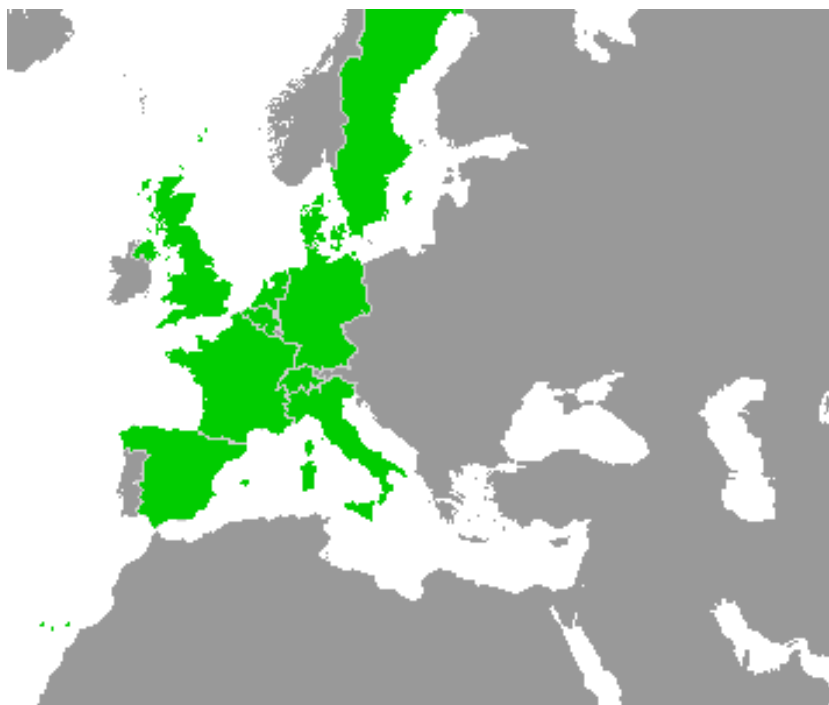


Work-Package 2: “Requirements”

SRS subset for modelling tool benchmarking

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SRS subset for modelling tool benchmarking

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Requirements

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Abstract: This document defines the subset of SRS SUBSET-026 that should be used to evaluate modelling tools.

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1 Introduction

One goal of openETCS is to make a model of the ERTMS/ETCS System Requirement Specification (SRS). Several tools are possible to make this model. In order to evaluate them, we need to define a subset of the SRS that would be modelled by each tool, therefore allowing to compare the tools on the same basis.

This document defines this subset of SRS.

2 SRS Subset definition

The following paragraphs of UNISIG *SUBSET-026 v3.3.0* should be used in the benchmarking model in order to evaluate a tool. This subset is divided into two subsets: a high priority subset that should be modeled first and a lower priority subset that should be modeled if time permits.

2.1 High priority items

§3.5.3 Establishing a communication session Rationale: Sample of the communication part.

§3.13.4 (Acceleration / Deceleration due to gradients)

§3.13.6.2 Emergency brake and more particularly:

§3.13.6.2.1.3 (calculation of A_{safe} , function of V and d , depending on the gradient profile, braking models of the train, several correction factors etc; this is the basis of the EBD curve, see Figure 38)

§3.13.7 Determination of Most Restrictive Speed Profile (MRSP) Combine for example several TSR and LX restrictions

§3.13.8.3 Emergency Brake Deceleration curves (EBD)

§3.13.9.3.3.9 Computation of d_{FLOI} , using d_{SBI2_MREBDT} (MREBDT: Most Restrictive Target amongst the EBD based targets)

§3.13.9.4 Release speed supervision limits and more particularly:

§3.13.9.4.7 (computation of different release speed supervision limits)

§3.13.9.4.8 (computation of the most restrictive value at the Trip location related to the EOA, amongst several EBI supervision limits)

§3.13.9.4.8.2 (iterative computation of the release speed)

§3.13.9.4.9 (using of the most restrictive MRSP value instead of the release speed)

§3.13.10.4.2 Calculation of the MRDT (Most Restrictive Displayed Target)

§4.6.2 (Transitions Table) and §4.6.3 (Transitions Condition Table) Only transitions:

1. from SB to SH
2. from SB to FS
3. from SB to IS

Rationale: Having transitions at different priority level is important to look at priority issues and exclusion issues at the same priority level.

§5.9 Procedure On-Sight Rationale: Procedure sample, contains a timer. Procedure not too long compared to Start of Mission.

2.2 Lower priority items

§3.6.3.2 Location, Continuous Profile Data and Non-Continuous Profile Data Rationale: example of complex generic data structure.

§3.8.3 Structure of Movement Authority and §3.8.5 Update of Movement Authority Rationale: example of complex procedure, with complex data.

§3.11.3 Static Speed Profile and §3.11.12 Gradients Rationale: example of data structure, referring to §3.6.3.2 and used by §3.13.4.

§4.8.3.2 From National System X (through STM interface) Rationale: Model a small table.
FIXME: Isn't such a table redundant with §4.6.2?

FIXME

§8.7.2 Movement Authority message This includes reference to Packet 15 (§7.4.2.4). FIXME: Maybe reference one optional packet

FIXME

Rationale: That would be a perfect use case for tools able to model things down to bit level.

3 Other open questions

FIXME: Should we model an API? E.g. Odometer? Which reference document?

FIXME