

ERTMS as facilitator for railway liberalization: The Spanish Case



ERTMS 2024 Conference
Valenciennes, 24th April



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The deployment of ERTMS in Spain



Decisions that conditioned the deployment

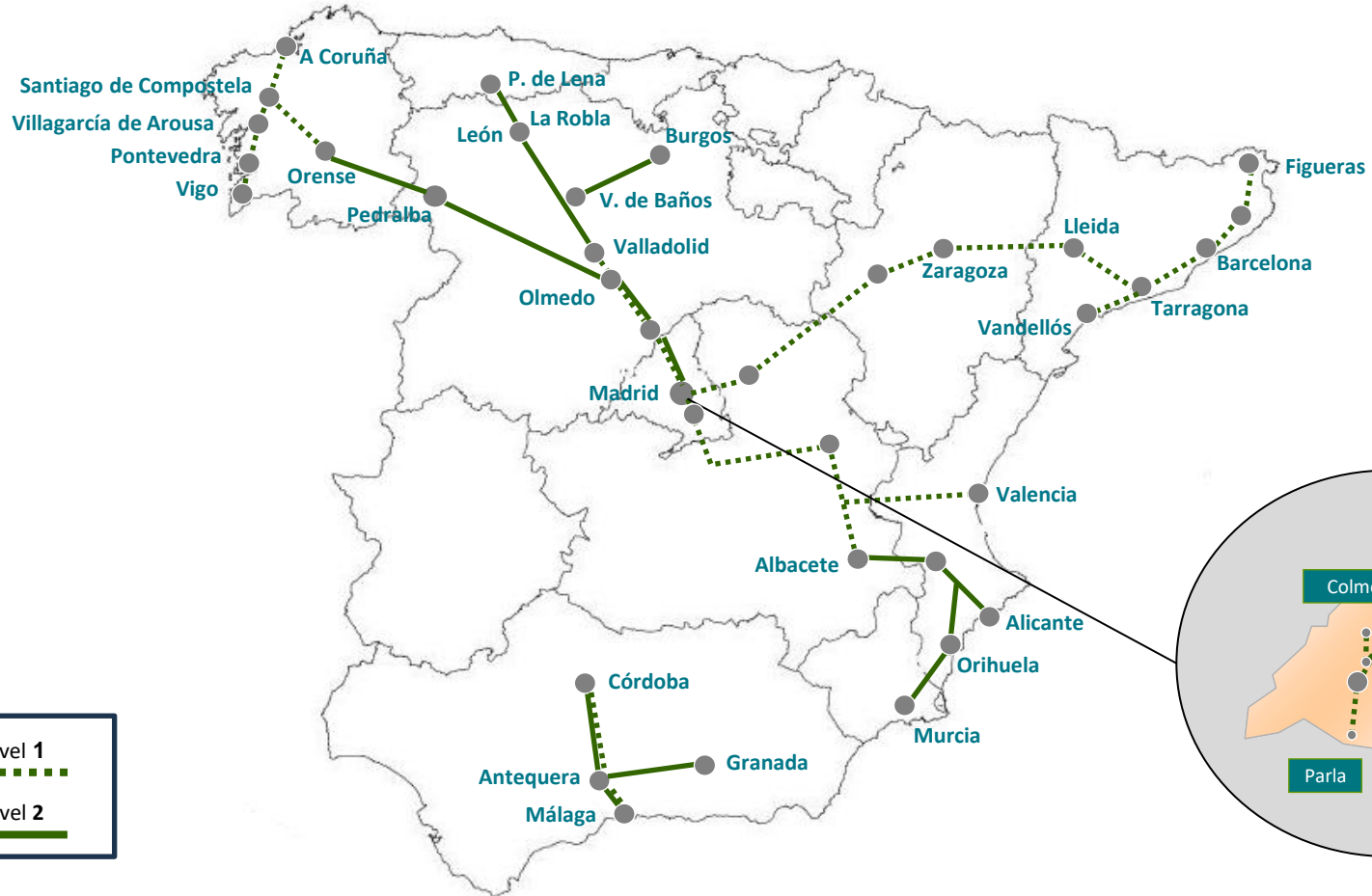
- **Equipping all High-Speed lines and trains with the ERTMS system**
- **Opening the market: contracts with all trackside suppliers**
- **Operational interoperability of all on-board equipment suppliers**



