

# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Office of the Government Commissioner  
for the Mediterranean Corridor

9th June 2021

# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

## Summary

Comparison between RFC & TEN-T

Spanish developments

Current status of Mediterranean RFC in Spain

Perspective at 2025

Perspective at 2030

Focus on RRT & Ports

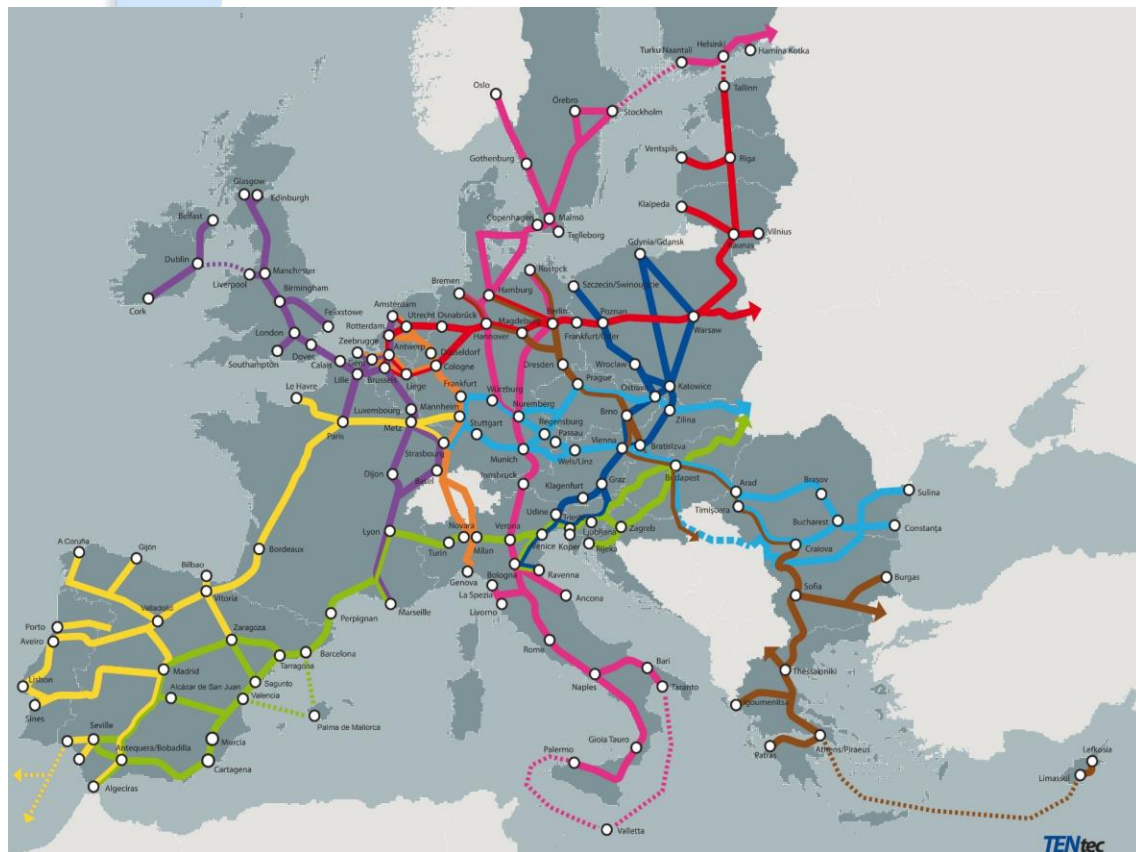
# Comparison between RFC and TEN-T

TEN-T

RFC

## LEGEND:

- Principal route
- Diversionary route
- Connecting line
- Under construction
- Interconnection / Overlapping with other RFC
- RFC Terminal
- Railway junction



# Comparison between RFC and TEN-T

## LEGEND:

- Principal route
- Diversionary route
- Connecting line
- Under construction
- Interconnection / Overlapping with other RFC
- RFC6 Terminal
- Railway junction



RFC

TEN-T



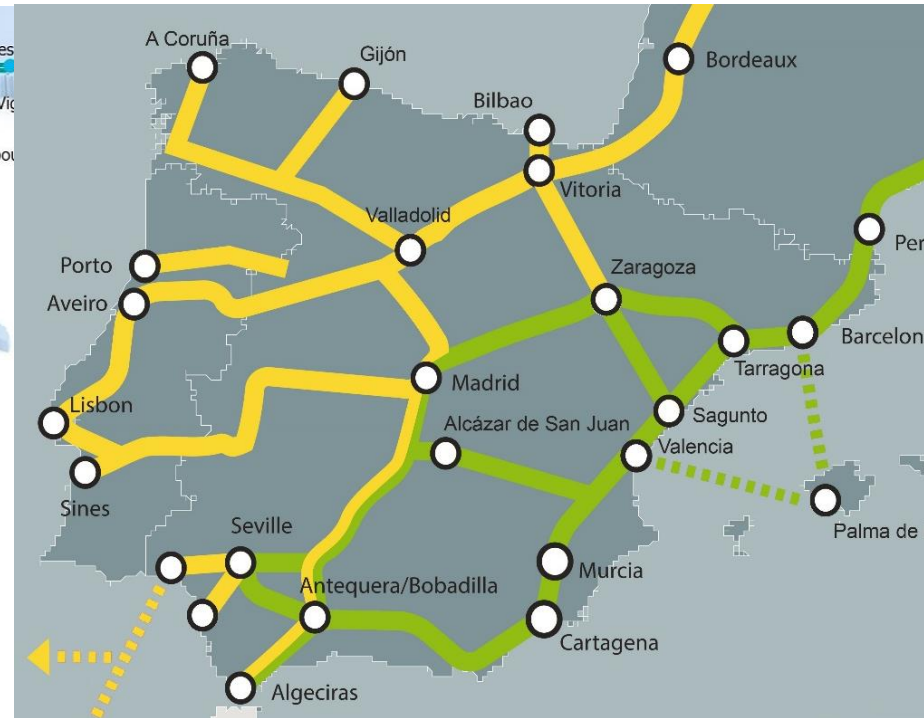
# Comparison between RFC and TEN-T Spain

## RFC



Diversión route through Linares  
Duplicity in Murcia-Valencia connection

## TEN-T



Includes Sevilla and Granada  
New extensions  
Zaragoza Sagunto  
Madrid Valencia



# Comparison between RFC and TEN-T Spain

## RFC 6



# Comparison between RFC and TEN-T Spain

## RFC 6 + TEN-T



# Comparison between RFC and TEN-T Spain

Only TEN-T





# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

## SPANISH DEVELOPMENTS

Current status of Mediterranean RFC in Spain

Perspective at 2025

Perspective at 2030

Focus on RRT & Ports

## TARGETS:

### INTEROPERABILITY

Standard Gauge

25 kV AC

ERTMS

740 m Train Length

### CONNECTION TO PORTS AND TERMINALS

# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Current status of Mediterranean RFC in Spain: Track

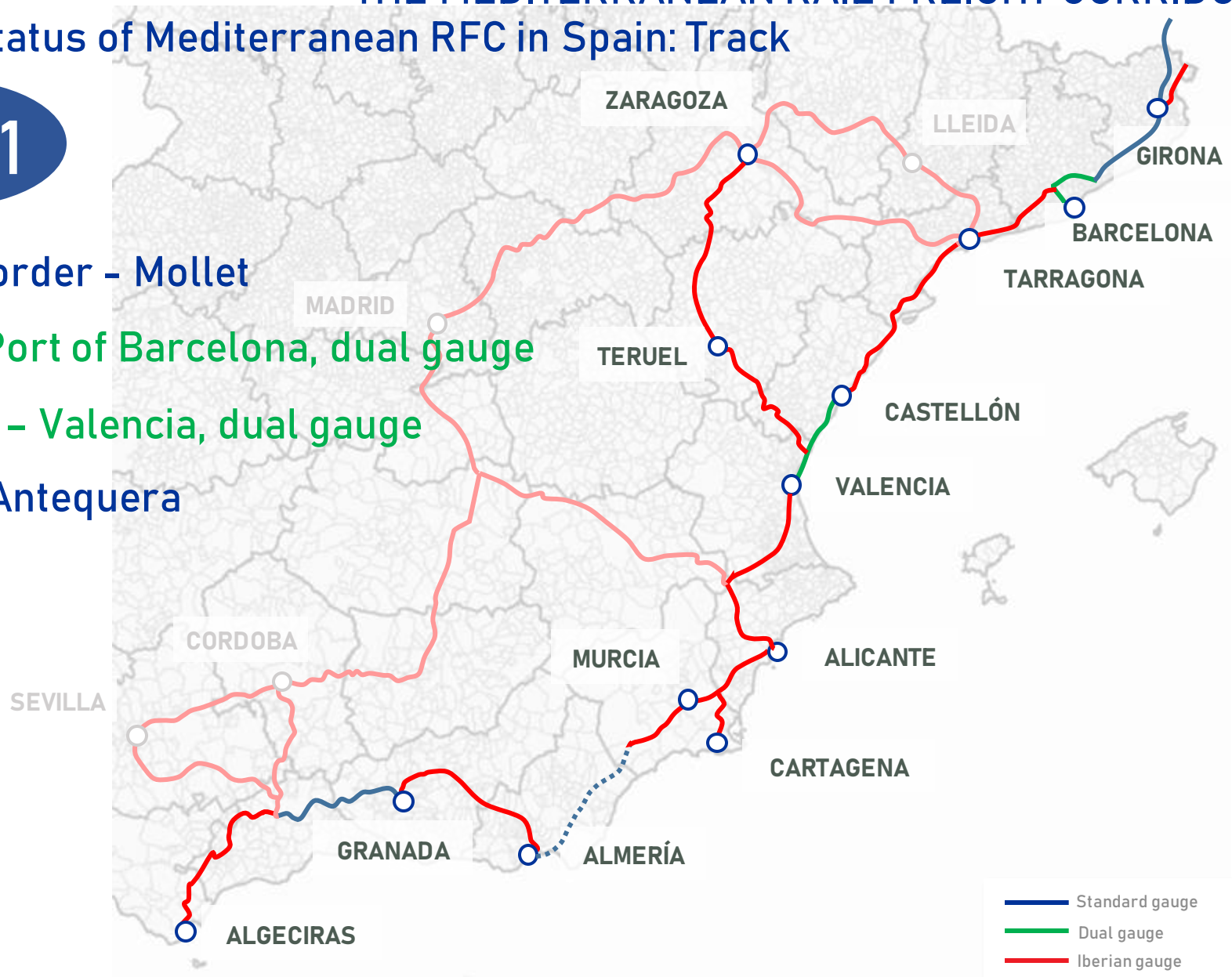
gauge  
**2021**

French Border – Mollet

Mollet – Port of Barcelona, dual gauge

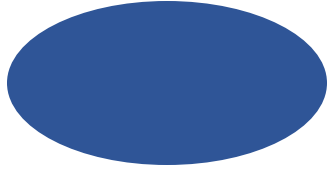
Castellón – Valencia, dual gauge

Granada Antequera



# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Perspective at 2025: Track gauge



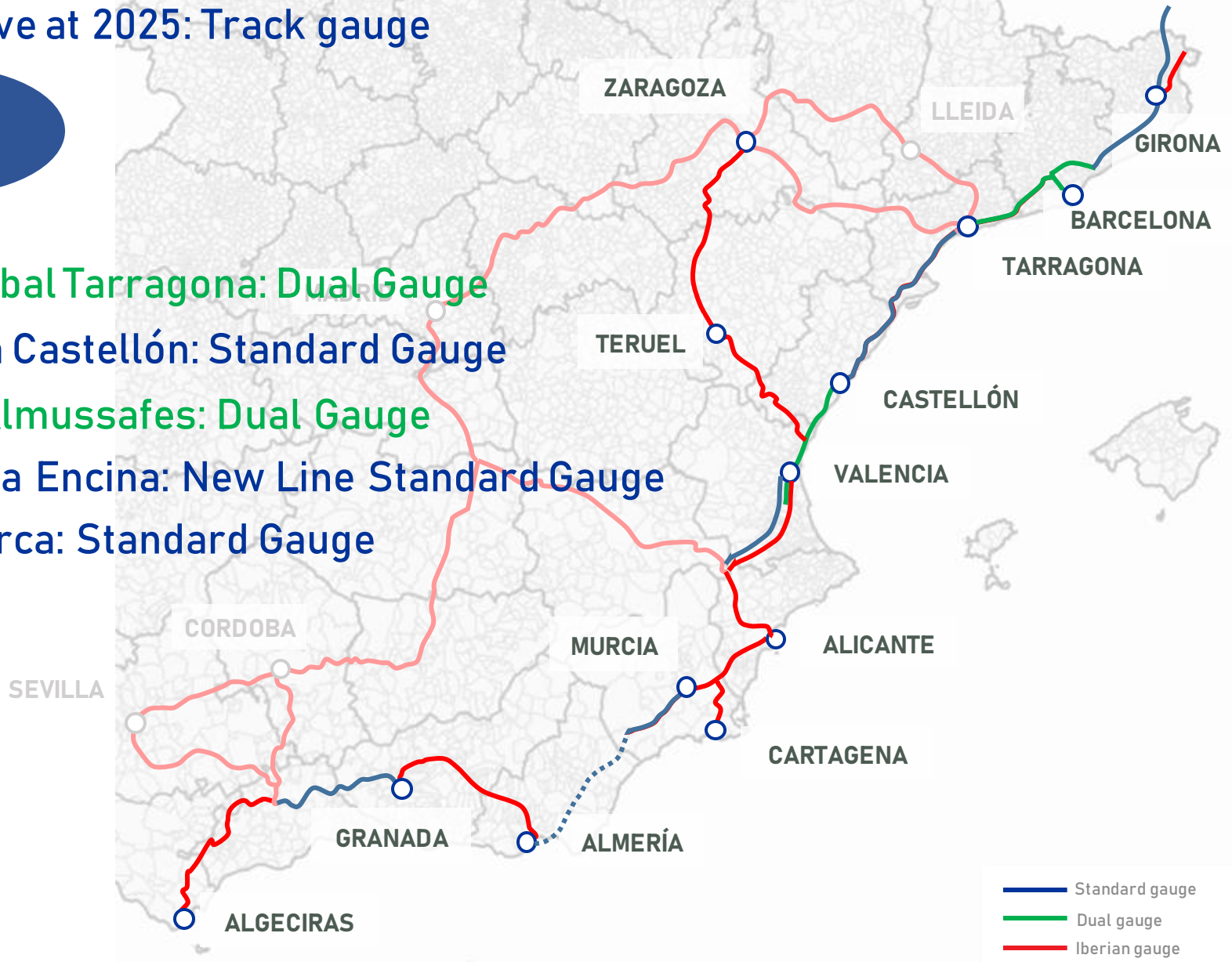
Castellbisbal Tarragona: Dual Gauge

Tarragona Castellón: Standard Gauge

Valencia Almussafes: Dual Gauge

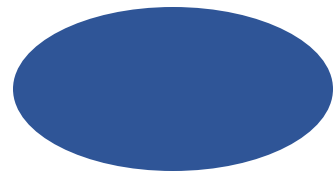
Valencia La Encina: New Line Standard Gauge

