

FRMCS Onboard Deployment SNCF Voyageurs analysis

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Key dates of the legal framework

The Control Command System Technical Specifications for Interoperability (CCS TSI) that will include the FRMCS Specifications are foreseen at end 2028.

Based on the 2023 CCS TSI, the GSM-R shall not be « unplugged » less than 5 years after the publication of the new CCS TSI.

This means that commercial operations of FRMCS trains may not start before end of 2033. In the meantime, GSM-R obsolescence is expected to be important in 2035.



**Some Infrastructure
Managers may take
different
assumptions !**



10.000

**Cabins must be
modified in France
to implement
FRMCS**

Key figures for France

Approx 150 types of trains are impacted.

If we want to equip all the cabins within a 7-year period, it means we need to equip 2.000 cabins per year at peak period i.e. 10 per day.

Assuming a 4-day throughput time, it means we will need 40 teams to modify the trains.

The total length of tracks used for this task is 4 kilometres.

In other words, it is a huge project.

Uncertainty

Several technical points are still under discussion

- MNO innocuity with RMR frequencies,
- 900 MHz chipset availability,
- Multipath features,
- ...

For the train owners, this means that the configuration of the equipment to be installed is unclear.

As an example, the number of antennas to install on the train roof depends on ongoing discussions, equipment availability and trackside equipment.

Preparation Work

SNCF Voyageurs settled a dedicated team for this project early 2024.

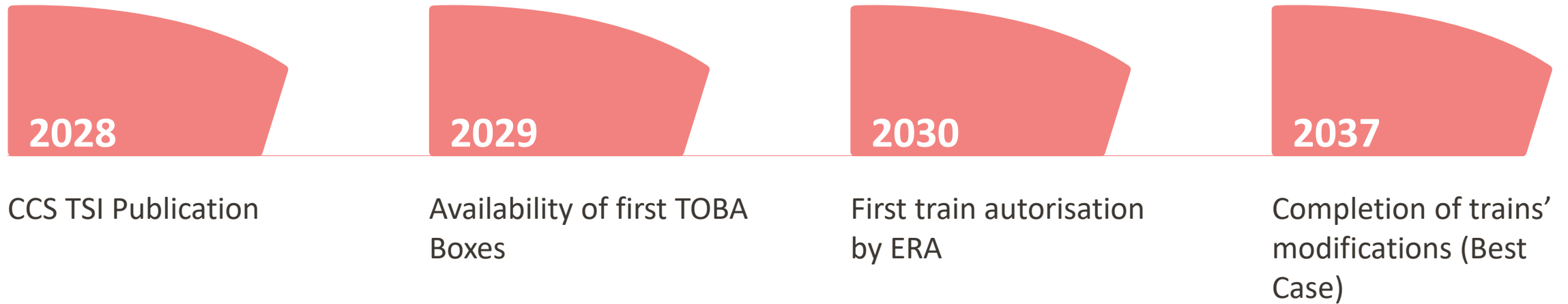
This team is now investigating the industrial organisation we will have to structure to succeed.

This team is also preparing the communication tools to inform the train owners. SNCF does not own most of the trains that will have to be modified.

SNCF Voyageurs will propose assistance to modify the trains. This means contracts must be signed in the coming years.

Deployment timeplan

France best case



What are the actions we take ?

Make all stakeholders aware of the situation !!!

Contact the Infrastructure Manager to discuss the timeline

Prepare the budgets to get the equipment and the skills

Support the work on the simplification of the ERA authorisation process.

Support the specification process and the test and validation process

Check whether new trains or trains entering overhaul can be prepared for FRMCS

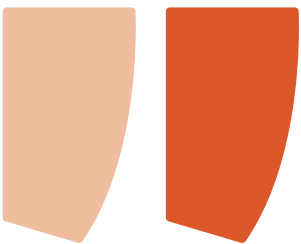
Conclusion

At European level #70000 cabins will have to be modified and #1500 types of trains will need authorisation.
The task is HUGE !!!

The obsolescence of GSM-R will have to be managed because there is no chance that the full European fleet will be modified in 2035.

GSM-R providers may not provide support after 2040.

So the challenge is to complete the transition from existing radio systems to FRMCS before 2040.
National actions may lead to better dates than 2040.



Start preparing NOW !



Thank you !



Vos contacts

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