# Revised CCS TSI (EU) 2019/776

Session III: ERTMS regulatory and funding framework – 16/10/2019 Juan Hernández Fernández





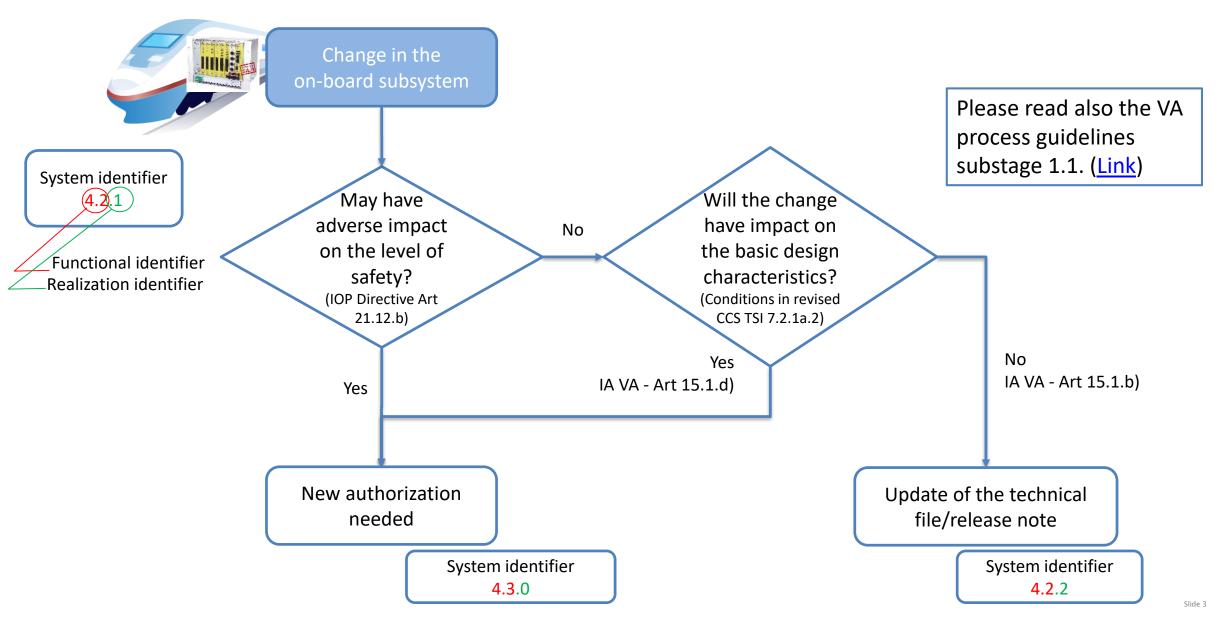
## CCS TSI Revision (EU) 2019/776 – CCM Change requests

Focus on TSI Text - No changes in the current ETCS and GSM-R Baselines -

- CR #001: Changes in authorized subsystem (article 4.3.h) ⇒ BDCs (Table 7.1) Minor SW update
- CR #002: Parameters route compatibility (article 4.3.i) ⇒ ESC/RSC (Basic parameter 4.2.17)
- CR #003: Chapter 6 Testing and Validation (Superseded by CR 001/002)
- CR #004: Train Detection ⇒ Index 77 Interface document v4.0 / Axle Counter IC (Section 5)
- CR #005: Editorial & Miscellaneous
- CR #006: Harmonization of NoBo documentation (Rejected. IA on EC Declaration for Verification)
- CR #007: Incorporation of Opinion 2017/5 about test specifications ⇒ Annex A tables set #2-3
- CR #008: Clarification of ETCS level definitions ⇒ Section 2.3: Trackside Application Levels
- CR #009: Common Safety Methods Risk Assessment and Safety standards CENELEC
  - Section 3.2.1: **CENELEC** standard application to be assessed by an **AsBo**
- CR #010: Migration provisions for the Next Generation Communication Systems
  - Section 7.4.4: Radio migration in the NIP



## CCS On-board subsystem SW changes





## ETCS and Radio System Compatibility – General process







IM classifies the trackside according to ESC & RSC checks required for demonstrating technical compatibility.