Murcia Lorca: Standard Gauge

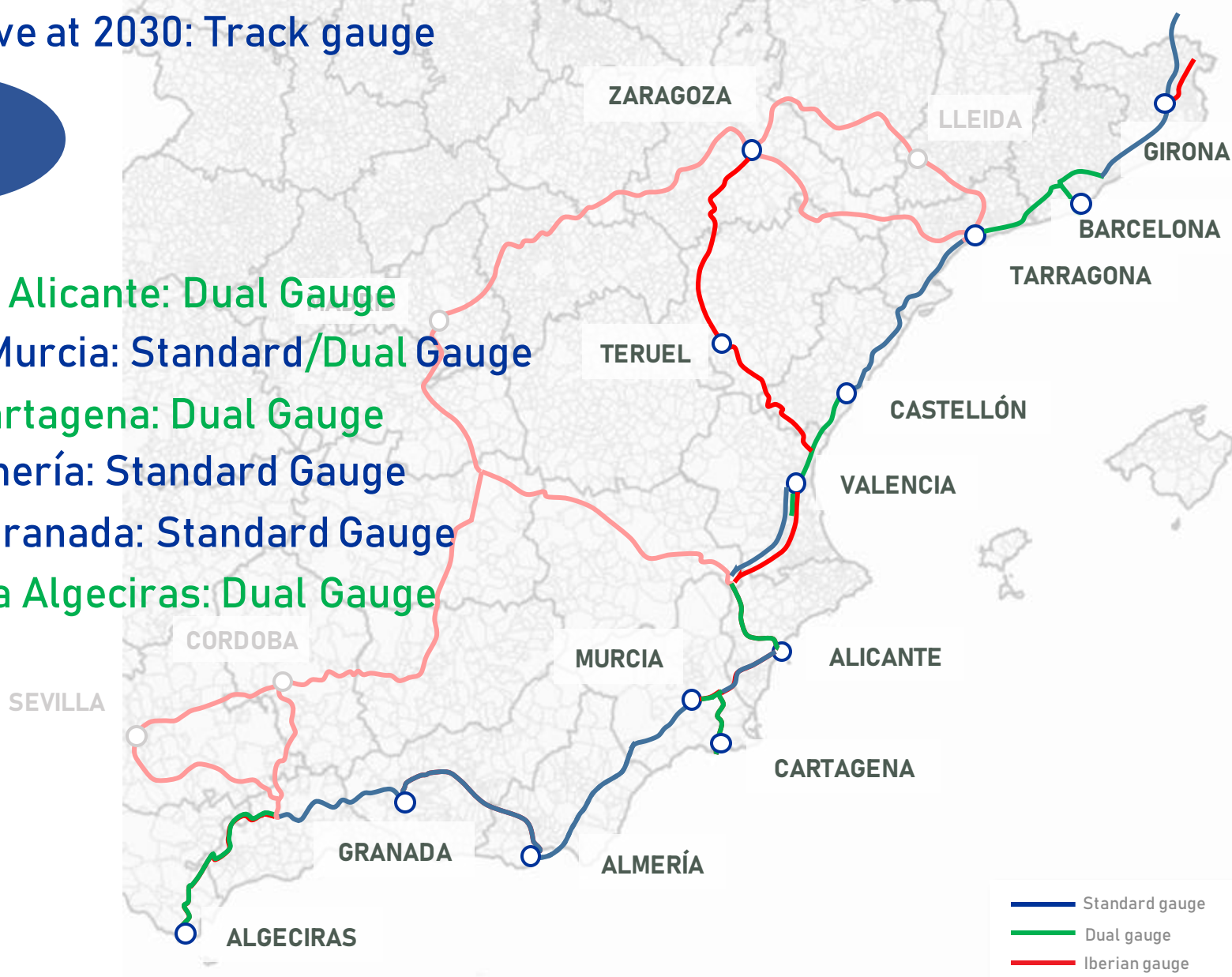


# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Perspective at 2030: Track gauge



La Encina Alicante: Dual Gauge  
 Alicante Murcia: Standard/Dual Gauge  
 Murcia Cartagena: Dual Gauge  
 Lorca Almería: Standard Gauge  
 Almería Granada: Standard Gauge  
 Antequera Algeciras: Dual Gauge





# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Current status of Mediterranean RFC in Spain: Electrification

2021

French Border - Mollet  
Granada Antequera

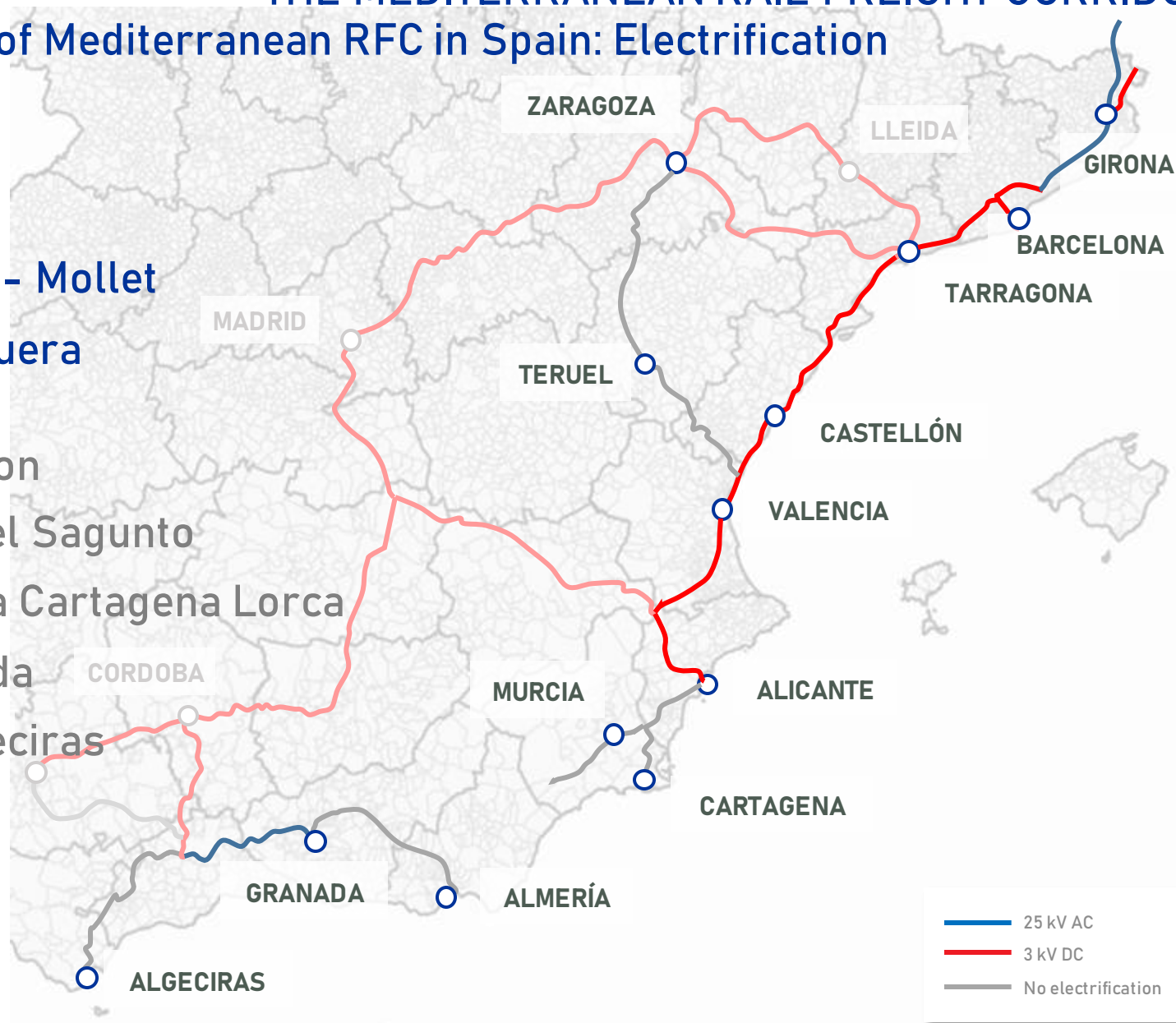
No electrification

Zaragoza Teruel Sagunto

Alicante Murcia Cartagena Lorca

Almería Granada

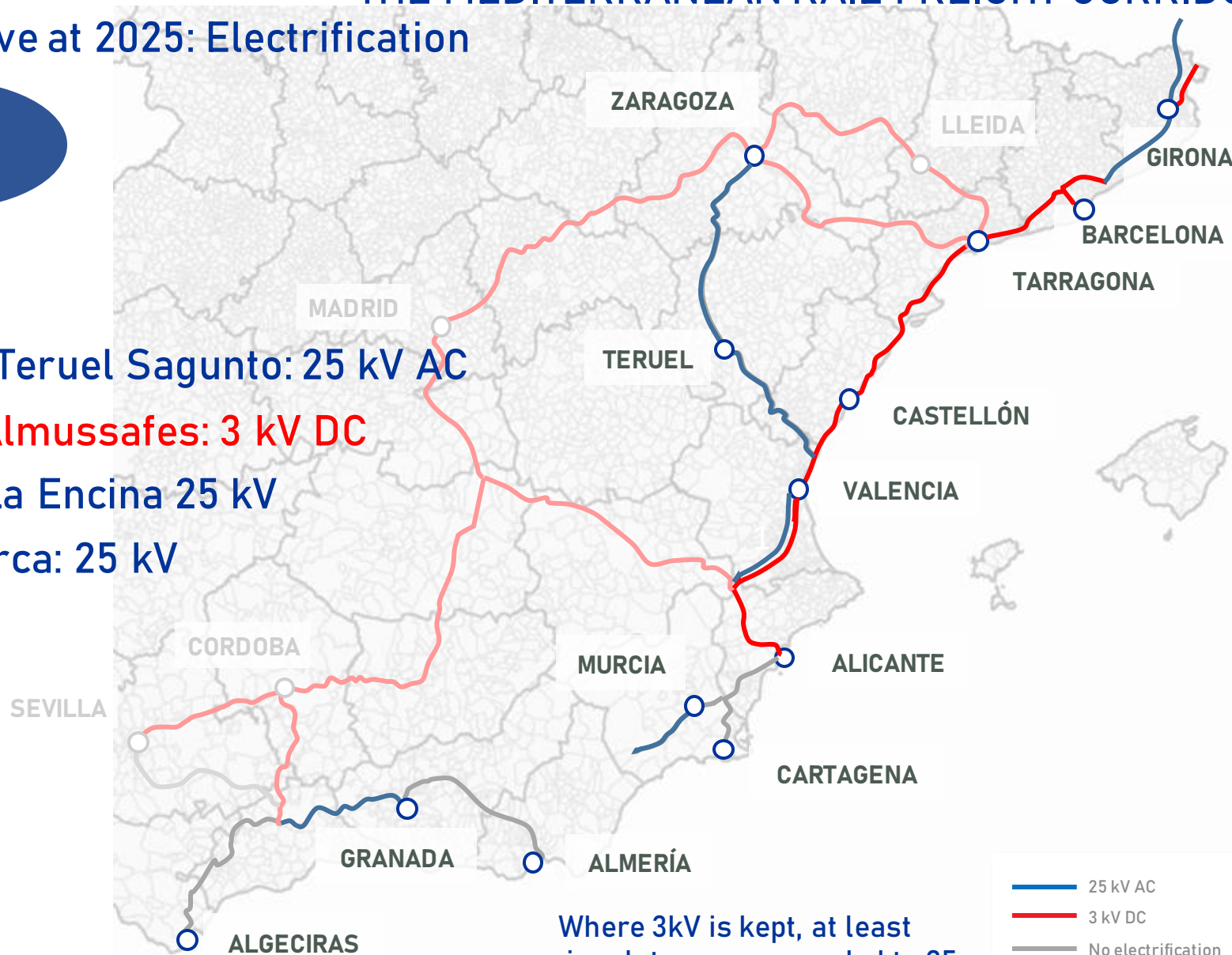
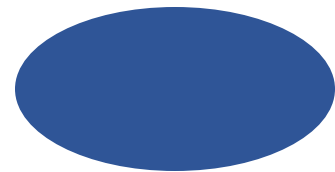
Antequera Algeciras





# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Perspective at 2025: Electrification



Zaragoza Teruel Sagunto: 25 kV AC

Valencia Almussafes: 3 kV DC

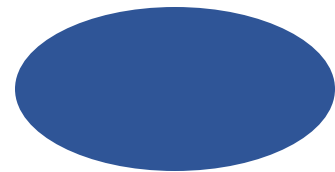
Valencia La Encina 25 kV

Murcia Lorca: 25 kV

Where 3kV is kept, at least  
insulators are upgraded to 25  
kV

# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Perspective at 2030: Electrification



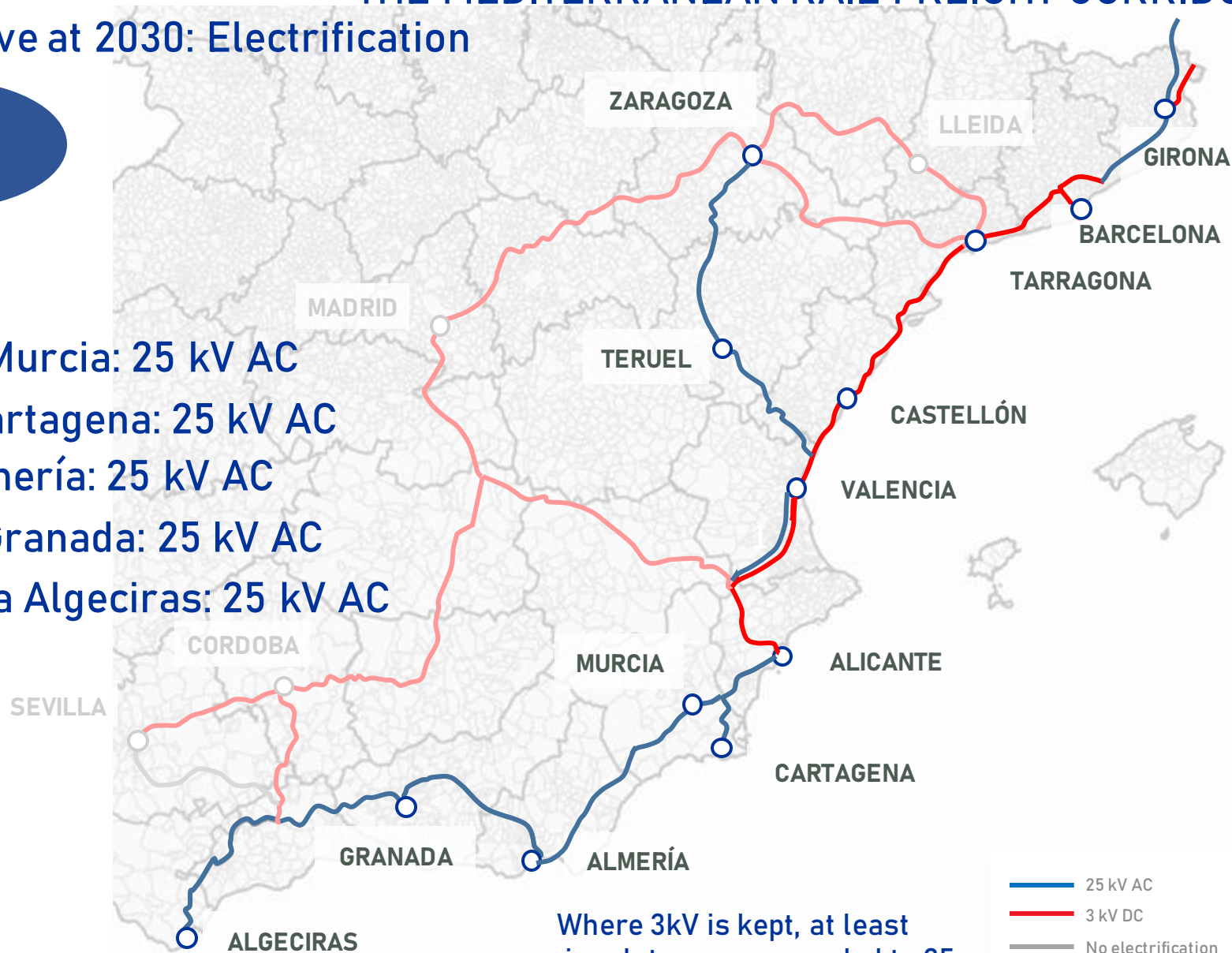
Alicante Murcia: 25 kV AC

Murcia Cartagena: 25 kV AC

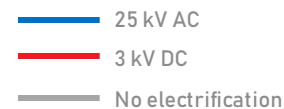
Lorca Almería: 25 kV AC

Almería Granada: 25 kV AC

Antequera Algeciras: 25 kV AC



Where 3kV is kept, at least  
insulators are upgraded to 25  
kV



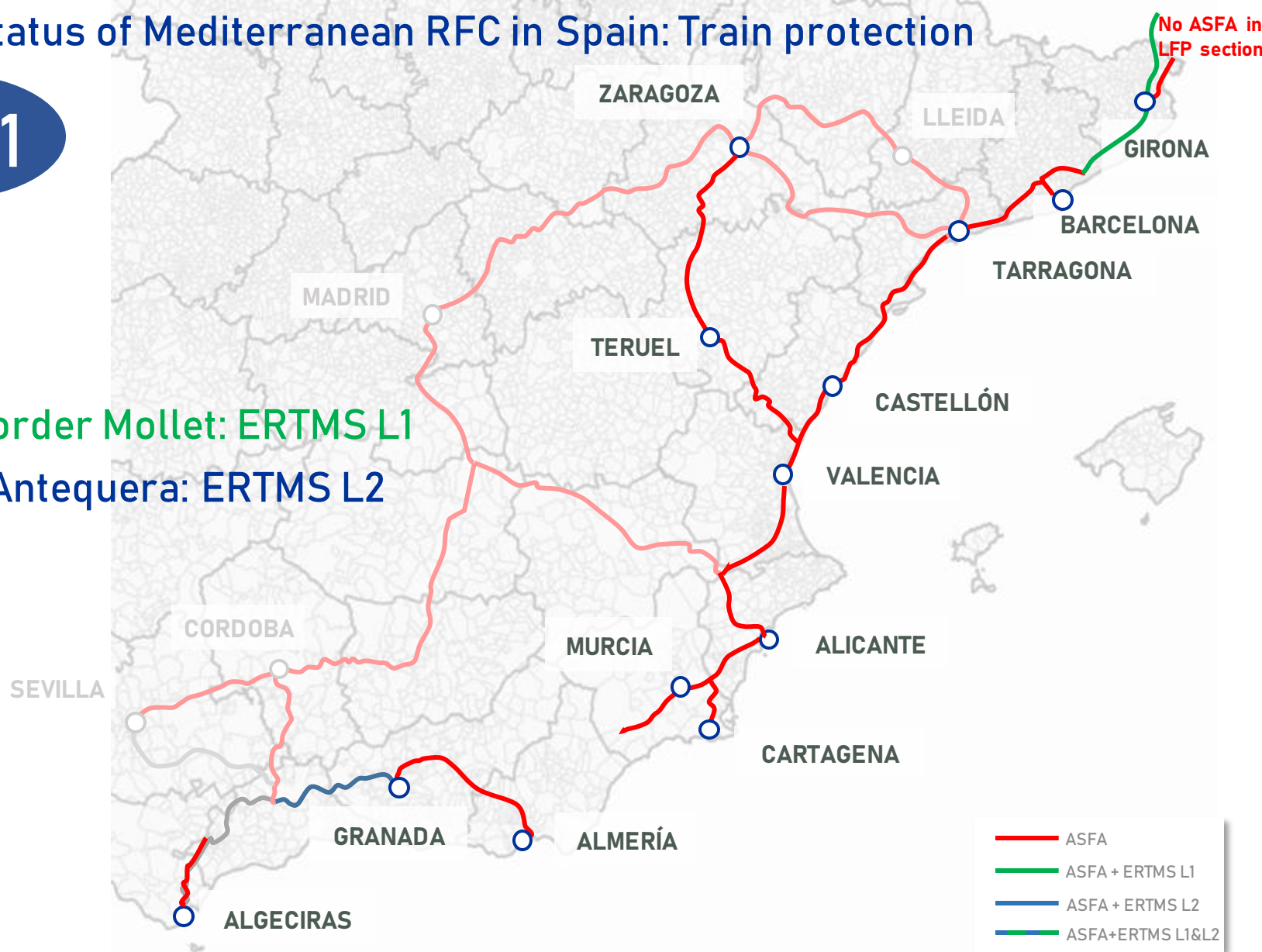
# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Current status of Mediterranean RFC in Spain: Train protection