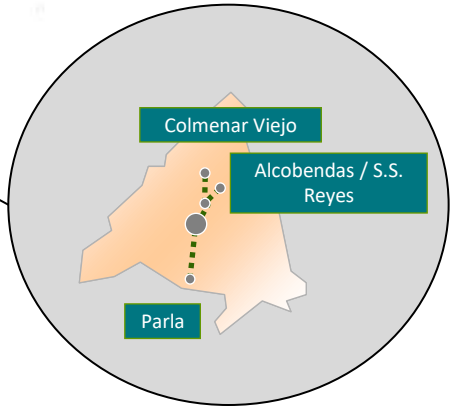
ERTMS on ADIF network

- **More than 20 years of experience operating with ERTMS**
- **Experience in implementing and migrating ERTMS versions (due to the evolution of technical specifications and coexistence of different versions)**
- **Around 3000km of lines equipped with ERTMS**
- **Not only in HS, but also in conventional and commuter lines**

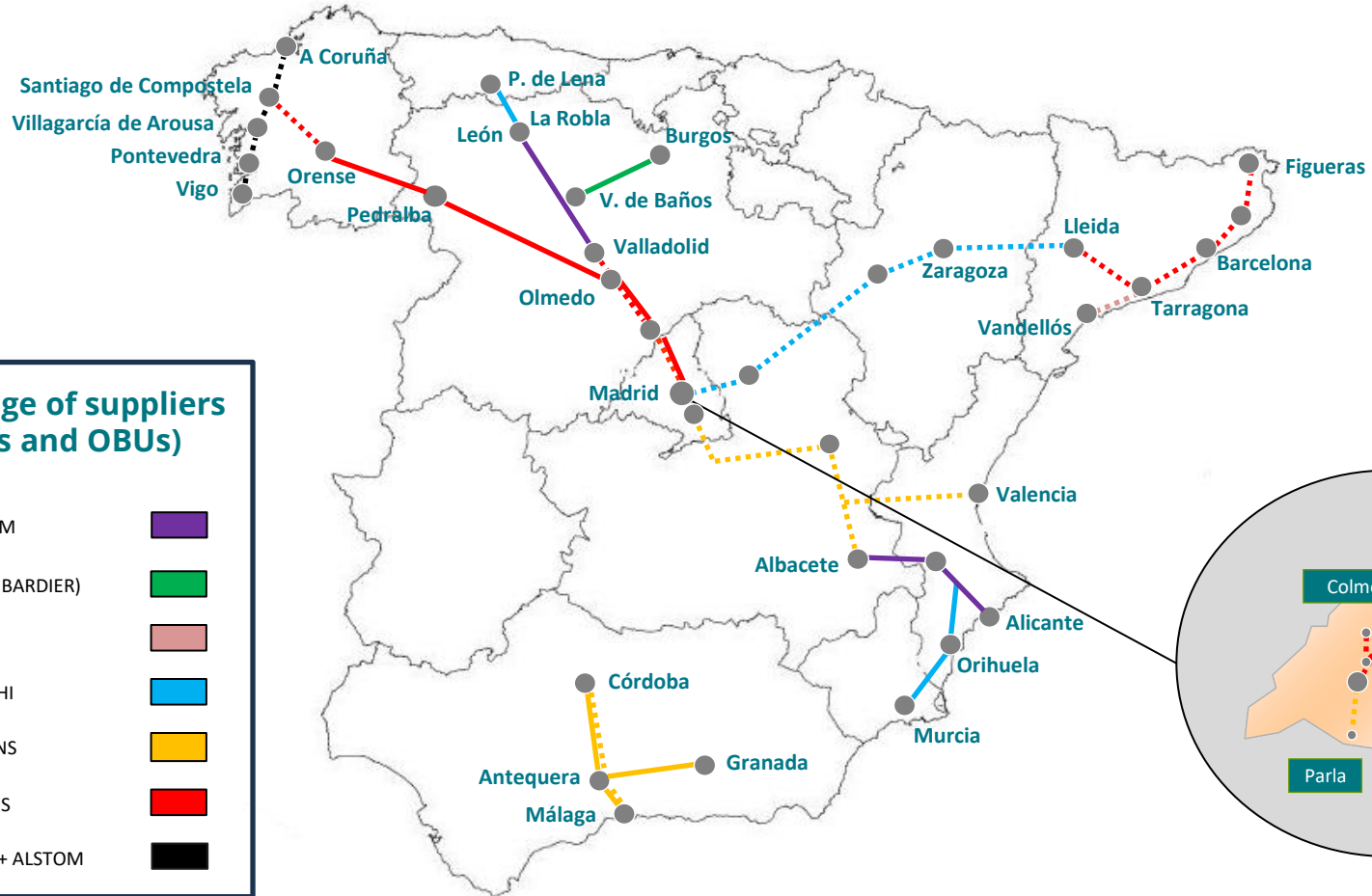
Spanish ERTMS network: Current situation (2024)



