ERTMS National Implementation (NIP) Plan of Switzerland, Summary

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1. Introduction

- The Swiss implementation plan has been defined by FOT with the following decisions:
    a) January 2000, general migration strategy towards ETCS
    b) August 2011 the migration strategy for ETCS L2
    c) May 2012 the issue of the directive for L1 LS implementation

- Regarding the applied baselines the following is valid:
    a) Lines with ETCS Level 2 are all based on Baseline 2.3.0d
    b) Lines with ETCS Level 1 Limited Supervision (L1 LS) are all based on Baseline 3.4.0
    c) For vehicles with ETCS only the Baseline 3.4.0 or superior grade is required

- The first baseline 3.4.0 OBU's have been successfully tested regarding ETCS L1 LS$_{CH}$

- The ICE 4 and the EC 250 (Giruno) are already authorised to run test's in the Swiss network with ETCS L1 LS$_{CH}$
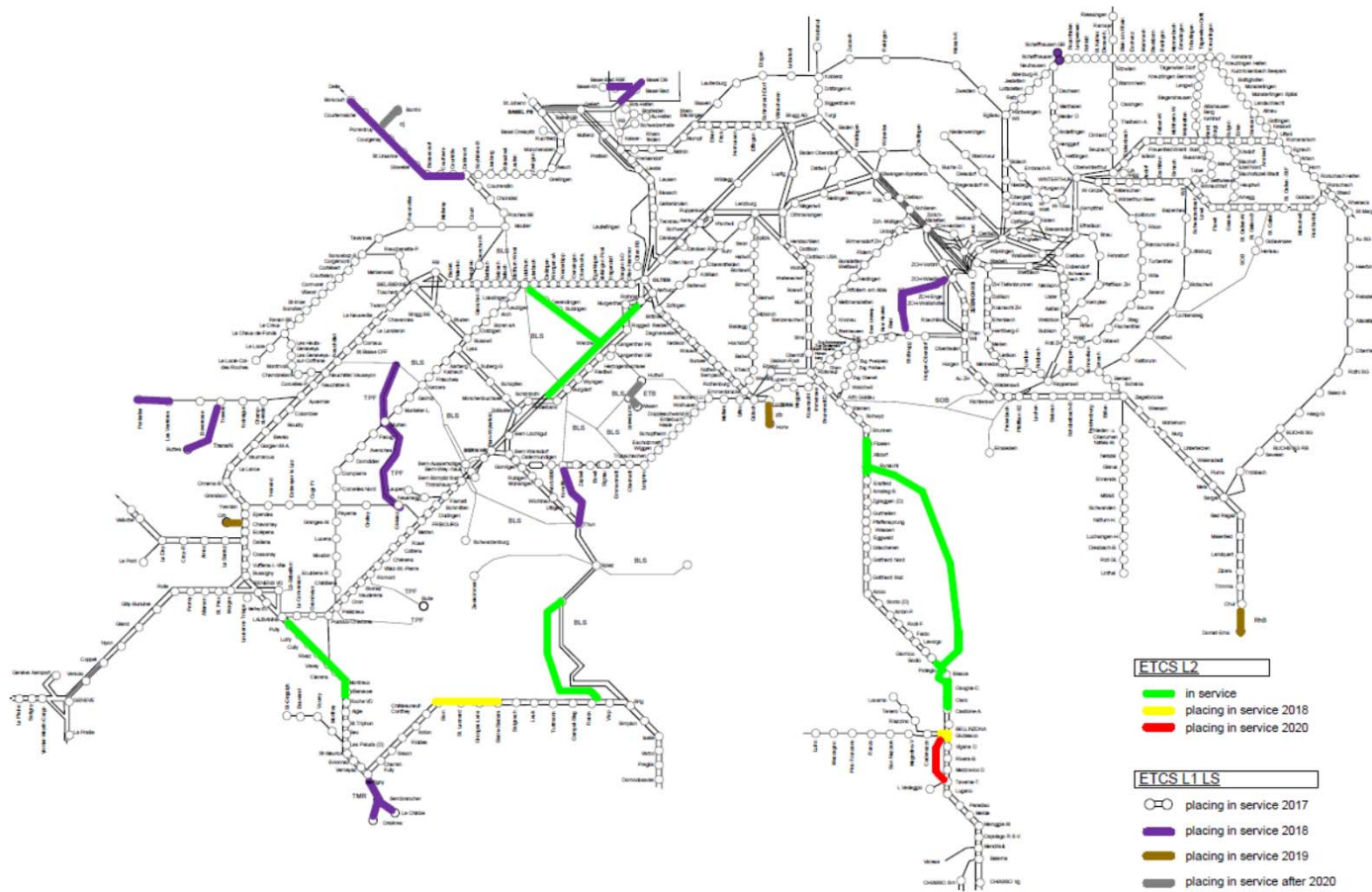
2. Status of ETCS implementation on Swiss network

- Up to now, approximately 13'700 Balise groups (of around 15' 500) are installed and in service with ETCS L1 LS / packet 44 (EuroSIGNUM/EuroZUB).

- In April 2017 the Level 2 line Lausanne – Villeneuve has been placed in service (on time).

- By December 2017 (except of the L2 lines and very few exceptions on the conventional network), ETCS L1 LS_{CH} / packet 44 (EuroSIGNUM/EuroZUB) will be in service on the entire Swiss network.
  ➔ from beginning 2018, new vehicles do not need anymore the class B system SIGNUM and ZUB.

