

On-board and trackside architecture as foreseen in the CCS TSI 2022

Workshop 3

- We asked the participants to split in three groups to discuss the **overall CCS system, trackside** and **on-board CCS architecture** separately;
- general observation: on-board architecture is the most requested topic.

Key statements from the participants

System architecture – focus: migration from legacy to CCS TSI compliant solutions

- outdated and proprietary interlockings are the major obstacles for migration;
- suppliers apportion different functions to interlockings and RBCs;
 - harmonized interlockings would facilitate migration.
- overlaying principles (migration phase with double equipment (NTC/Class B & ETCS)) brings a lot of complexity;
- younger drivers are faster in becoming familiar with ETCS.

Key statements from the participants

Trackside architecture – focus: ATO

- TMS→ATO TS→ATO OB needs advanced (as far as possible) time table+route for efficient optimisation of punctuality, energy consumption and track utilization;
- ATO over ETCS can be immediately implemented based on all ETCS levels.

On-board architecture – focus: modularization & harmonization of interfaces

- modularization & interface harmonization facilitate interchangeability & upgrades;
- ethernet based common bus will be a huge step for performance & scalability;
- stronger harmonization needs to be well balanced as it might block innovations;
- more modularity might increase complexity for integration & certification costs.