ERTMS Level 1
ERTMS Level 2

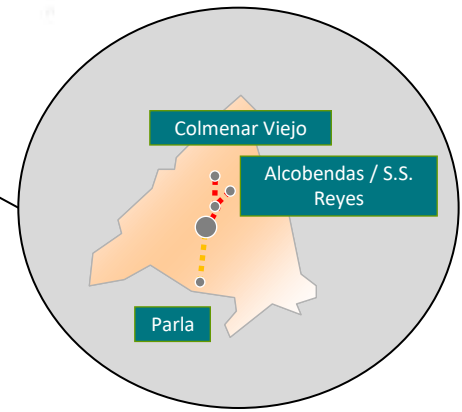


Spanish ERTMS network: Current situation (II) (2024)



Diverse range of suppliers (both tracks and OBUs)

- ALSTOM
- ALSTOM (BOMBARDIER)
- CAF
- HITACHI
- SIEMENS
- THALES
- SIEMENS + CAF + ALSTOM



Short term: more ERTMS in operation coming soon!



ALSTOM	
ALSTOM (BOMBARDIER)	
CAF	
HITACHI	
SIEMENS	
THALES	

ERTMS Level 1	
ERTMS Level 2	

Impact of ERTMS on Spanish liberalization

HS open market process in Spain (4th RP)

Key aspects of the process

- **Optimization of capacity**
 - Continuity of current services
 - Relevant new capacity for more RUs
- **Transparency & non-discrimination**
 - Framework Capacity statements
 - Objective allocation rules in NS
- **Commitment with RUs**
 - Short turnaround times in terminals
 - High frequencies of services
 - Intensive use of rolling stock



The three candidates are launching their products!



PACKAGE A

- Renfe's new low cost product + AVE trains



PACKAGE B

- High frequency product
- Fleet: 20 new trains



PACKAGE C

- Low cost product
- Fleet: 14 trains (from SNCF)

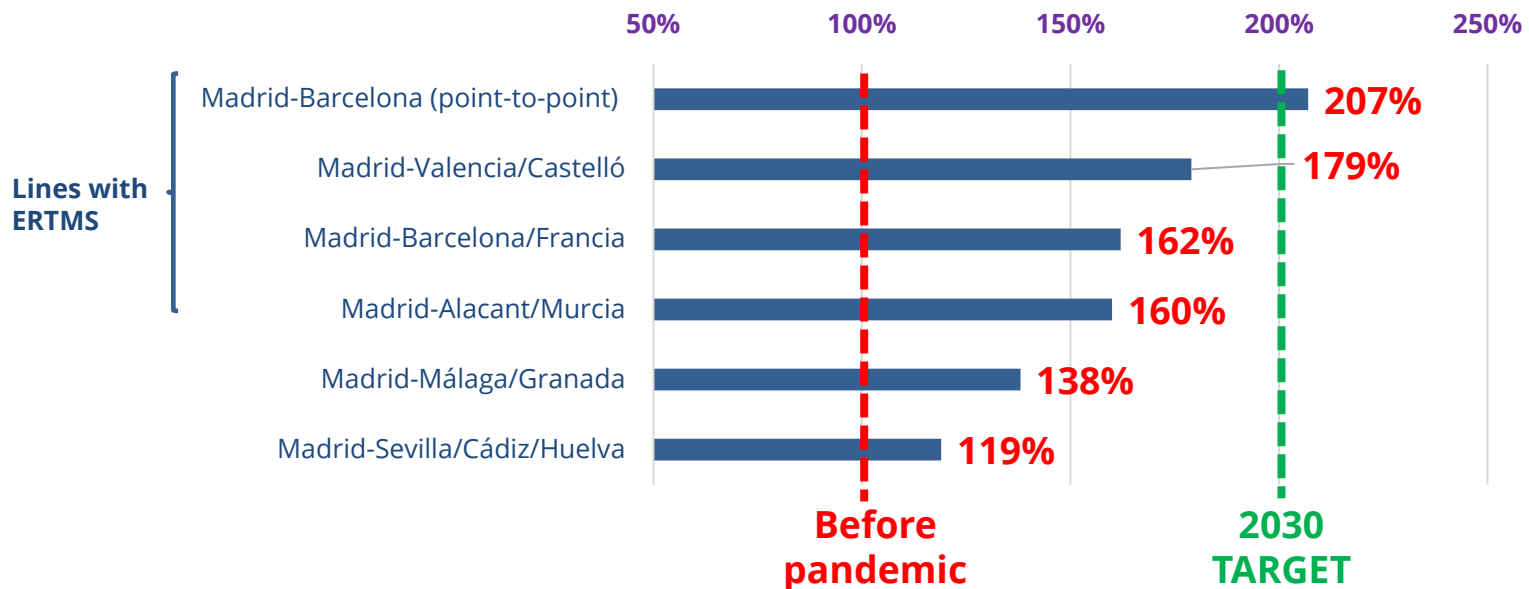
Daily services from Madrid...