- **18th of September 2017, FOT authorised the track side placing into service of ETCS L1 LS_{CH} for SBB**.
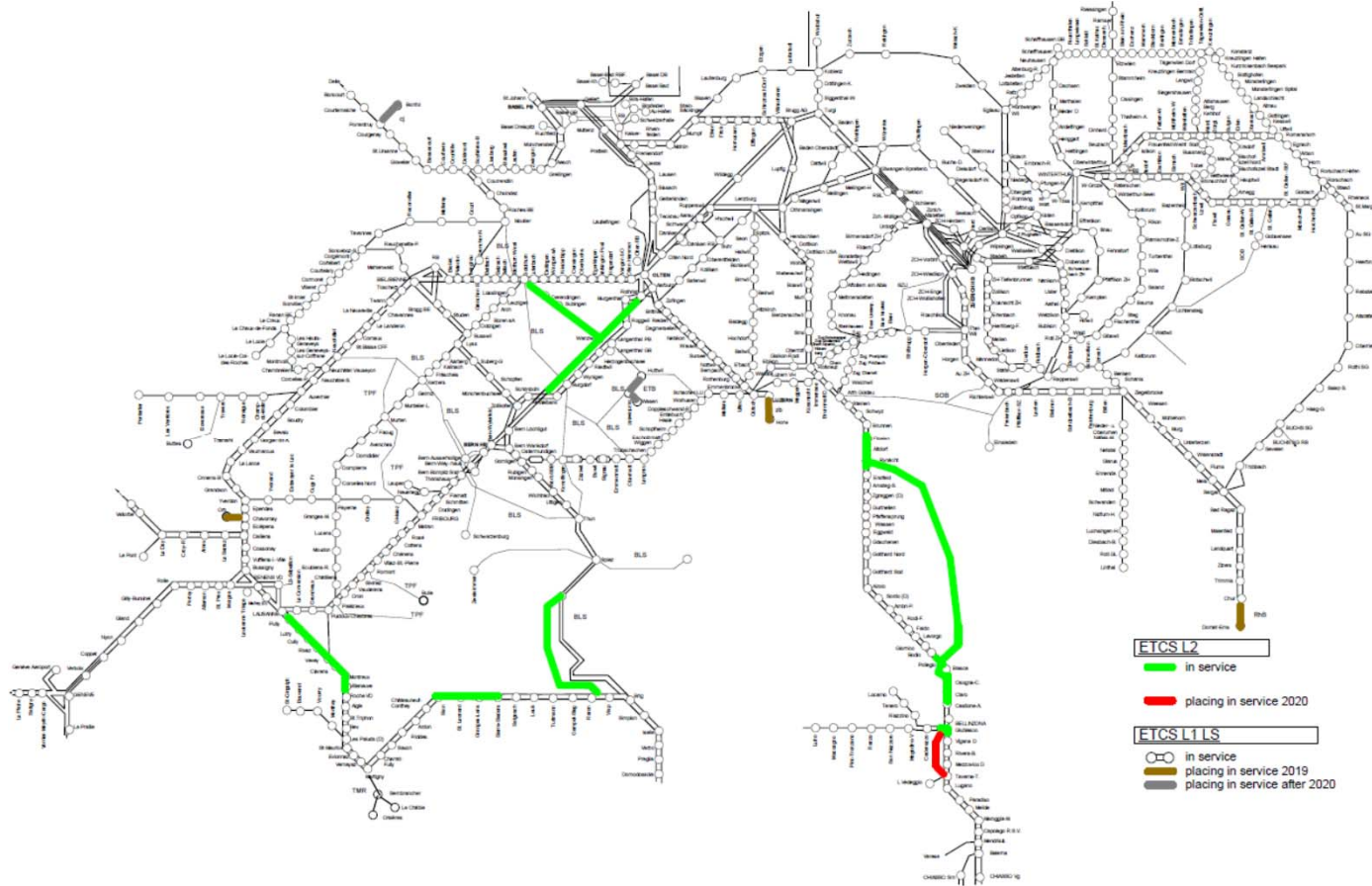
2.1 Status implementation end of 2017

2.2 Status implementation end of 2018

3. Status of ETCS implementation at border sections

Area of Basel

- DB Netz has installed approximately 40% (of 420 installations) by now.

- It is still a risk to be ready with the installation by end of 2017.

- Also the authorisation of ETCS L1 LS_{DE} by EBA seems to be uncertain.

- For the first baseline 3.4.0 trains (ICE 1 and ICE 3) operated to Basel, the transition between STM PZB and ETCS L1 LS_{CH} is already successfully tested and will be ready in December 2017.

Iselle – Domodossola

- The project is on schedule. It seems to be possible to place in service ETCS L1 LS_{CH_IT} together with packet 44 (EuroSIGNUM/EuroZUB) in December 2017.

Ranzo – Luino

- The project is delayed to April 2018.

- Main reason for the delay is due to the tunnel construction work for 4m profile.

4. Further development for ERTMS

- FOT is requiring a general roll out of ETCS L2 from 2025 upward.
  This with regard of the replacement of old relay interlocking (end of life).

- Until 2025 few dedicated sections will be equipped with ETCS L2 (with state of the art interlocking technology and GSM-R). This sections are all prolongations of connections where L2 is already in service (corridor lines).

- SBB is studying the possibilities for a new generation of interlocking (combined wit RBC) and new possibilities for the localisation of trains.

- The study (technical feasibility and feasibility in financial matters) is expected by end of 2019.

- Dependent on the result of the study, FOT will decide about the future rollout of ETCS L2 (L3).

Important note:

The future rollout of ETCS L2 (2025 upward) is also linked with the rollout of the new telecommunication solution (not anymore GSM-R).