2021

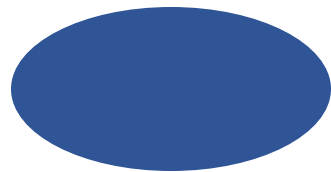
French Border Mollet: ERTMS L1

Granada Antequera: ERTMS L2



# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Perspective at 2025: Train protection



Figueroas Mollet: ERTMS L2

Mollet Castellbisbal: ERTMS L2

Castellbisbal Tarragona: ERTMS L2

Tarragona Castellón: ERTMS L1

Castellón Valencia: ERTMS L1

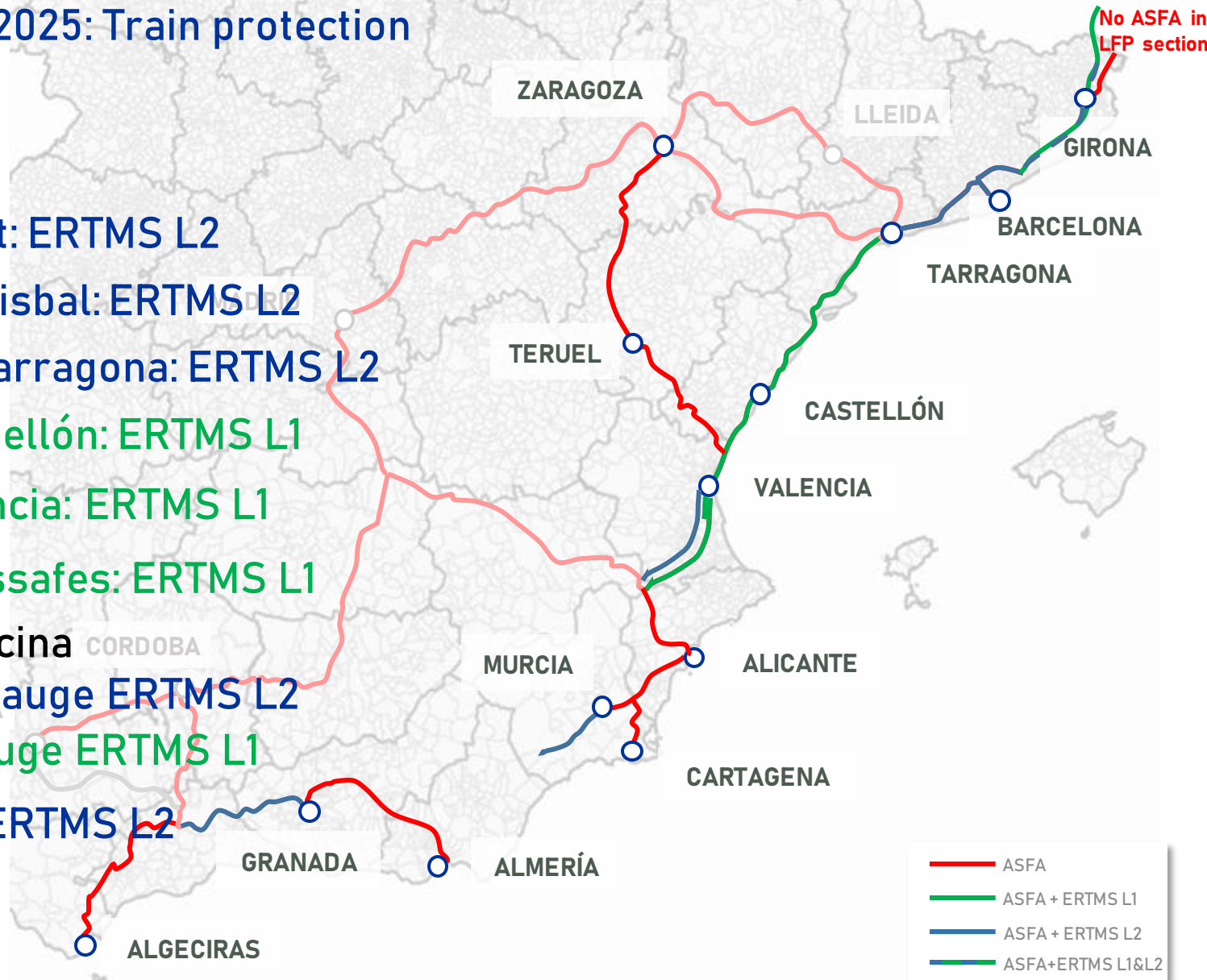
Valencia Almussafes: ERTMS L1

Valencia La Encina

Standard Gauge ERTMS L2

Iberian Gauge ERTMS L1

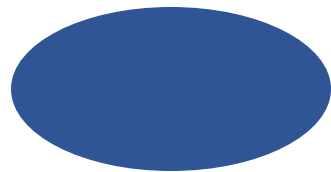
Murcia Lorca: ERTMS L2





# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Perspective at 2030: Train protection