			Starting date		Starting date		Starting date		
Barcelona	ON SERVICE	54 AVE + 10 AVLO	Jun 21	ON SERVICE	32 IRYO	Nov 22	ON SERVICE	10 OUIGO	May 21
Valencia	ON SERVICE	26 AVE + 6 AVLO	Feb 22	ON SERVICE	16 IRYO	Dec 22	ON SERVICE	6 OUIGO	Oct 22
Alicante	ON SERVICE	28 AVE + 4 AVLO	Mar 23	ON SERVICE	4 IRYO	June 23	ON SERVICE	4 OUIGO	April 23
Sevilla	ON SERVICE	42 AVE + 6 AVLO	Jun 23	ON SERVICE	10 IRYO	March 23	ONGOING	6 OUIGO	2nd Sem 24
Málaga	ON SERVICE	28 AVE + 4 AVLO	Jun 23	ON SERVICE	8 IRYO	March 23	ONGOING	4 OUIGO	2nd Sem 24

First results

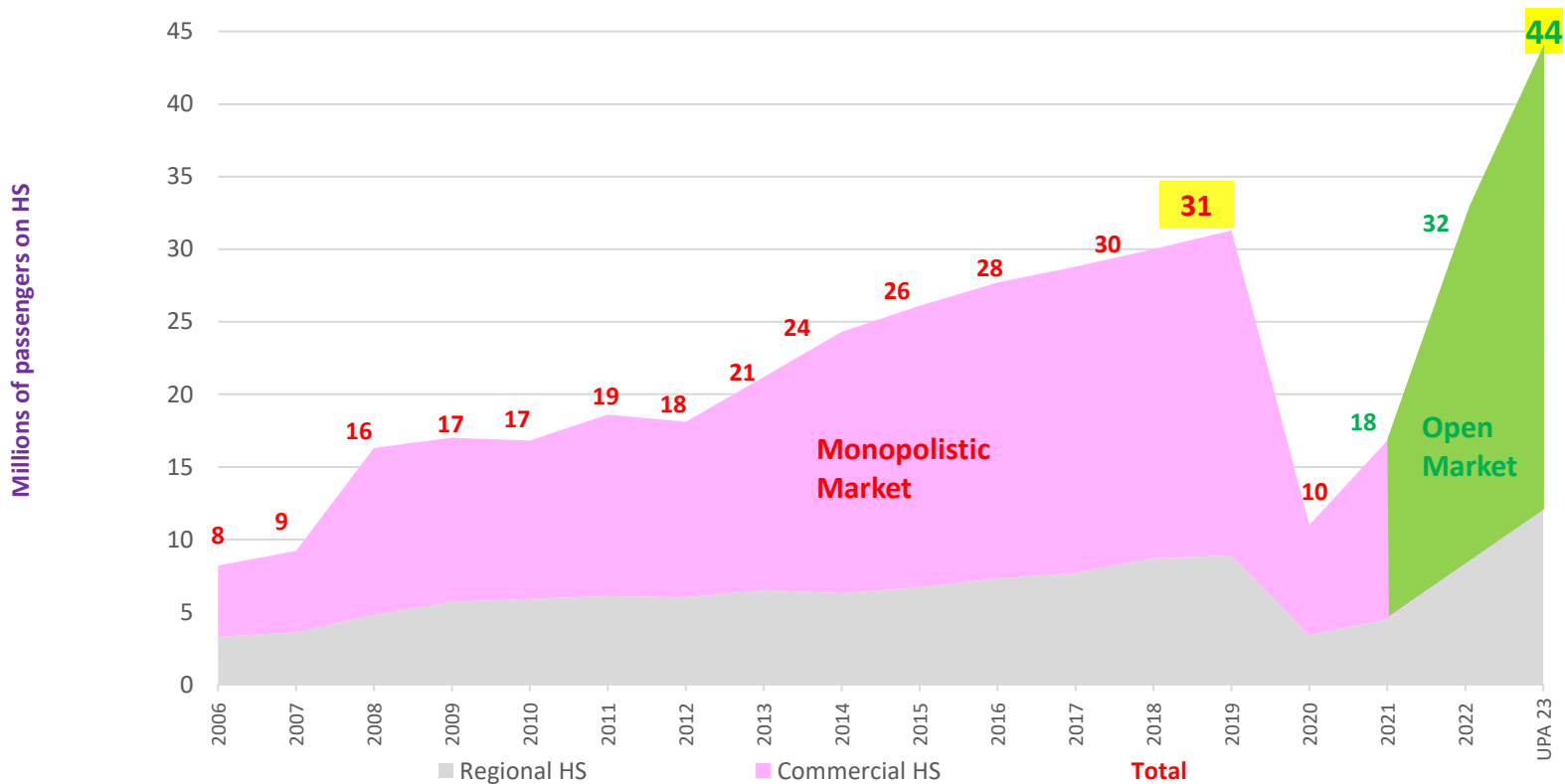
