stakeholders affected</td><td>
<table>
<tr><th>Category of stakeholder</th><th>Importance of the problem</th></tr>
<tr><td>IM, RU, ERTMS Manufacturers</td><td>4</td></tr>
</table>
</td></tr>
</table>

1.4.	**Evidence and magnitude of the problem**	At the end of 2017 more than **4000 km of lines** will be in operation with ERTMS on the Core Network Corridors, and almost **7000 vehicles** are equipped or contracted in the EU [EC staff draft working document "ERTMS Deployment Action Plan"]. The Subset-076 provides a harmonized test specification to prove the conformity of the ETCS On-board equipment. If different means (e.g. supplier or project specifc) are used to prove the conformity of the products a different behavior of the on-board equipments could be deployed, which would hinder interoperability. Same problem could occur if the Ss-076 deficiencies are not corrected.
1.5.	**Baseline scenario**	If no action is taken, the application of a Ss-076 with deficiencies in B3 MR1 and the lack of Ss-076 in B3 R2 could trigger the deployment of different on-board behaviours that would hinder interoperability. This will likely generate **additional costs for the IMs and RUs, due to the risk of non interoperability.** There will be likely also impact on **Manufacturers**, due to the indirect effect that the lack of interoperability and standardization will have on the market for ETCS.
1.6.	**Subsidiarity and proportionality**	The problem is linked to ETCS specifications which are part of the TSI CCS.

2. Objectives

2.1.	**Strategic and specific objectives**	☐ Europe becoming the world leader in railway safety ☒ Promoting rail transport to enhance its market share ☒ Improving the efficiency and coherence of the railway legal framework ☐ Optimising the Agency's capabilities ☐ Transparency, monitoring and evaluation ☒ Improve economic efficiency and societal benefits in railways ☐ Fostering the Agency's reputation in the world **Specific objectives:** 1. Ensure **an effective reference for the design, implementation and assessment** of the ETCS subsystems onboard and trackside 2. **Give guidance** on the necessary steps to implement the reference taking account of the existing installed base
2.2.	**Link with Railway Indicators**	n.a. Tests specifications avoid errors being introduced in ETCS products. Today, the Agency mainly monitors the number of errors in the specifications (RI3.3), however does not perform consultations within the sector on the number of errors appearing in products.

3. Options

3.1.	List of options	Option 0 (Baseline): do nothing Option 1: Transparent publication of Ss-076 versions for B3 MR1 and R2. Option 2: Update of the TSI CCS with corrected specifications.
3.2.	Description of options	**Option 0 (Baseline): do nothing** No publication of Ss-076 versions and no update of CCS TSI **Option 1: Transparent publication of Ss-076 versions for B3 MR1 and R2.** Publication of Ss-076 correcting deficiencies for the B3 MR1 Publication of Ss-076 and Ss-094 that are currently reserved in the TSI CCS Update of TSI CCS in the frame of the current revision by 2019 **Options 2: Update of the CCS TSI with the corrected specifications** All the specifications will be included in a recommendation to revise CCS TSI.
3.3.	Uncertainties/risks	The accredited laboratories could use the current Ss-076 conataining deficiencies for the testing of on-board equipments for the B3 MR1. The accredited laboratories could use proprietary testing procedures for the testing of on-board equipments for the BR R2 as it is currently reserved.

4. Impacts of the options

4.1.	Impacts of the options (qualitative analysis)	**Option 0 (Baseline): do nothing** ***Negative impacts:*** The interoperability risks are likely to cause additional costs for IMs and RUs, delays for projects to enter in commercial service, and reputational damages to the ERTMS project and the actors involved [see 1.5]. **Option 1: Transparent publication of Ss-076 versions for B3 MR1 and R2.** ***Positive impacts***: *(1) Transparent detailed information will enable harmonized testing process for the On-board equipments* *(2) Provide full information about the certification regime that will be maintained in the next TSI CCS revision (by 2019).*

		(3) *Provide the missing reserved documents in the B3 R2 for compliant on-board equipments to be available on the market.* ***Negative impacts***: (1) *Accredited laboratories will need to take into account the new set of specfications proposed for their accreditation review. Nevertheless, this can be included in the periodic review process of the ISO 17025 accreditation and all accredited laboratories have participated in the development of the new documents, so they are fully aware.* **Options 2: Update of the CCS TSI with the corrected test specifications** ***Negative impacts:*** (1) *Delayment of guidance for harmonization of testing specifications.*
4.2.	**Impacts of the options (quantitative analysis)**	N.a.

5. Comparison of options and preferred option

No comparison of options was necessary.

The only feasible option, which meets the specific objectives addressed by this opinion is **Option 1.**

Option 0 is likely to generate additional costs and project delays and uncertainties, while hampering interoperability.

Option 2 addresses the problem only in the abstract space of the specifications, without offering concrete and timely guidance for mitigations and harmonization of test specifications in the intermediate period.

6. Monitoring and evaluation

6.1.	**Monitoring indicators**	N.a.
6.2.	**Future evaluations**	The ERTMS Stakeholder Platform is the appropriate forum to ensure the follow up and evaluation of the implementation of the measures proposed in the Opinion.