This values are recorded in RINF

Each IM notify ESC/RSC.

The Agency shall set up and manage the set of checks to demonstrate the technical compatibility

Eg: ESC-1, RSC-1

#### **Vehicle authorisation**

Applicant performs the ESC/RSC.

The result are verified by NoBo and a ESC Statement for the subsystem is produced.

Recorded in the vehicle authorisation.

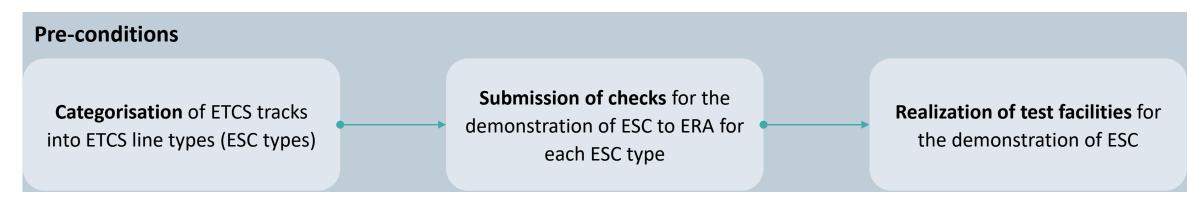
This values are recorded in ERATV.

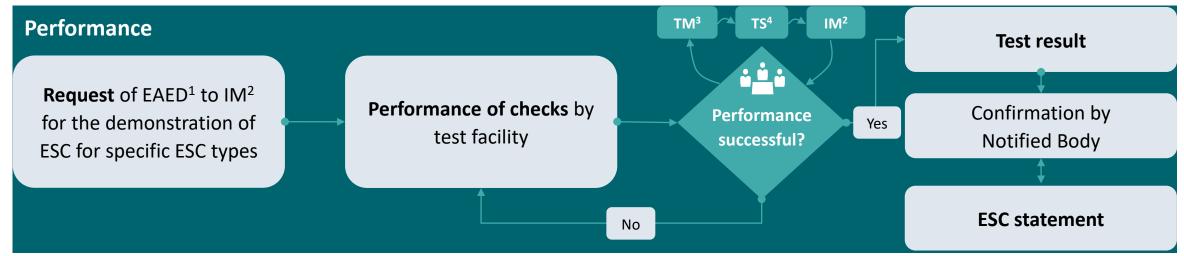
Route
Compatibility
Check
(not part of VA)