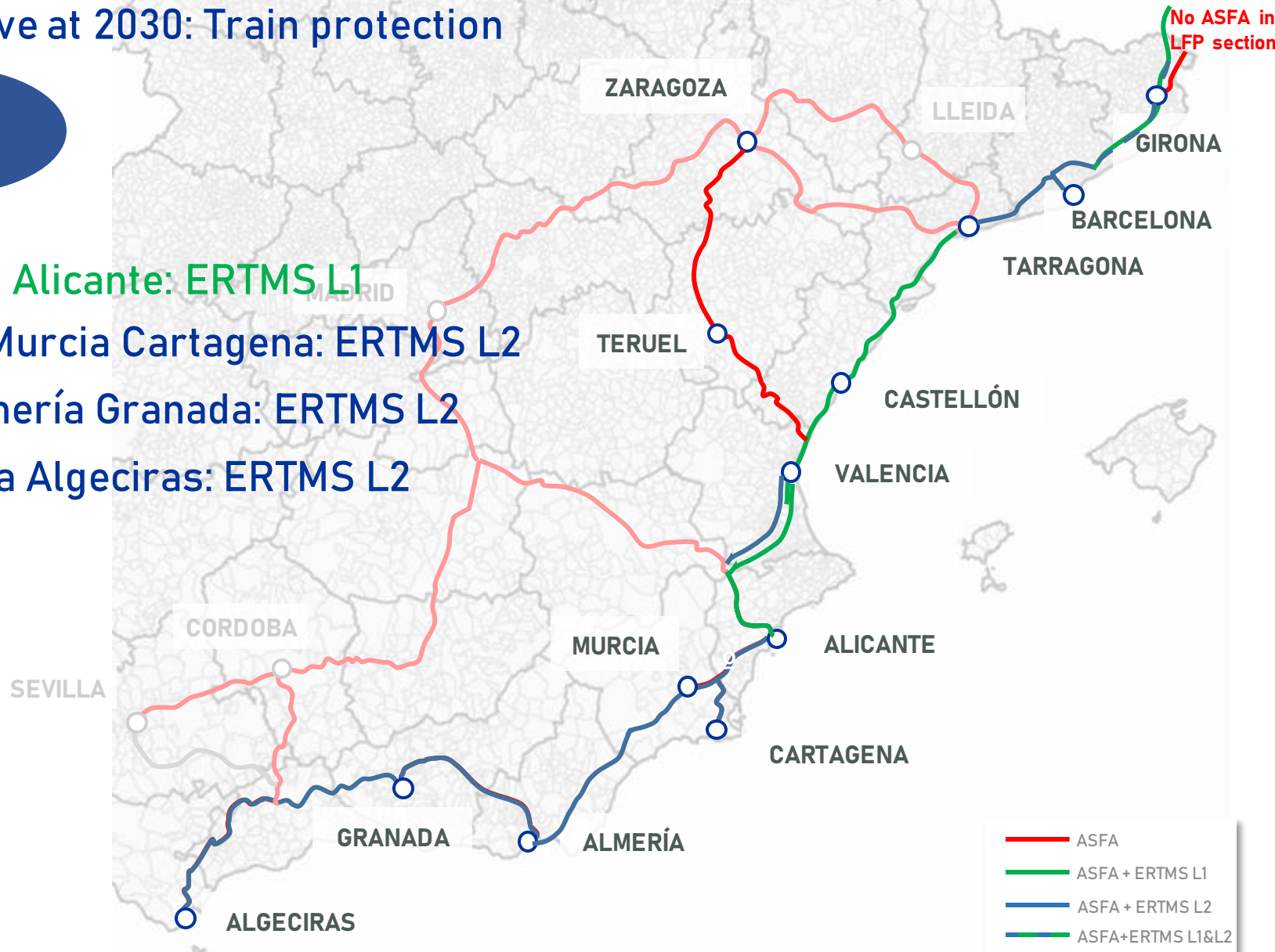


La Encina Alicante: ERTMS L1

Alicante Murcia Cartagena: ERTMS L2

Lorca Almería Granada: ERTMS L2

Antequera Algeciras: ERTMS L2

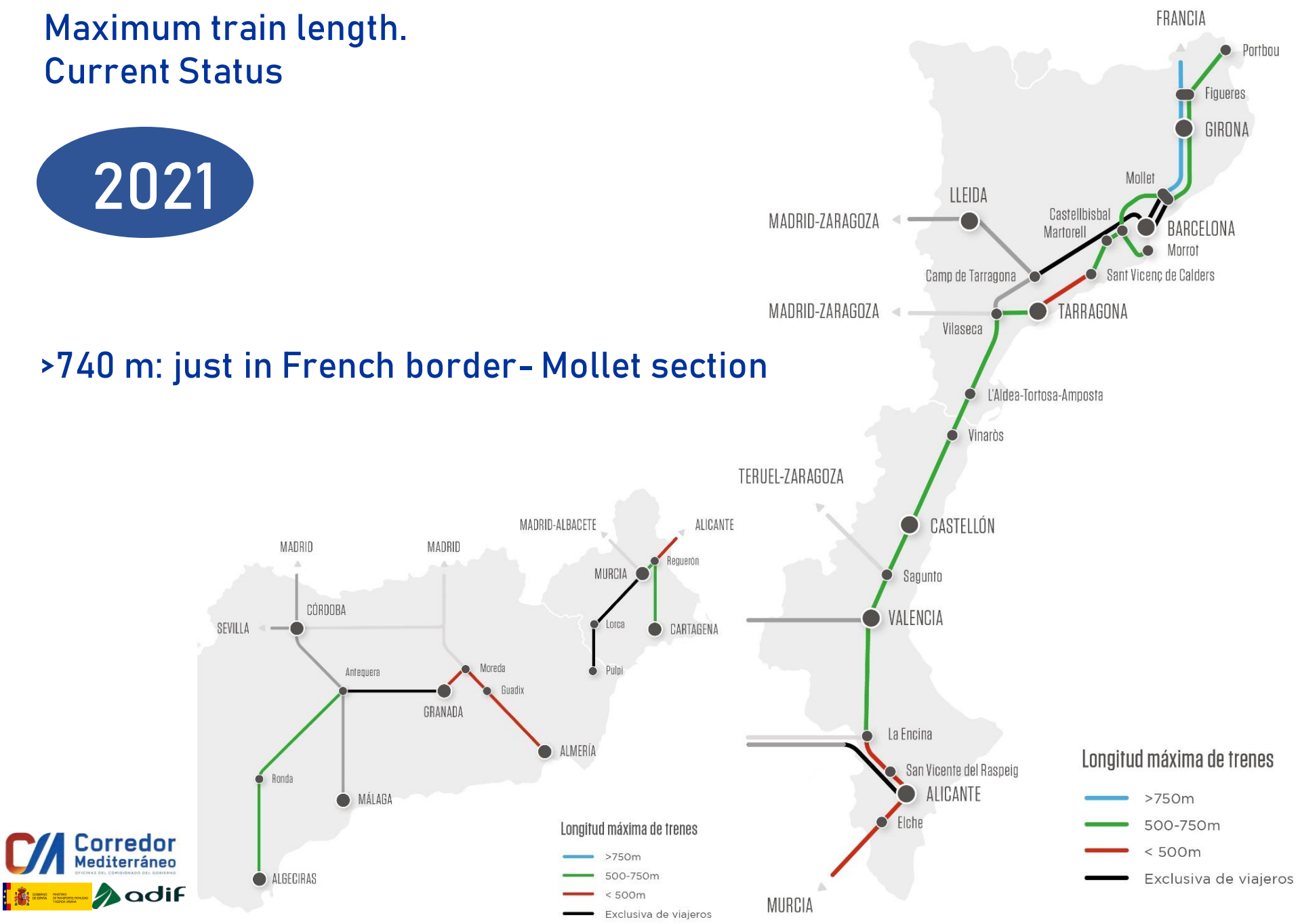




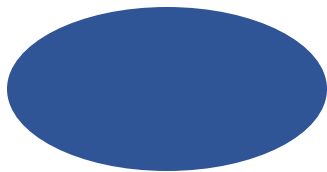
# Maximum train length. Current Status

2021

>740 m: just in French border- Mollet section

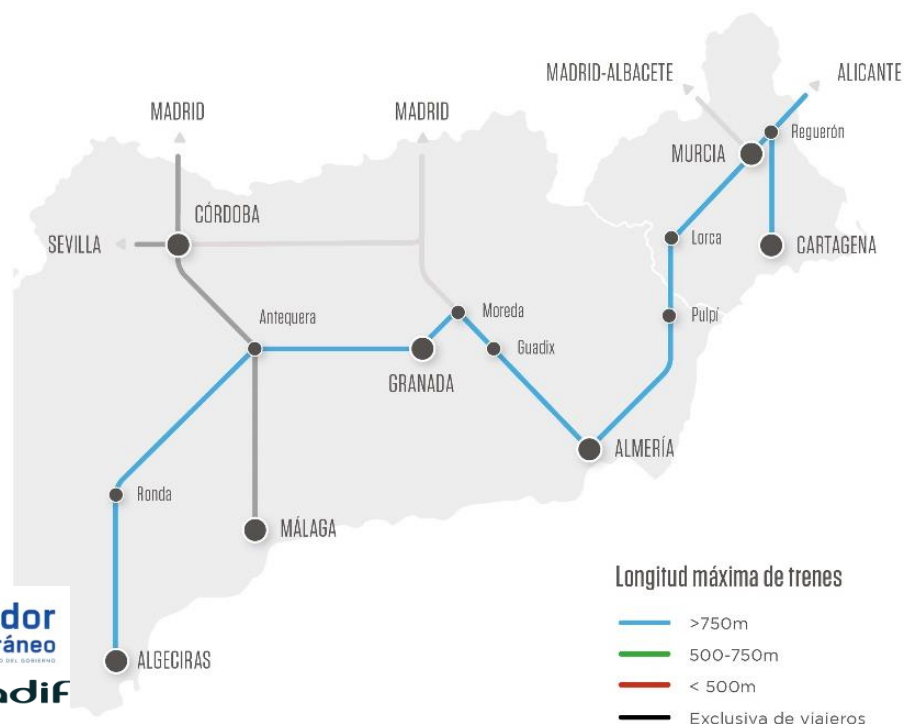


# Maximum train length. Perspective 2030

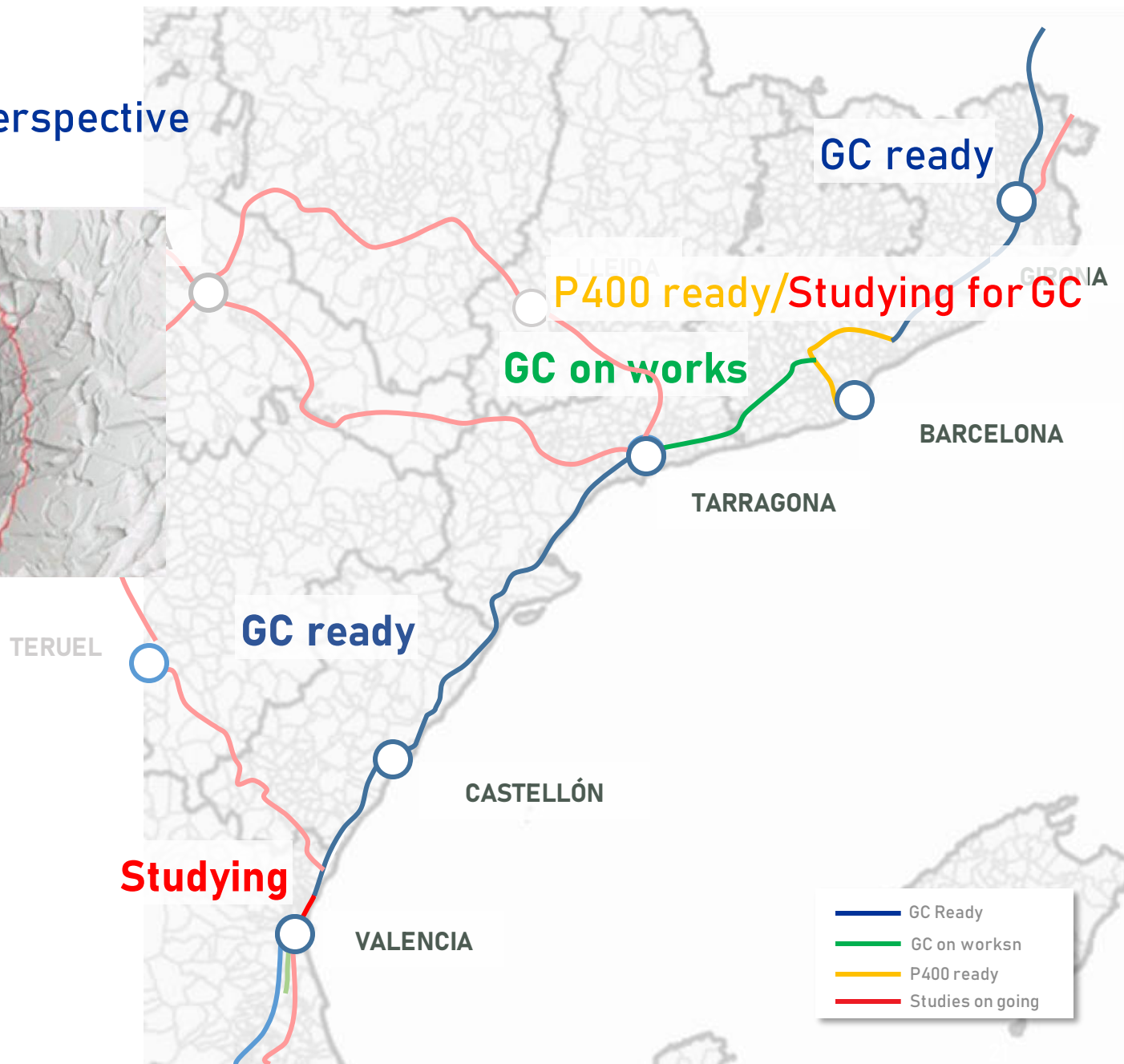


>740 m: planned for the whole path to  
Algeciras

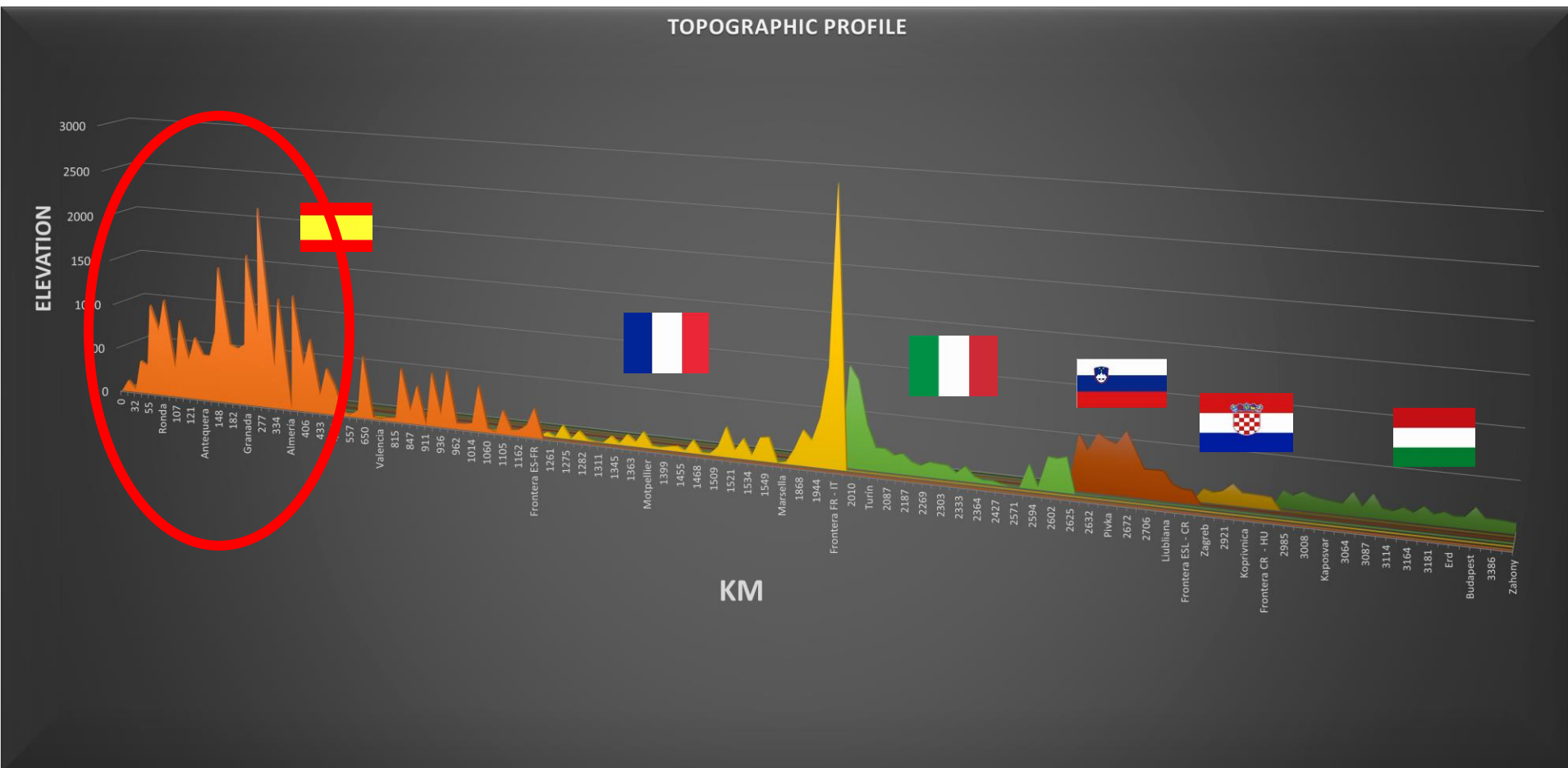
## Current status of Mediterranean RFC in Spain



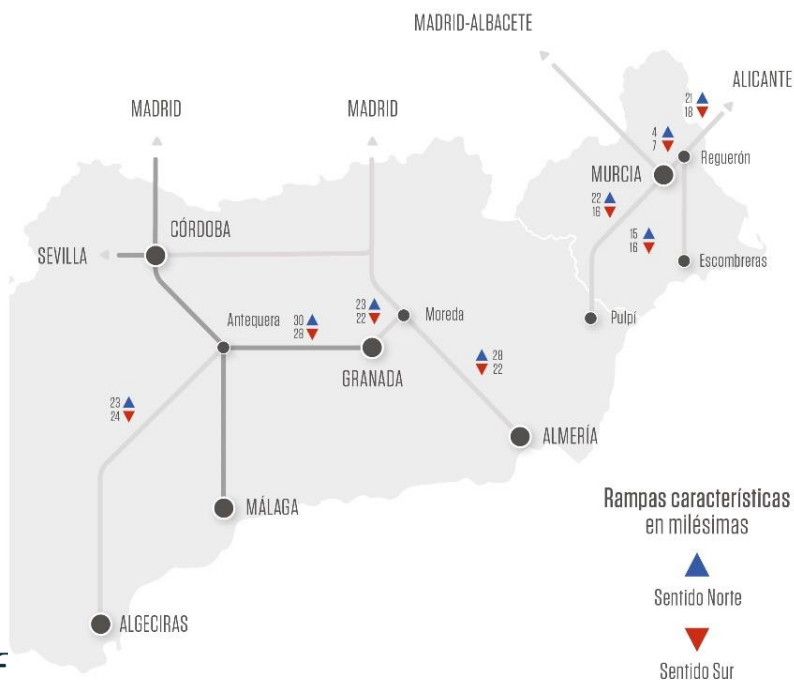
## Structural gauge perspective



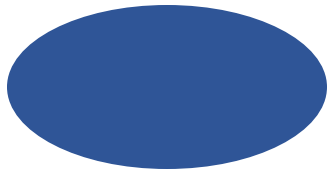
# Ruling Gradient. Terrain comparison with the rest of the corridor



# 2021







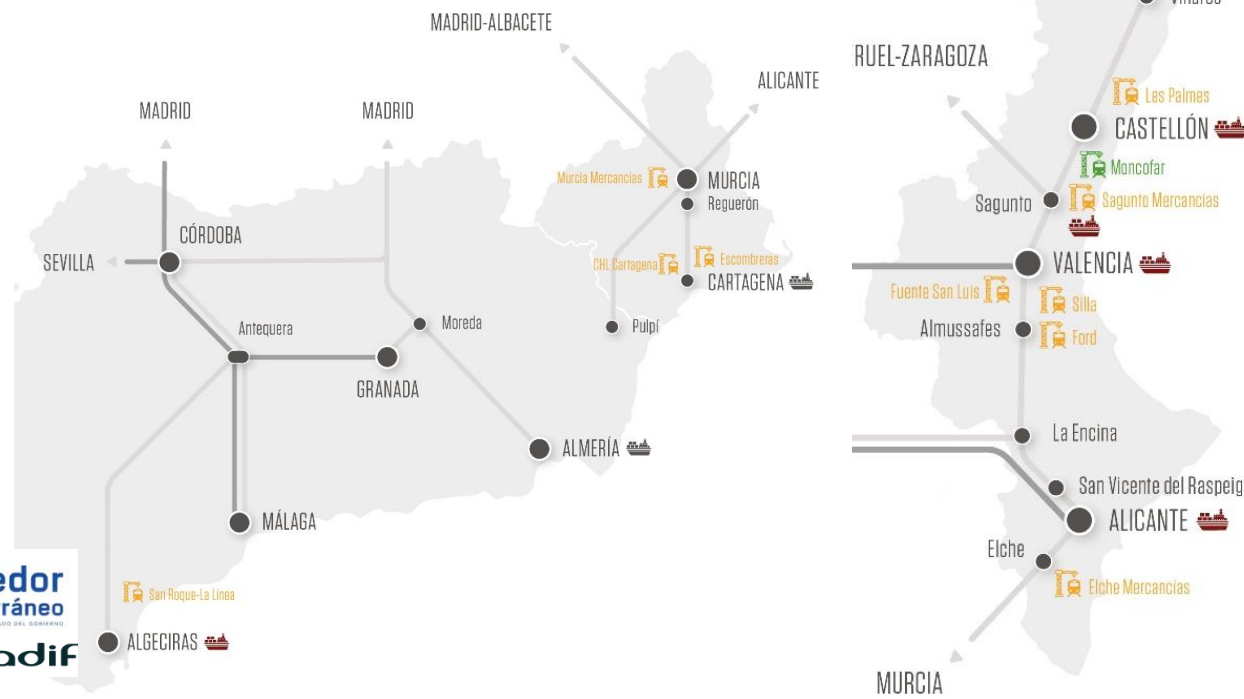
ZU3U



# 2021

Only French border- Port of Barcelona section is connected to standard gauge, but not all the existing terminals

## Current status of Mediterranean RFC in Spain

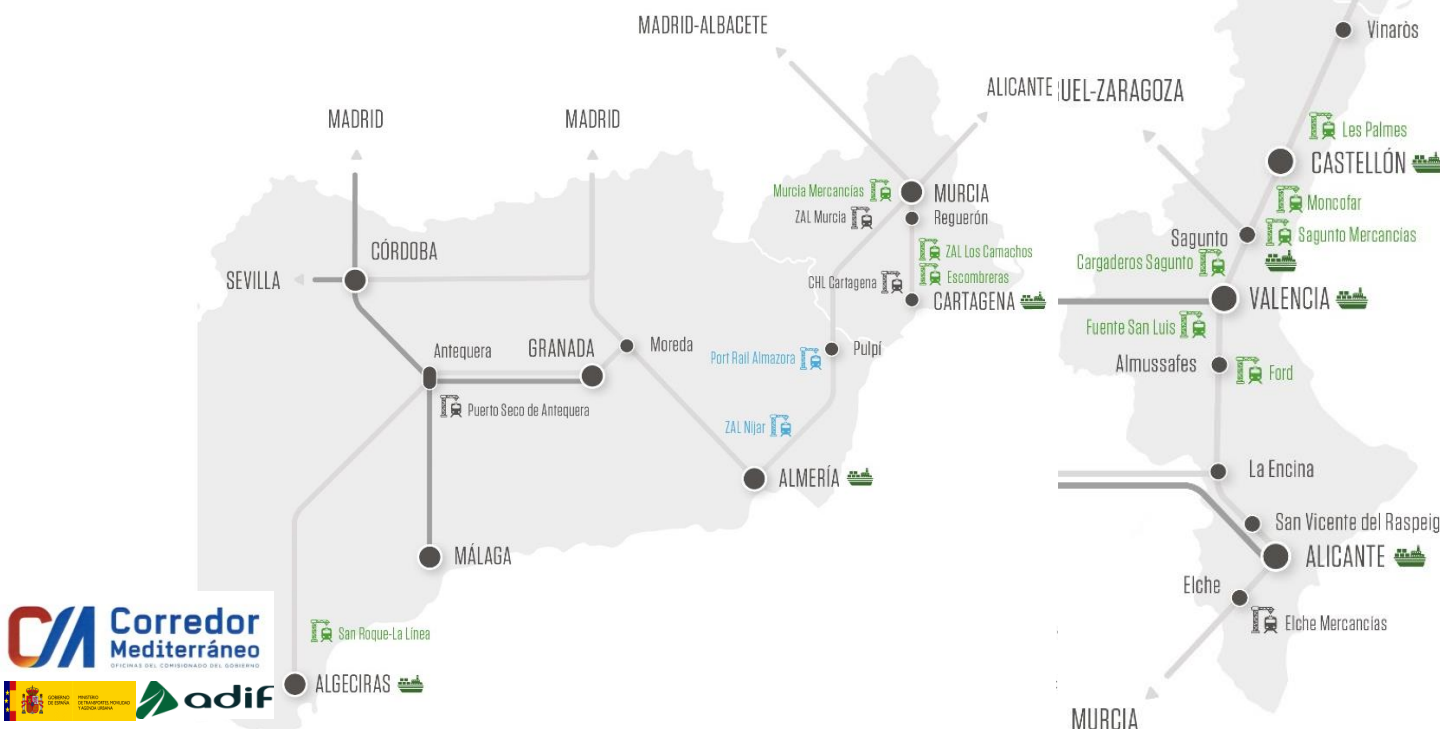


## Terminales y puertos

-  Terminal de mercancías conectada en ancho estándar
-  Terminal de mercancías conectada en ancho ibérico
-  Terminal de mercancías conectada en ancho mixto
-  Terminal de mercancías pendiente de planificación
-  Puerto de interés general conectado en ancho ibérico
-  Puerto de interés general conectado en ancho mixto

## Current status of Mediterranean RFC in Spain

Fully connected to standard gauge,  
some of them using dual gauge



## Terminales y puertos

-  Terminal de mercancías conectada en ancho estándar
-  Terminal de mercancías conectada en ancho ibérico
-  Terminal de mercancías conectada en ancho mixto
-  Terminal de mercancías pendiente de planificación
-  Puerto de interés general conectado en ancho ibérico
-  Puerto de interés general conectado en ancho mixto

# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

## HIGHEST PRIORITY RRT & PORTS

### RRT

Barcelona La Llagosta

Valencia Fuente de San Luis

### PORTS (TEN-T core ports)

Port of Barcelona

Port of Tarragona

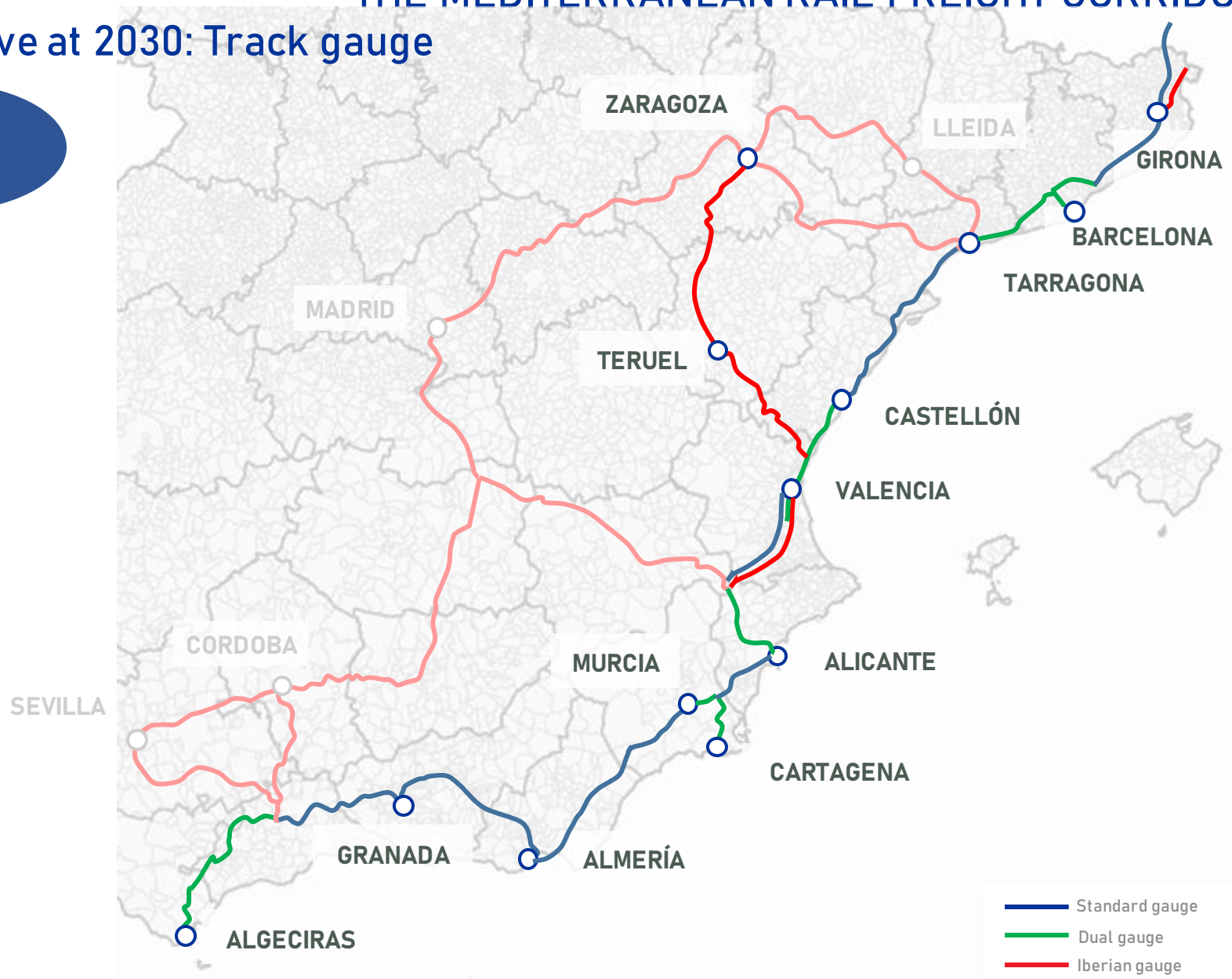
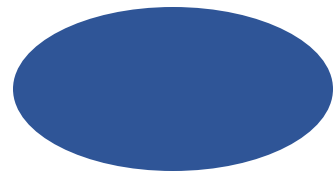
Port of Valencia

Port of Cartagena

Port of Algeciras

# SPANISH DEVELOPMENTS ALONG THE MEDITERRANEAN RAIL FREIGHT CORRIDOR

Perspective at 2030: Track gauge





2030 Path:  
French Border to  
Barcelona

Standard gauge  
25 kV AC  
ERTMS L1 or L2

Dual gauge  
3 kV DC  
ERTMS L2

GIRONA

La Llagosta

Port of  
Barcelona

TARRAGONA

2030 Path:  
French Border to  
Barcelona

**FRENCH BORDER – LA LLAGOSTA**  
Standard Gauge  
25 kV AC  
ERTMS L1 or 2

**FRENCH BORDER – PORT OF BARCELONA**  
Standard Gauge  
25 kV AC & 3 kV DC  
ERTMS L2

TARRAGONA

La Llagosta

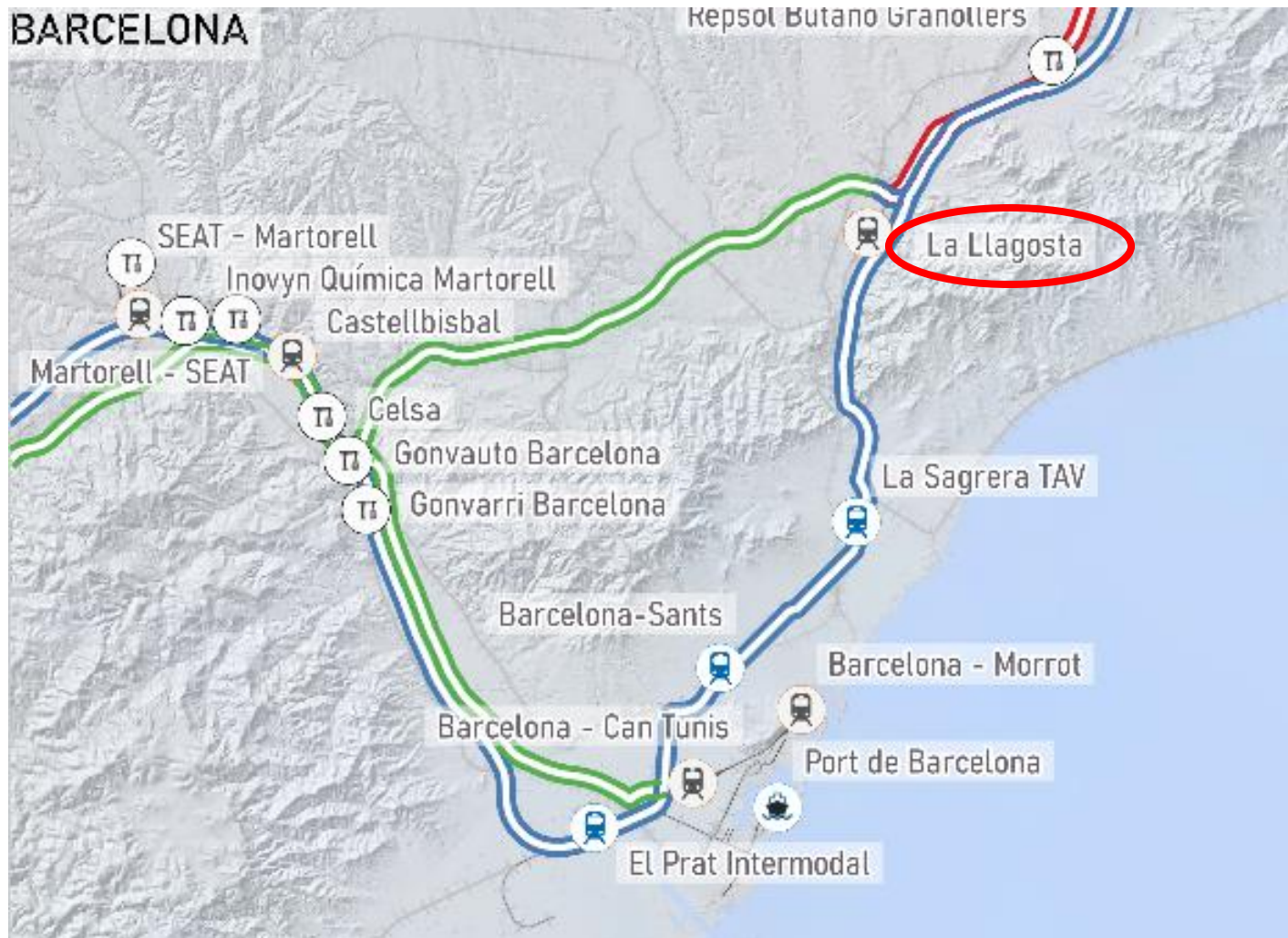
Port of  
Barcelona

GIRONA

LLEIDA

- Standard gauge
- Dual gauge
- Iberian gauge

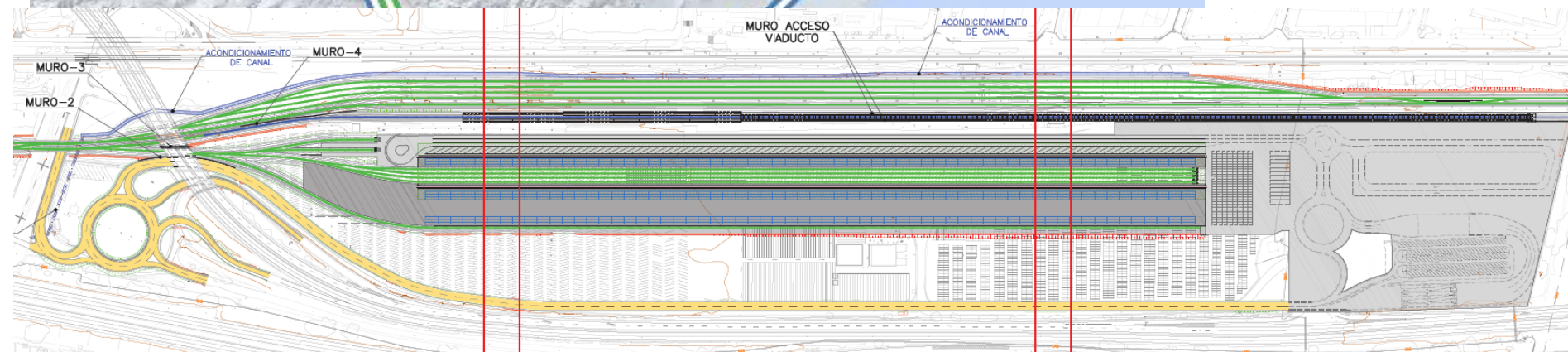
# Highest priority RRT & Ports



Barcelona La Llagosta: Northern Barcelona  
 Tendering upgrade to standard gauge and 740  
 m



# Highest priority RRT & Ports



Barcelona La Llagosta: Northern Barcelona  
 Tendering upgrade to standard gauge and 740  
 m

## Highest priority RRT & Ports



### Port of Barcelona

Designing new connections and terminals



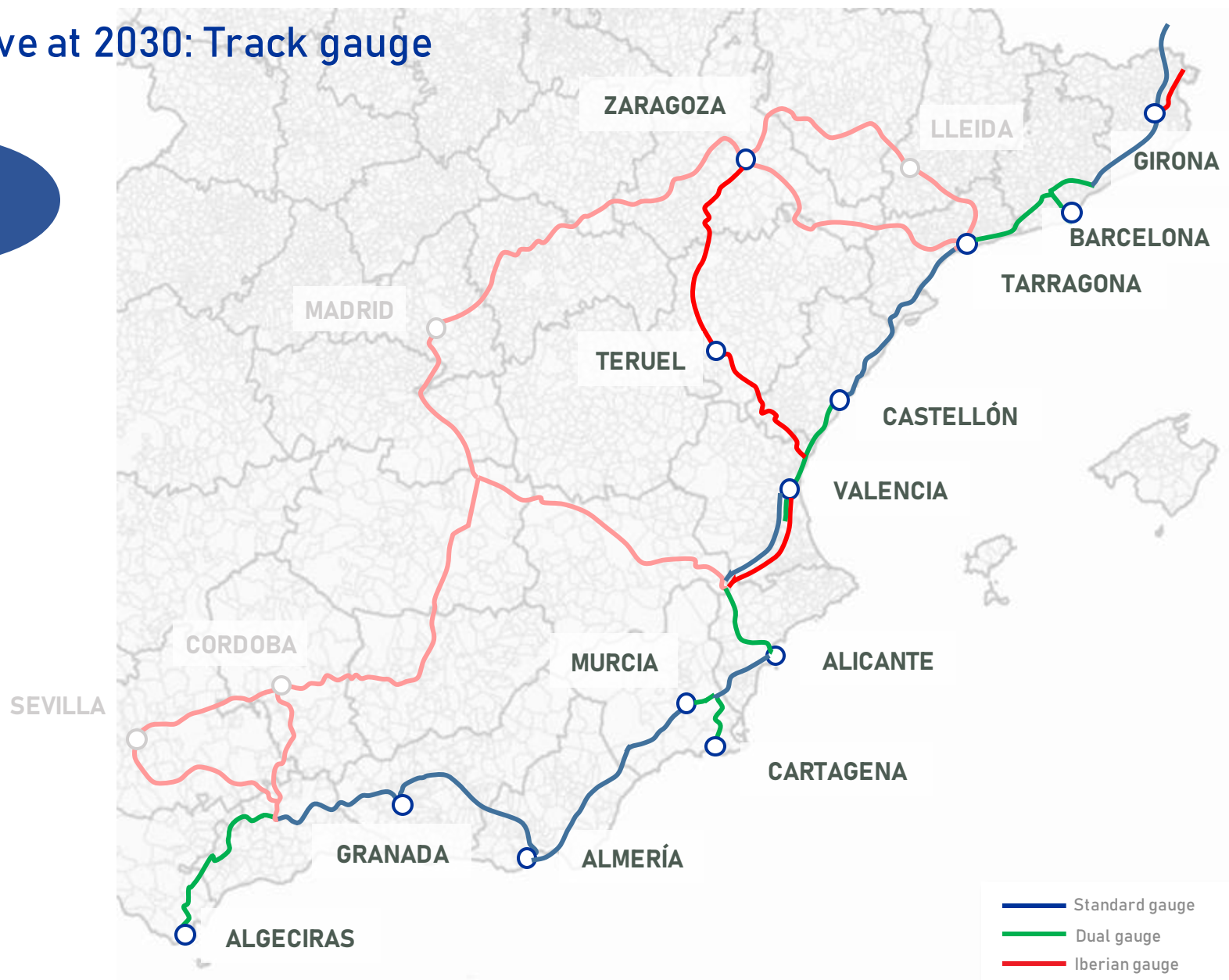
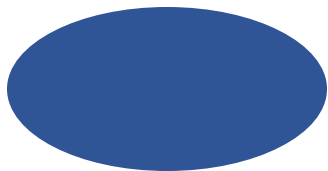
# Highest priority RRT & Ports



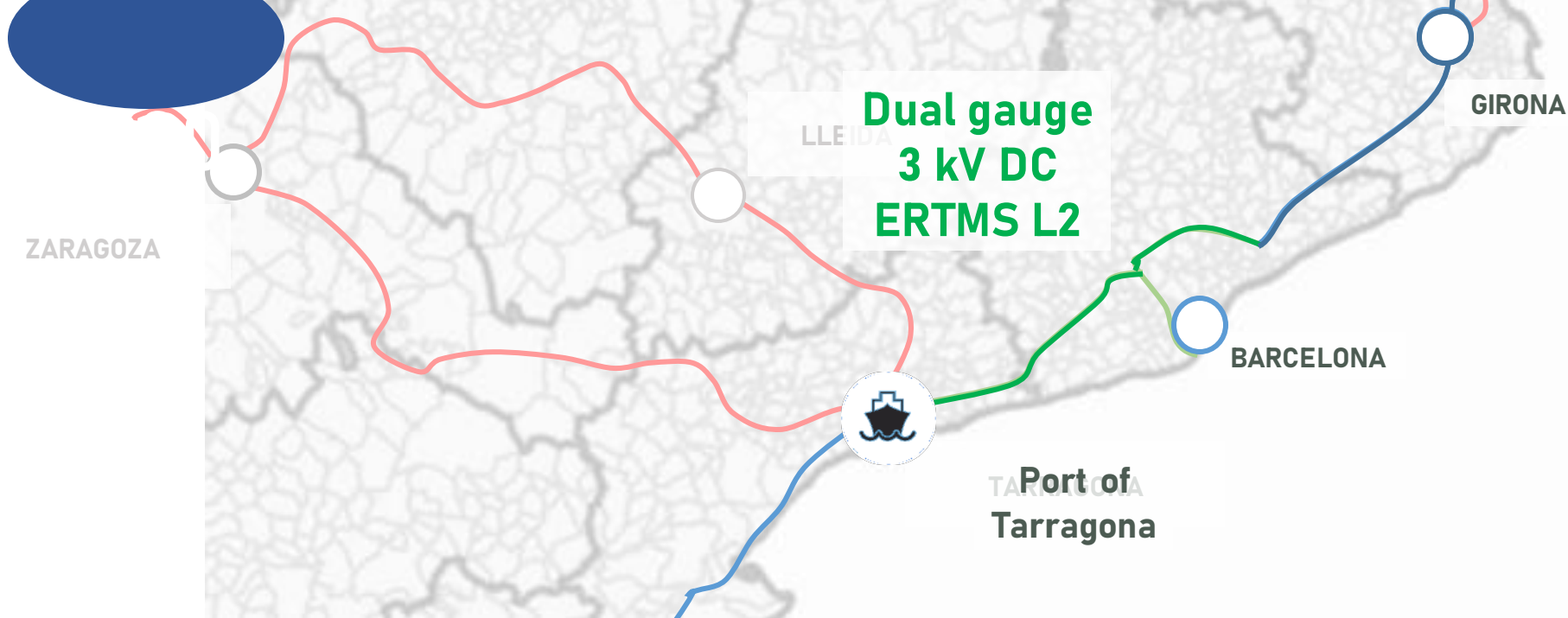
Port of Barcelona  
Designing new connections and terminals



