ERTMS

Market Consultation VVZE

‘an economic solution for incidental movement of vehicles without ERTMS over ERTMS infrastructure’

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Subjects

- Backgrounds & Fleet, Phase 1, 2
- The challenge, Phase 3
- Ambition, Phase 4

Only a part of the country is migrated to ETCS

Retrofit of complete national fleet makes no sense. An economic solution has to be found for:

- EMU's and DMU's used for regional concessions,
- On Track Machines and Measurement Vehicles ('yellow fleet'),
- Historical fleet ('black fleet').

Field of operation: incidental movements of RS to other regions, workshops, project- and maintenance sites and events.

RS involved: 37+ types

VVZE study phase 1: five possible solutions

- ETCS-taxi
- ETCS wagon
- ETCS trolley *
- EVC tablet *
- ETCS werkzone (infra solution)

Results:
significant potential cost reduction identified,
further investigation for two solutions * initiated

VVZE study phase 2

Done: consultation of ERA, ILT, SNCF, operators and owners; further detailing of two promising solutions:

- ETCS trolley,
- ETCS tablet.

Results:

- ETCS tablet: technical and homologation risks ?
- ETCS trolley: Concept Design Statement available.

Causes of cost reduction:

- # trolley's < # vehicles,
- Standard application architecture and reuse of existing, peripherals (sensors, brake control) reduces cost of FiC engineering and approvals,
- Reuse of existing peripherals and wiring reduces cost of installation.

Existing installed base Class B equipment: two types of ATB on-board units

- ATBL-NL product of Alstom
  EMU's and DMU's
  Yellow fleet (partly)

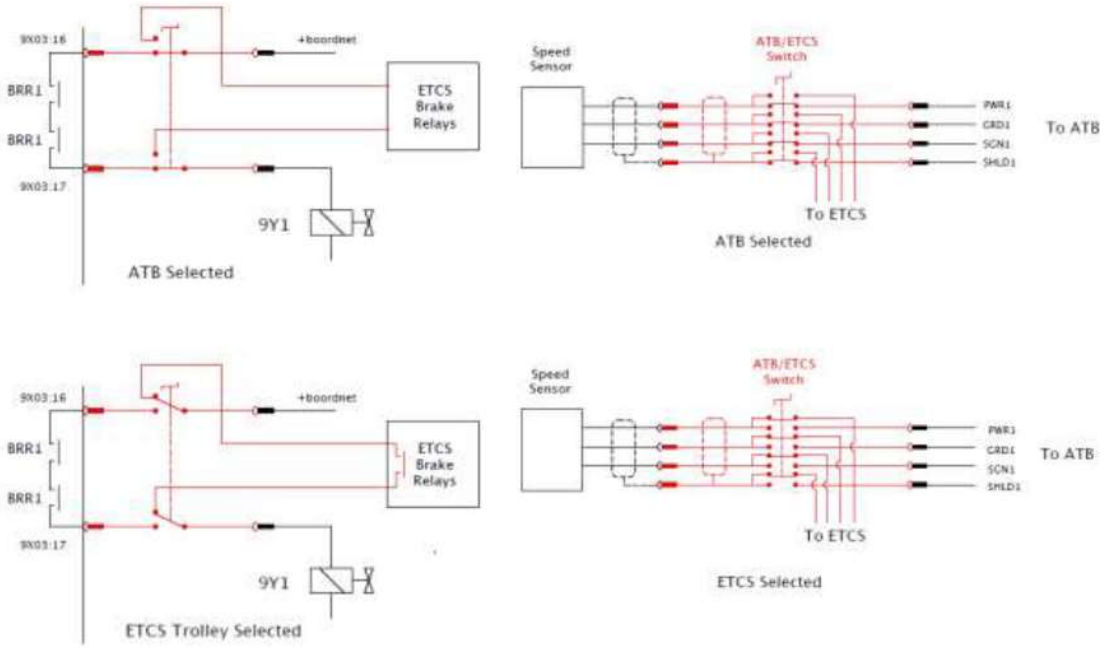
- ATBE product of LRRE/Strukton
  Historical fleet (partly)
  Yellow fleet (partly)

Opportunity: standard engineering solutions for retrofits:

- Limited number of existing application diagrams based on detailed installation manuals
- Reuse of 'standard' already mounted and wired peripherals like axle sensors, brake valves

CDS: A documented *proposal*

System selection is done by:
- by switching power to the required system: ATB or EVC
- By switching peripherals to the selected system



Phase 3 Consultation challenge

Proposal for a 'transportable' plug-in retrofit solution:

- In time
- In limited space
- Low cost for train type related application engineering
- Low cost for train type related authorization
- Limited amount of fixed train-borne equipment
- Which withstands heat, dust and moisture

- Operational hindrance because of simplification can be acceptable, to be discussed.

- Size and housing is free, but single person must do the job of transport and installation.

- Application of STM's must be possible.

- Low First in Class cost is a must:
focus on GPSC with a generic application manual for OTM's, diesel/steam/electric propelled loco's and multiple units.

- Low cost of fixed part of the installation is important.

CDS is not a requirement document; it presents thoughts about a solution. Main field of application is OTM & Historic

Ambition

Summer 2021 – operational tests (Phase 4)