3 main HS corridors

% increase of passengers October 2019 vs October 2023



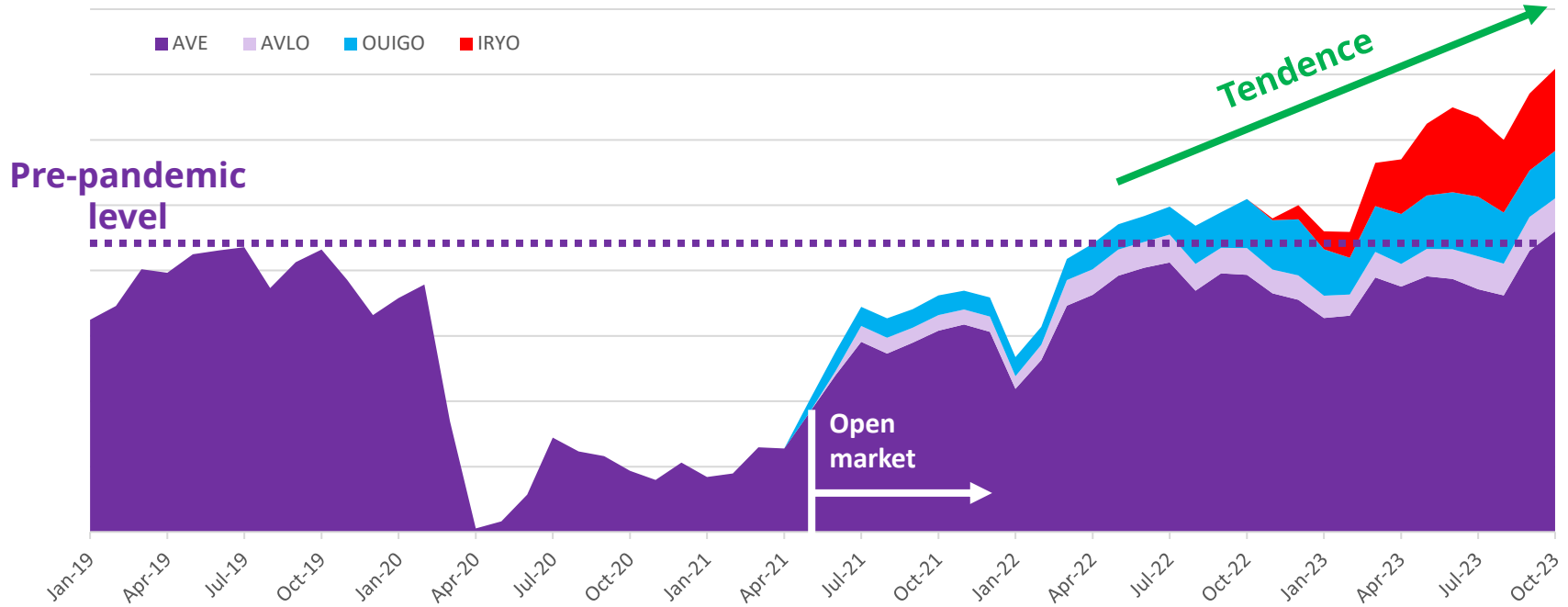
First results

Passengers in HS network



First results

3 main HS corridors



Source: CNMC

Improvements for a faster deployment of ERTMS



How can we optimize ERTMS framework for faster deployment? (I)

- **Stability in European migration strategies:**
 - **Minimum impact in installed base and NIPs.**
 - **Continuity with TSI 2023 principles (e.g. FRMCS integration in ETCS)**
- **Positive ongoing initiatives for simplification (e.g. trackside approval, ESC). Let's cooperate for a common goal: a more simplified administrative framework.**