## Perspective at 2030: Track gauge



## 2030 Path: French Border to Tarragona





2030 Path:  
French Border to  
Tarragona



ZARAGOZA

LLEIDA

GIRONA

BARCELONA

**FRENCH BORDER –  
TARRAGONA**  
Standard Gauge  
25 kV AC & 3 kV DC  
ERTMS L2

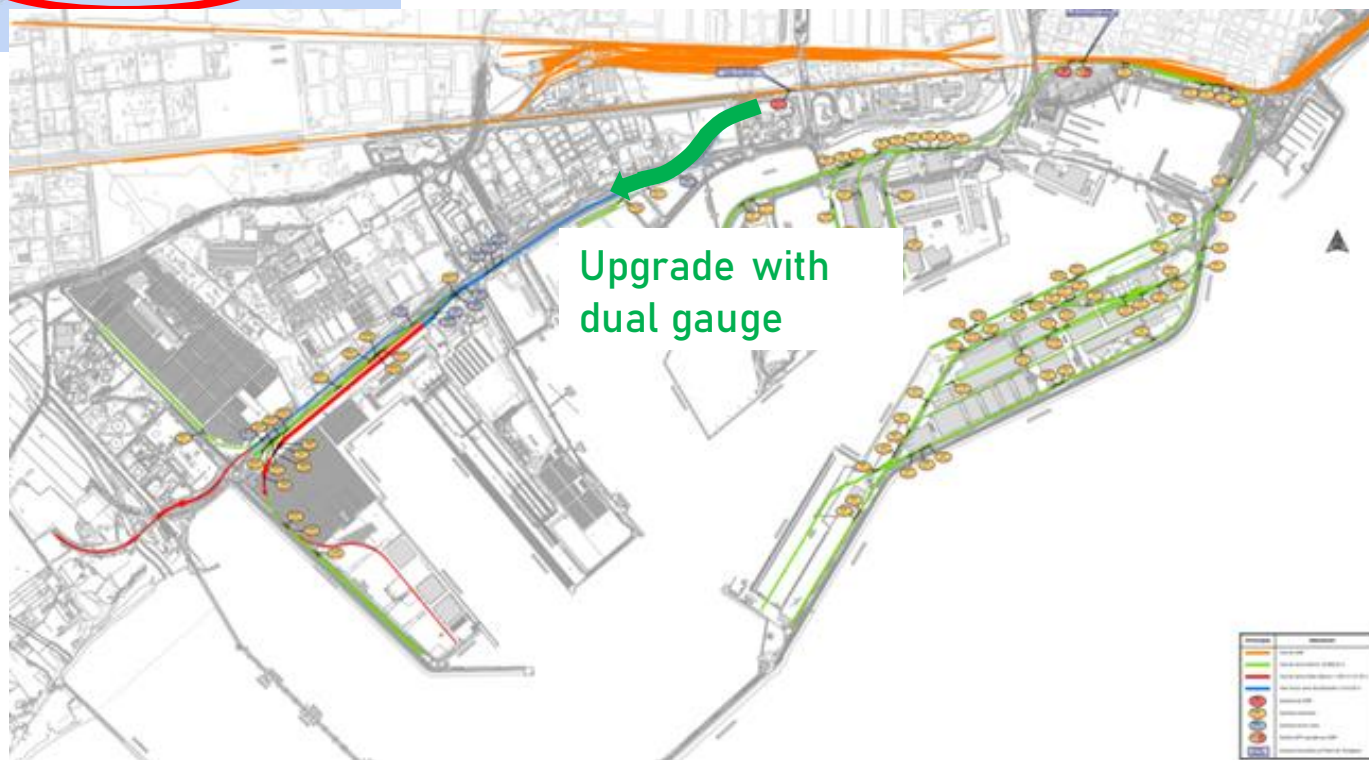
Port of  
Tarragona

- Standard gauge
- Dual gauge
- Iberian gauge

# Highest priority RRT & Ports

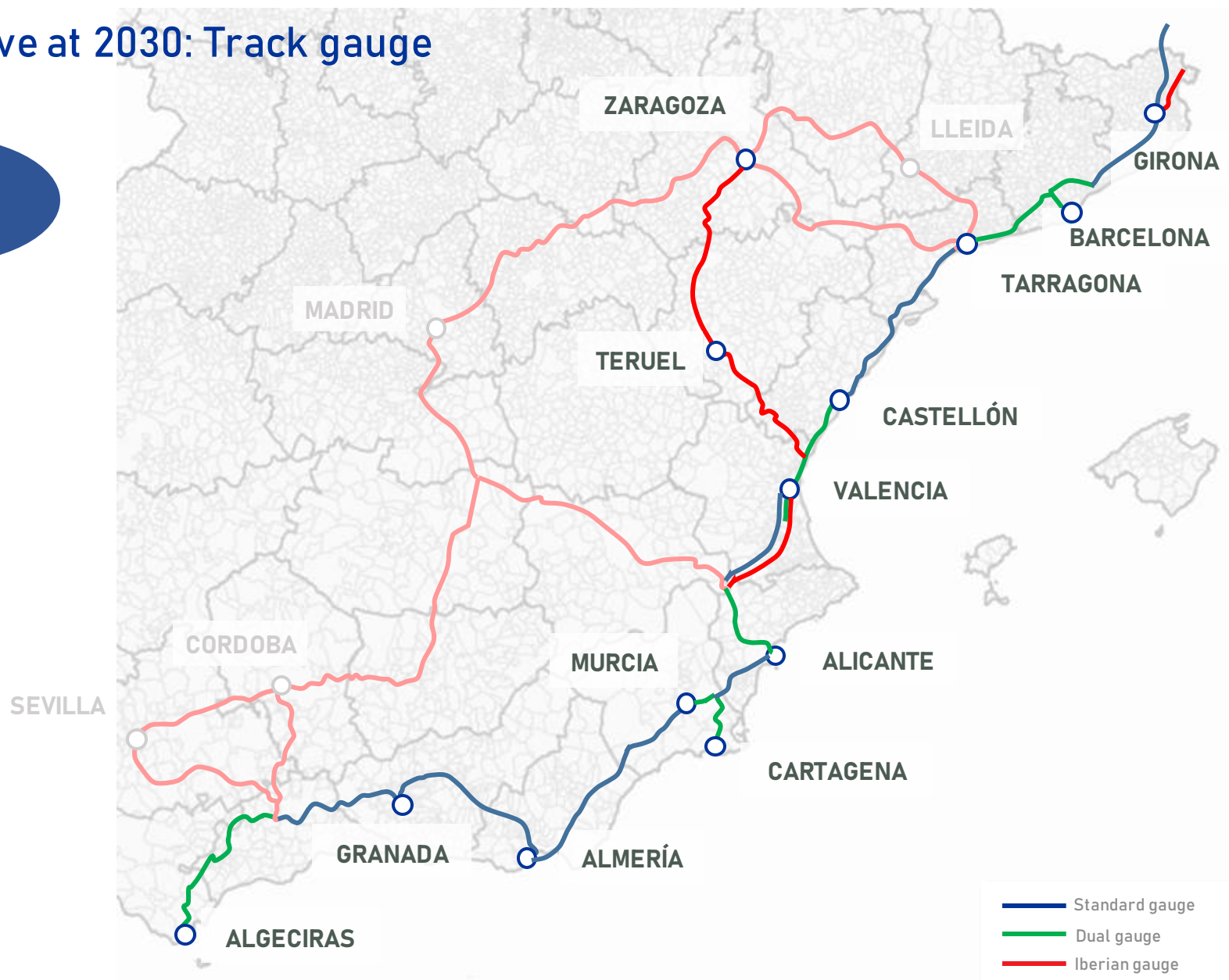
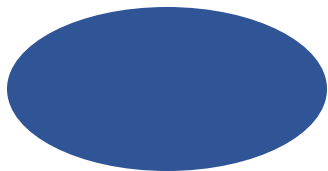


Port of Tarragona  
Constructing new connections  
Terminals ready

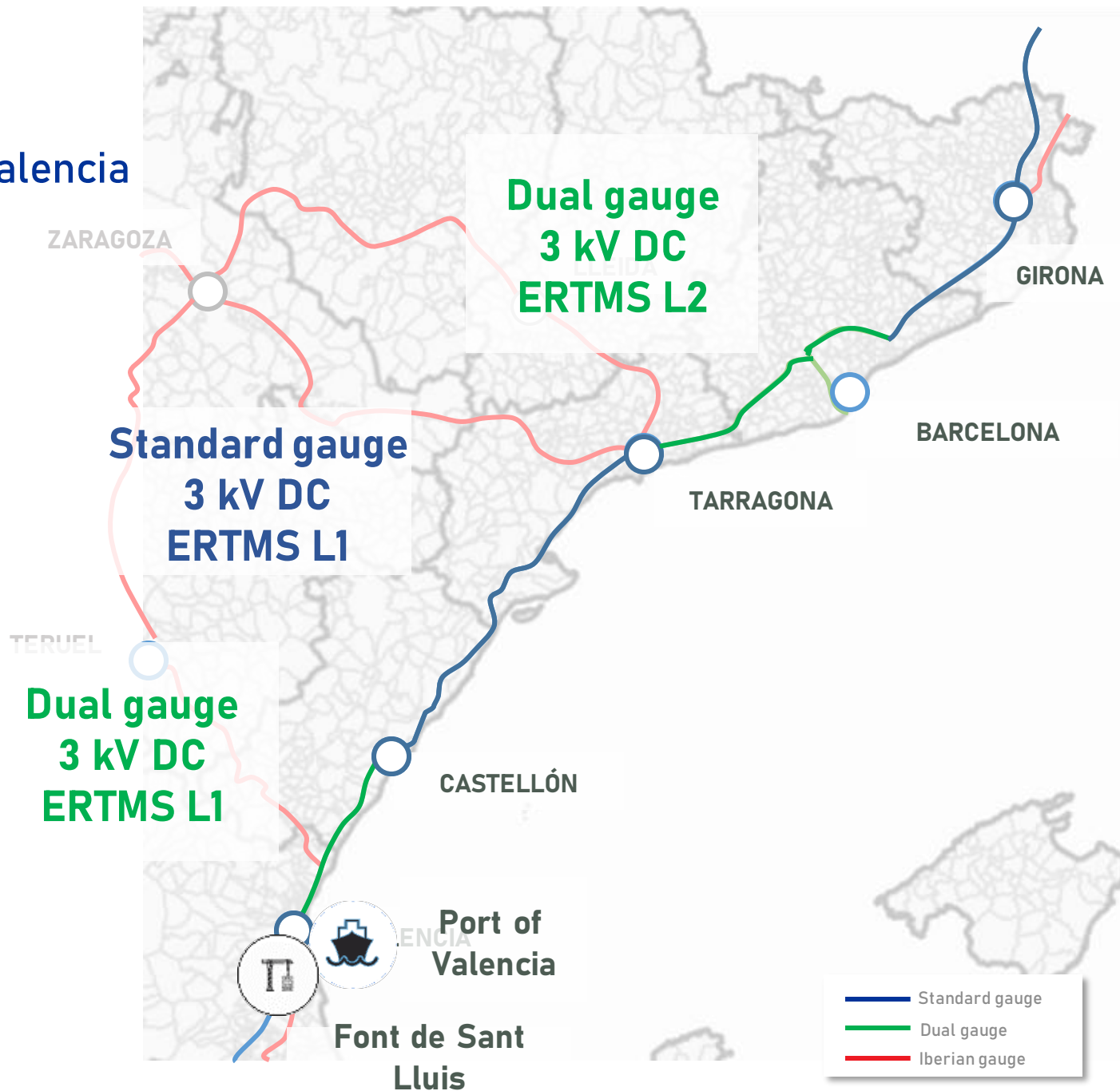
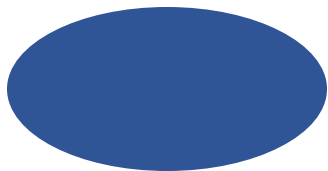