RU compare ETCS & Radio System Compatibility value between in RINF



## ETCS system compatibility (ESC) Testing Process





<sup>&</sup>lt;sup>1</sup> Entity applying for ESC demonstration

<sup>&</sup>lt;sup>2</sup> Infrastructure Manager

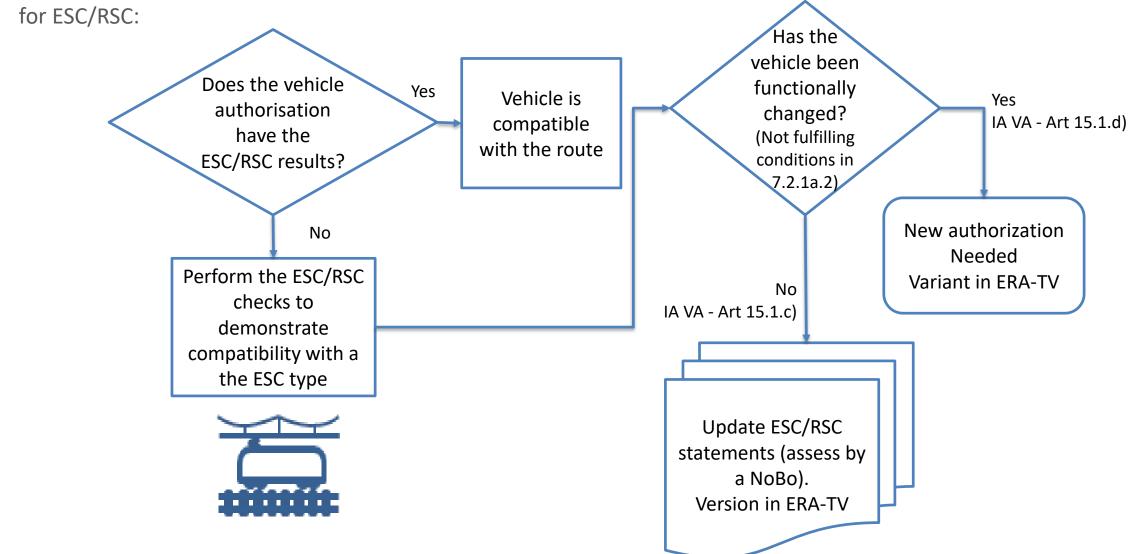
<sup>&</sup>lt;sup>3</sup> Test Manager

<sup>&</sup>lt;sup>4</sup> ETCS trackside supplier



## ESC/RSC – Changes on-board: Addition of new ESC/RSC statements

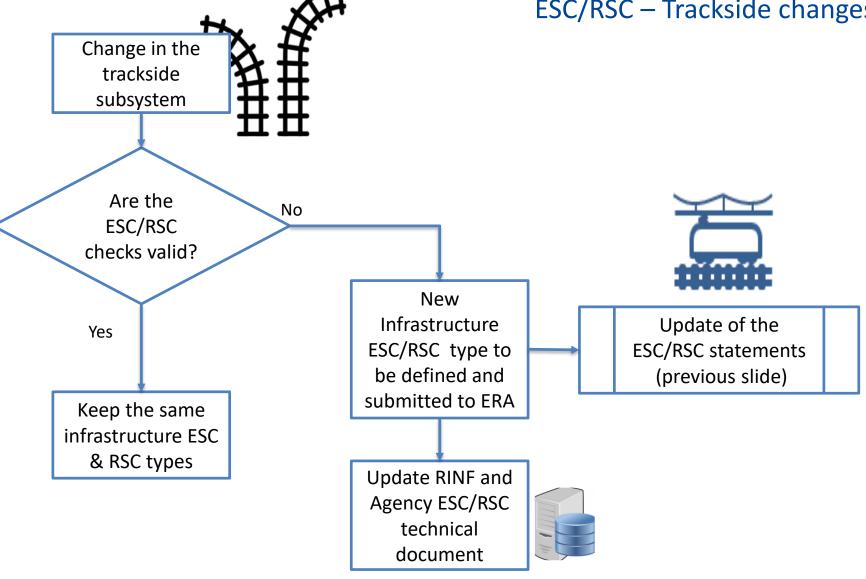
If a vehicle wants to operate in a route inside the area of use with a different technical parameter for ESC/RSC:





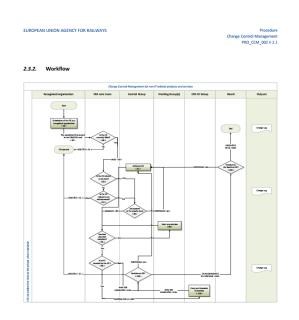
## ESC/RSC – Trackside changes

Note: 7.2.1b3 Infrastructure managers shall ensure that changes to an existing trackside subsystem do not affect the technical compatibility of TSI compliant on-board subsystems in operation on the lines concerned by the changes (except new set of specs or options)





• The **CCM procedure** will continue to be applied due to good experience on the last CCS TSI Revision.



- Change request (CR) per topics
- Transparency and traceability

Coordination with other TSIs (LOC&PAS, OPE, ...) to produce a synchronised update.



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