- **Smooth integration of ERJU SP in CCM process.**

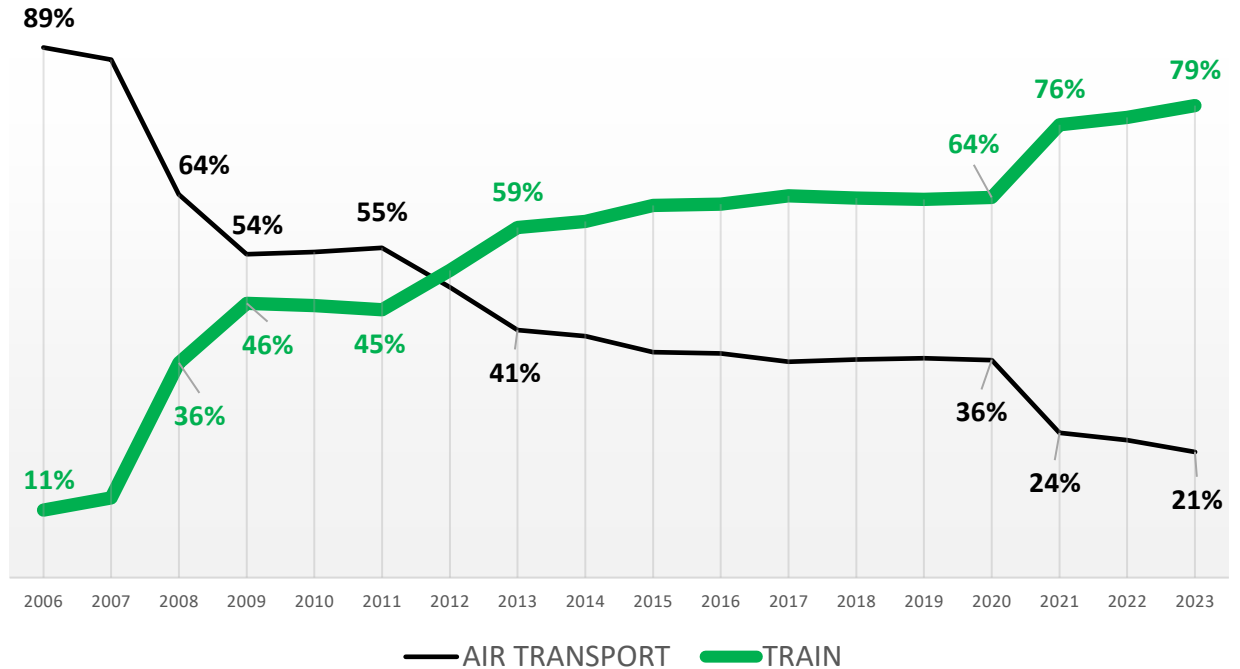


How can we optimize ERTMS framework for faster deployment? (II)

- **Commitment from all the stakeholders (including industry) in the implementation of corrections to promote operational interoperability.**
- **Timely delivery of validated and complete specifications of new technologies (e.g. FRMCS) for a seamless ERTMS evolution.**

Modal Shift is possible with ERTMS support

Modal share between train and air transport



THANK YOU