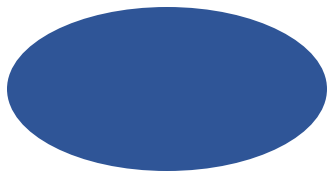
## Perspective at 2030: Track gauge



## 2030 Path: French Border to Valencia



## 2030 Path: French Border to Valencia



**FRENCH BORDER –  
VALENCIA**  
Standard Gauge  
25 kV AC & 3 kV DC  
ERTMS L1 & L2

ZARAGOZA

LLEIDA

GIRONA

BARCELONA

TARRAGONA

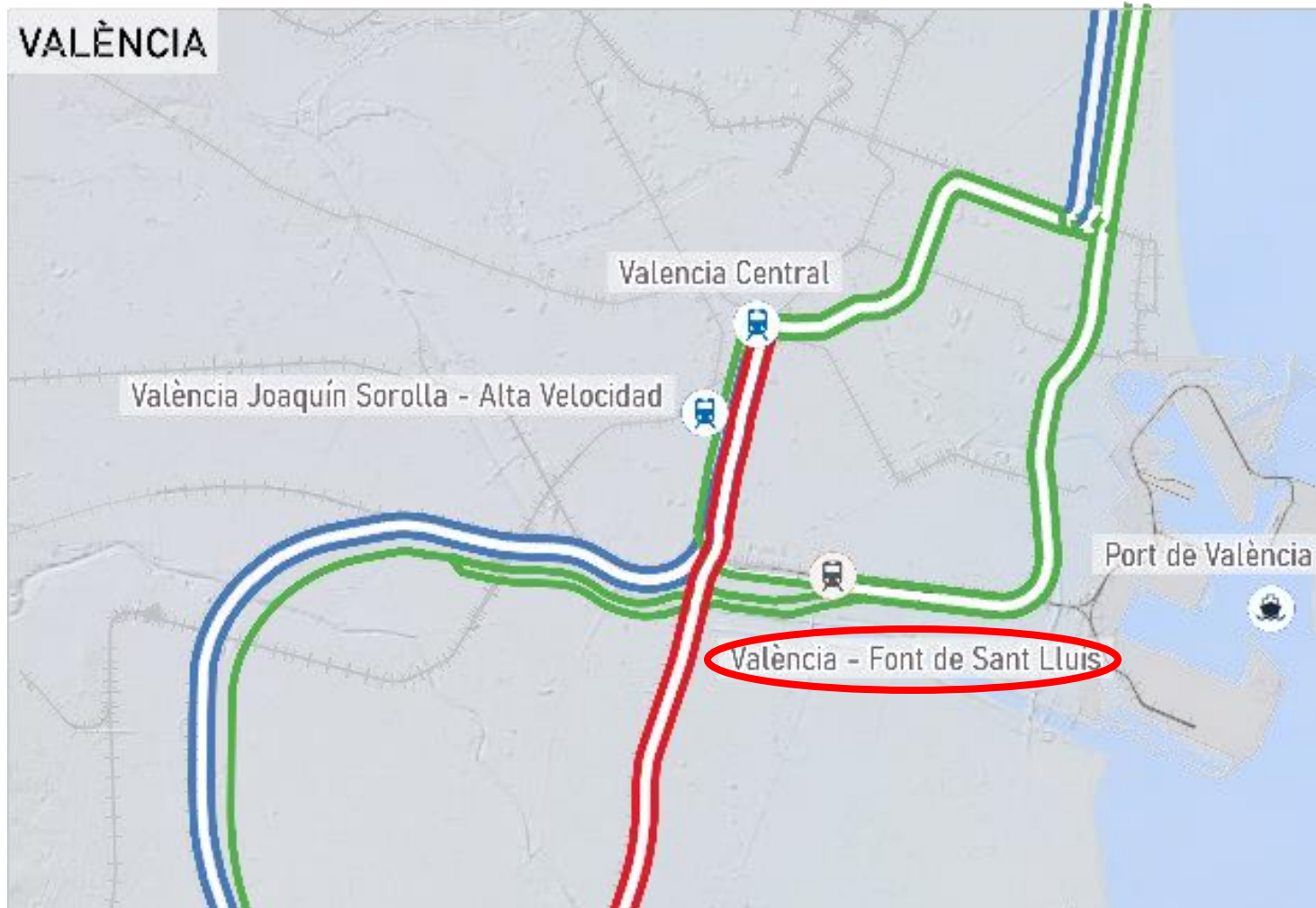
CASTELLÓN

Port of  
Valencia

Font de Sant  
Lluís

— Standard gauge  
— Dual gauge  
— Iberian gauge

## Highest priority RRT & Ports



València – Font de Sant Lluís  
Designing extended intermodal terminal



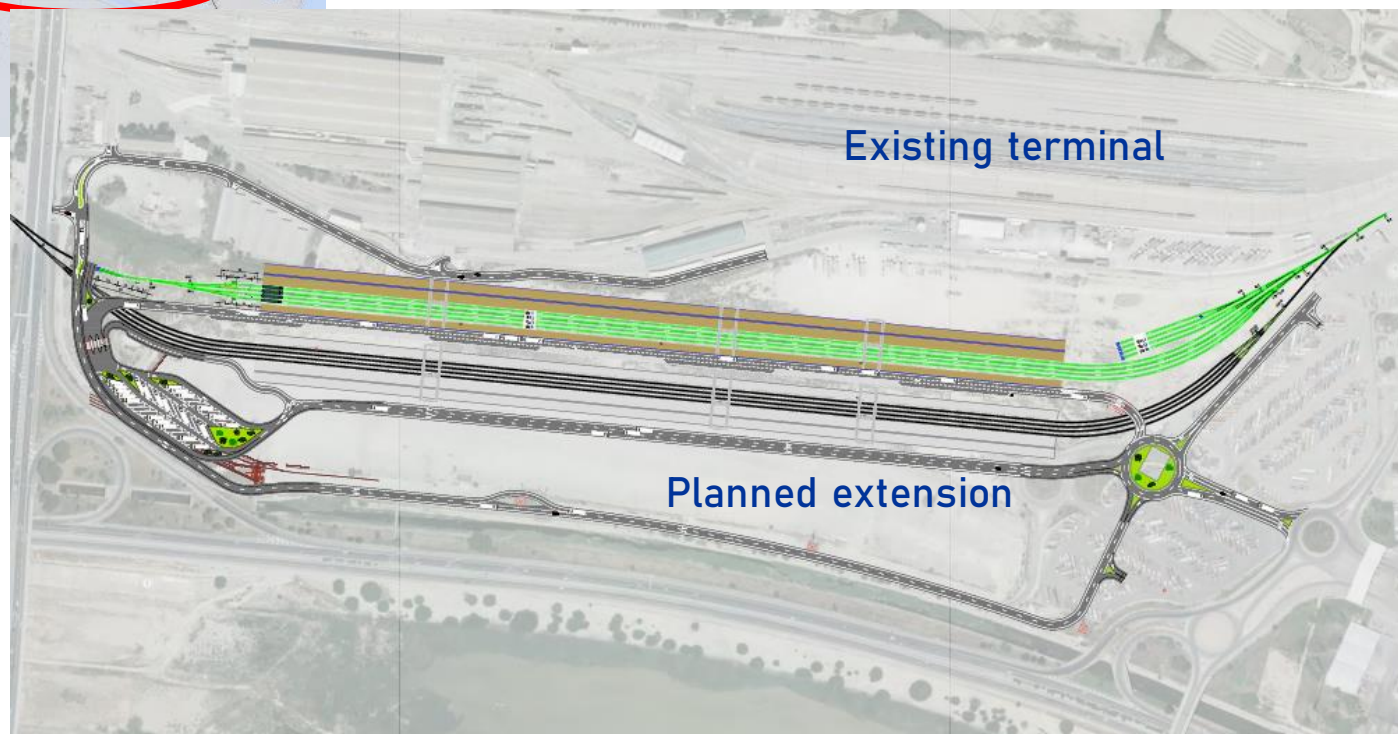
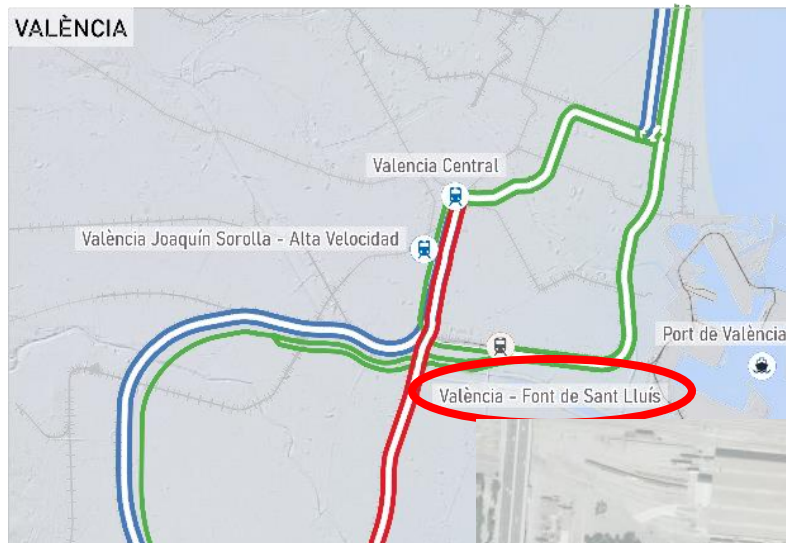
# Highest priority RRT & Ports

## València – Font de Sant Lluís

Designing extended intermodal terminal

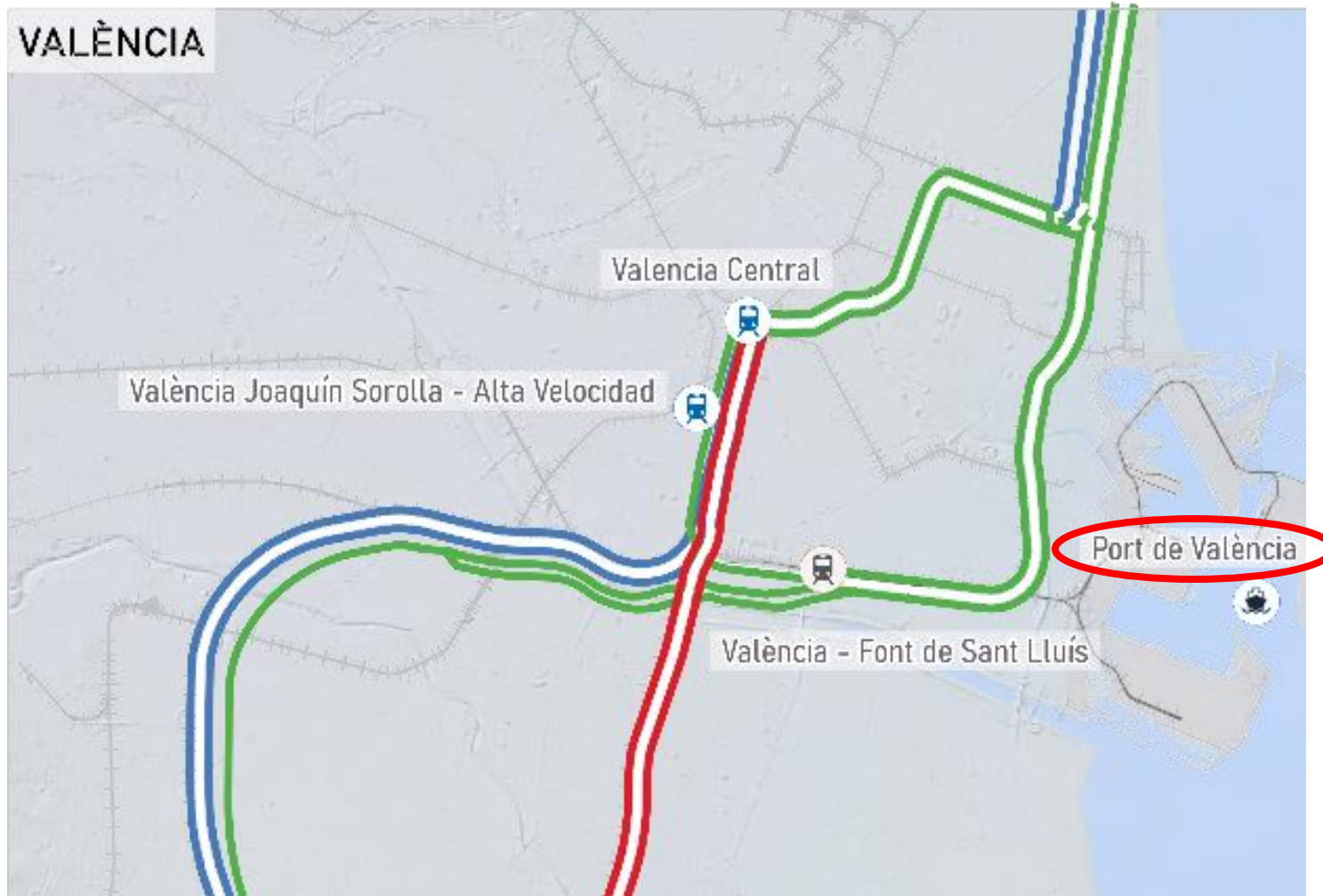
Standard gauge/Dual gauge

740 m long trains

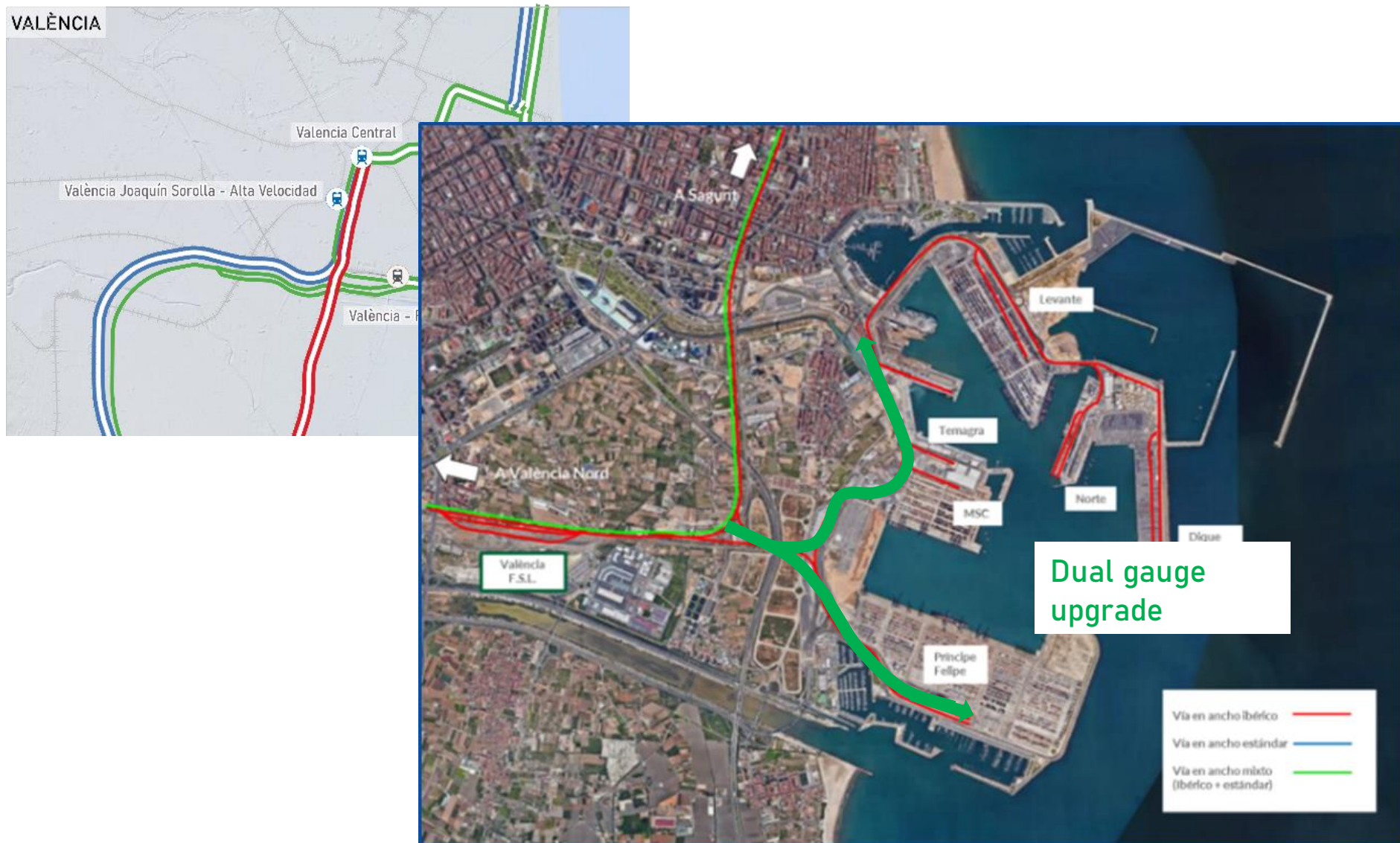




## Highest priority RRT & Ports



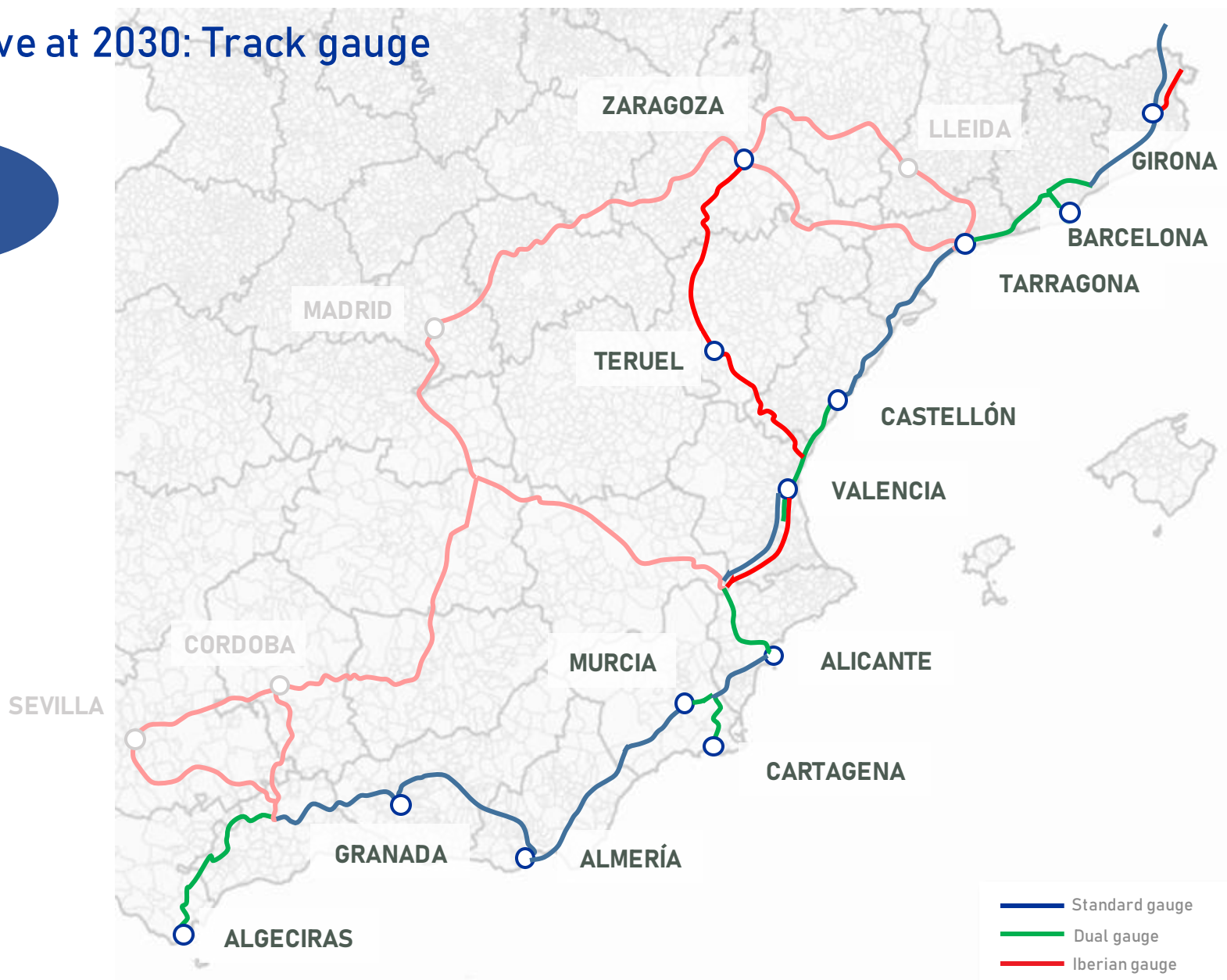
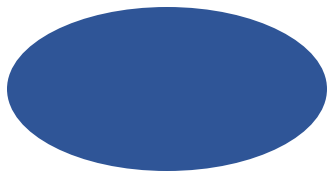
# Highest priority RRT & Ports



Port of València

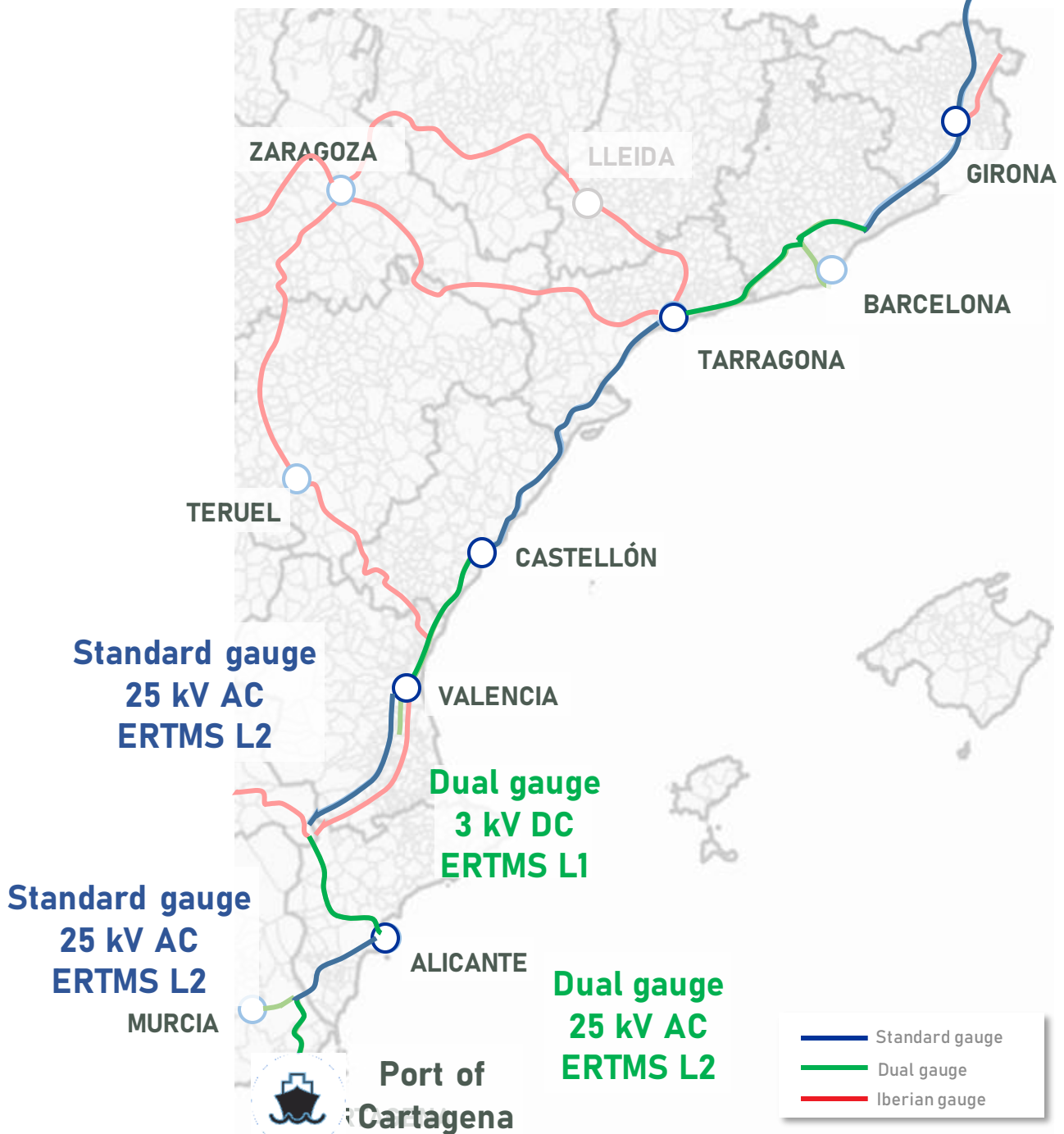
Upgrading connections and terminals. Works ongoing

## Perspective at 2030: Track gauge





# 2030 Path: French Border to Cartagena



2030 Path:  
French Border to  
Cartagena



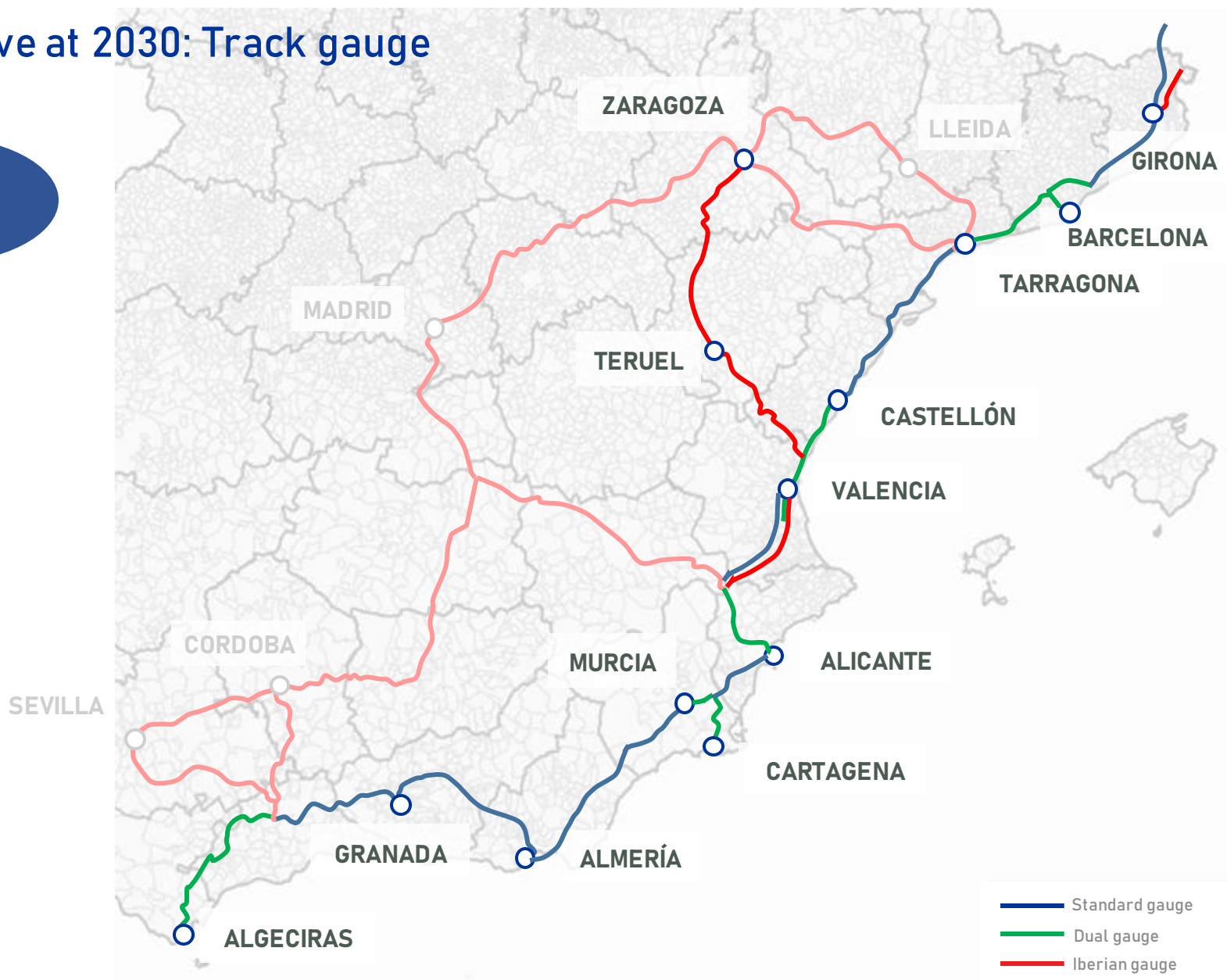
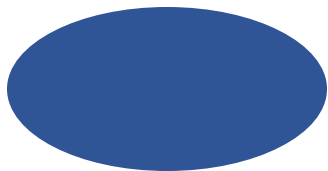
**FRENCH BORDER –  
CARTAGENA**  
Standard Gauge  
25 kV AC & 3 kV DC  
ERTMS L1 & L2



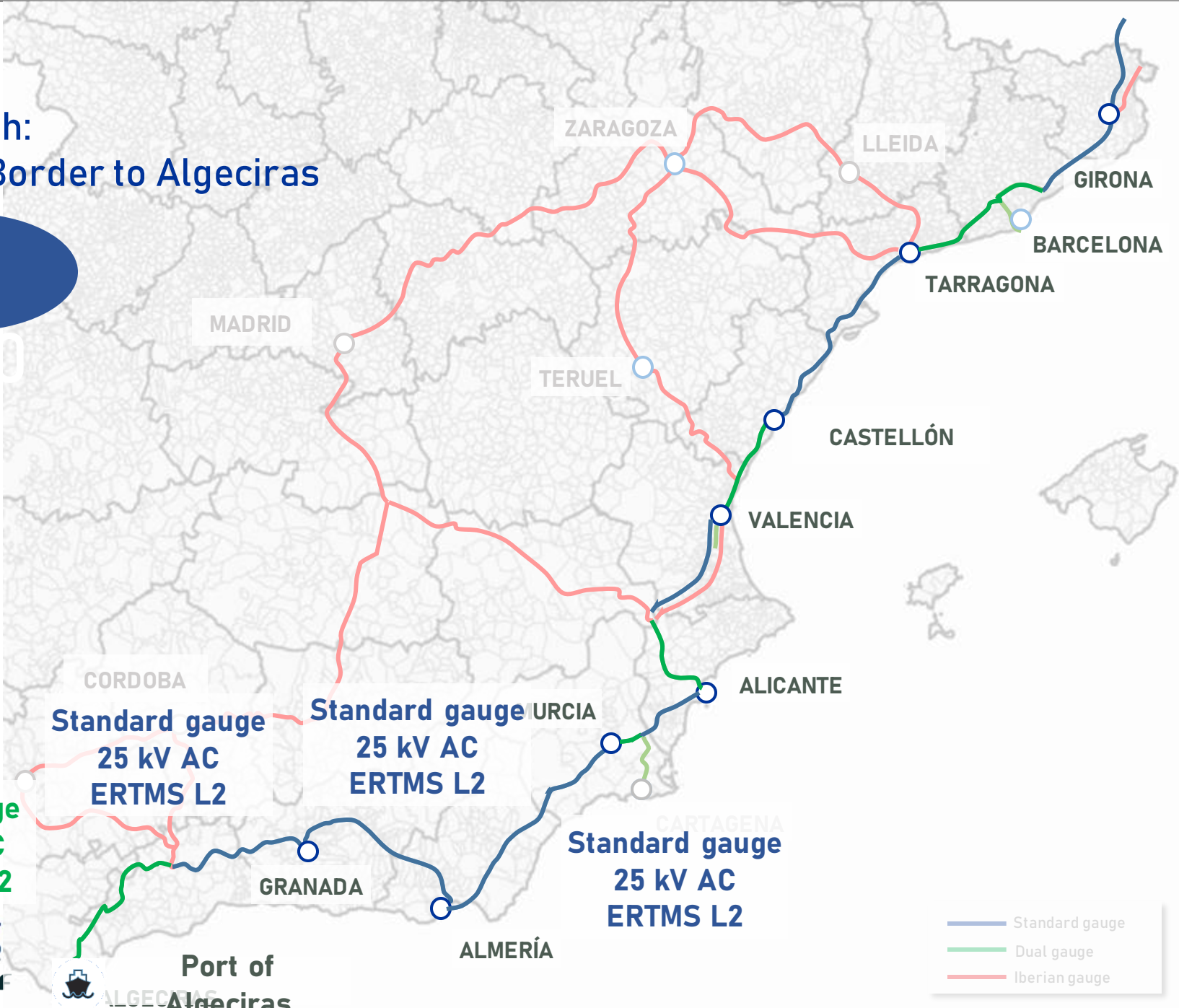
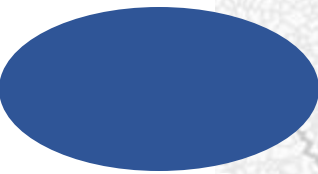




## Perspective at 2030: Track gauge



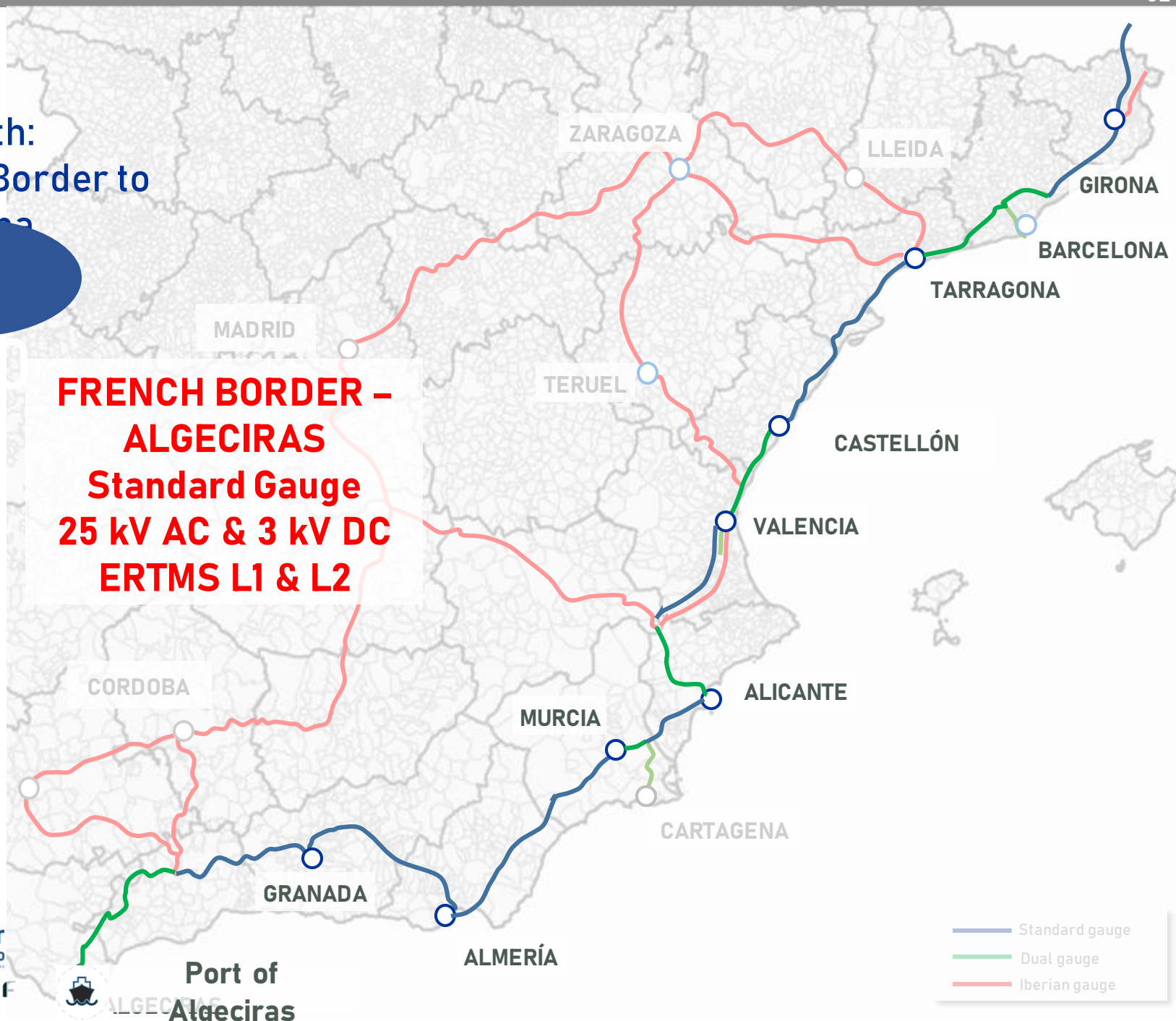
2030 Path:  
French Border to Algeciras





2030 Path:  
French Border to  
Cartagena

**FRENCH BORDER –  
ALGECIRAS**  
Standard Gauge  
25 kV AC & 3 kV DC  
ERTMS L1 & L2





## Highest priority RRT & Ports



Port of Algeciras  
Upgrading connections and  
terminals  
to 740 m long train



Office of the Government Commissioner  
for the Mediterranean Corridor

THANK YOU VERY MUCH FOR YOUR  
INTEREST