EUROPEAN REGULATION 913/2010

Rail Freight Corridor "Atlantic"

CORRIDOR INFORMATION DOCUMENT

Implementation Plan of the CID

Timetabling year 2023

Co-financed by the European Union
Connecting Europe Facility

ATLANTIC CORRIDOR

Version control

Version	Author	Changes	Date

Version control

Version	Chapter changed	Changes compared to the previously published version	X marks which part in the chapter concerned has been changed	
30.11.2021	all		X	X

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Glossary

A general glossary which is harmonised over all Corridors is available under the following link:

https://rne.eu/wp-content/uploads/NS_CID_Glossary_2021.xlsx.

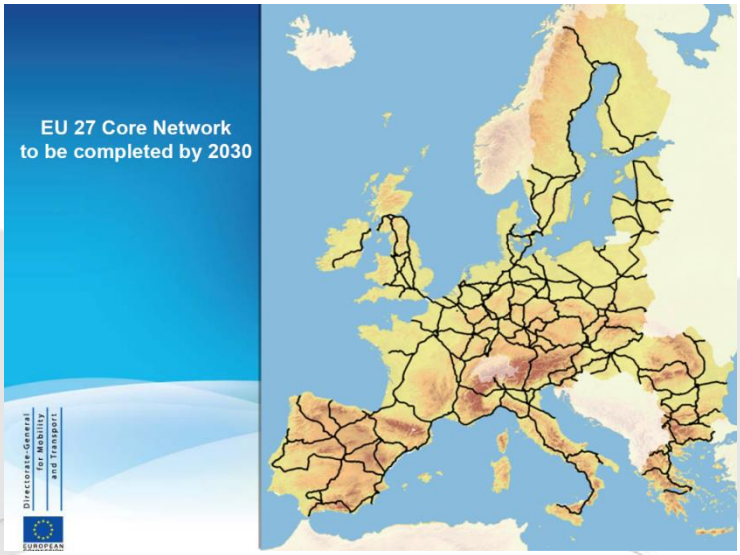
1 Introduction

Within the framework of the European Union new Strategy for jobs and growth, the creation of an internal rail market, in particular with regard to freight transport, is an essential factor in making progress towards sustainable mobility.

Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways, Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and Directive 2012/34/EU of the European Parliament and the Council of 21 November 2012 establishing a single European railway area have been important steps in the creation of the internal rail market.

In order to be competitive with other modes of transport, international and national rail freight services, which have been opened up to competition since 1 January 2007, must be able to benefit from a good quality and sufficiently financed railway infrastructure, namely, one which allows freight transport services to be provided under good conditions in terms of commercial speed and journey times and to be reliable, namely, that the service it provides actually corresponds to the contractual agreements entered into with the railway undertakings (RUs).

In this context, the establishment of international rail corridors for a European rail network for competitive freight on which freight trains can run under good conditions and easily pass from one national network to another would allow for improvements in the conditions of use of the infrastructure.

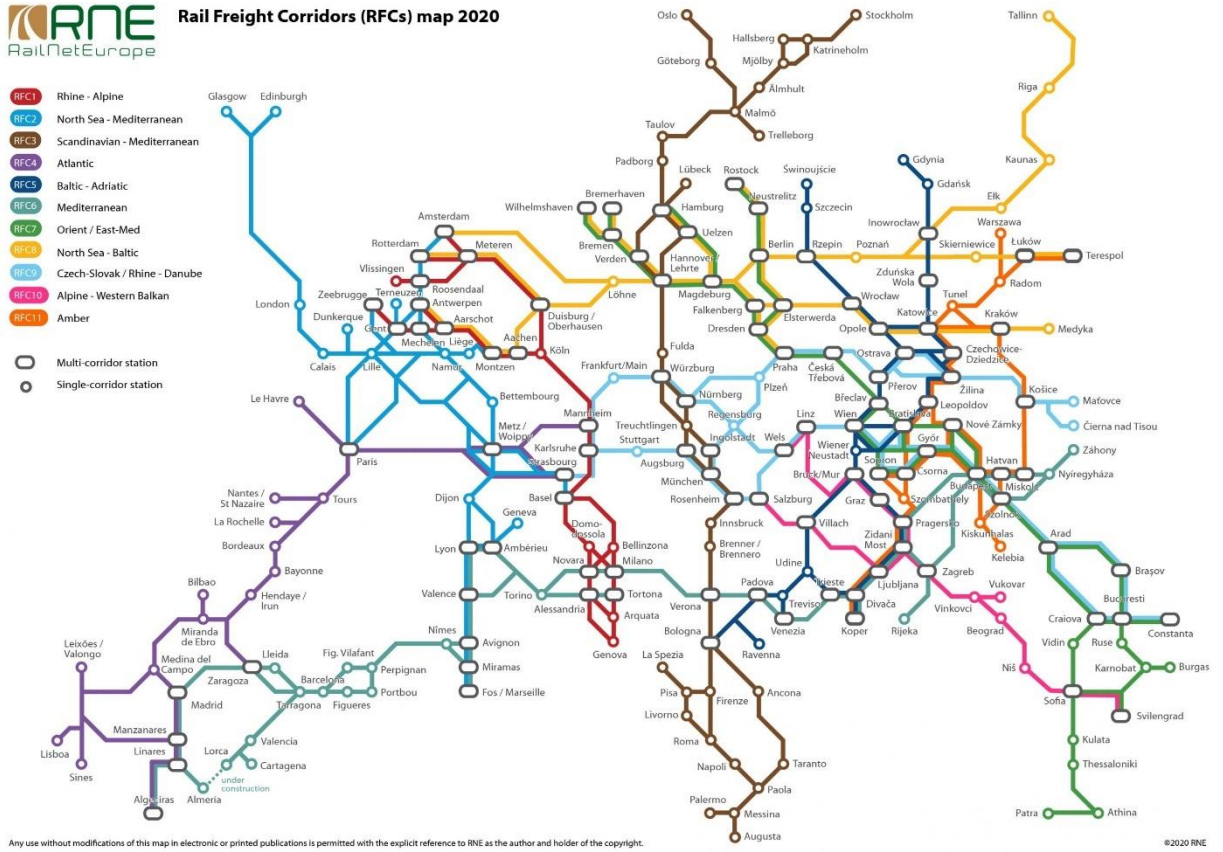


The implementation of international rail freight corridors forming a European rail network for competitive freight should be conducted in a manner consistent with the trans-European Transport Network (TEN-T) and/or the European Railway Traffic Management System (ERTMS) corridors.

The conception of freight corridors should ensure continuity along corridors, insuring the necessary interconnections between the existing rail infrastructures.

Coordination should be ensured between Member States and Infrastructure Managers (IMs) in order to guarantee the most efficient functioning of freight corridors. To allow this, operational measures should be taken in parallel with investments in infrastructure and in technical equipment such as ERTMS that should aim at increasing rail freight capacity and efficiency.

The aim of the Regulation (EU) No 913/2010 of 22 September 2010 is to improve the efficiency of rail freight transport relative to other modes of transport through the creation of 9 European rail freight corridors.



In accordance with the conclusions of Regulation 913/2010, the Rail Freight Corridor N°4 was established on the 10 November 2013. In accordance with the annex II of the Regulation 1316/2013, this corridor was renamed to Rail Freight Corriodor “Atlantic” and will be extended to Mannheim and Strasbourg at the latest on the 10 November 2016.

With regard to the Atlantic coast, the European Commission has selected the Rail Freight Corridor “Atlantic” connecting Portugal, Spain France and Germany, namely the following points: “Sines-Lisbon/Leixões, Sines-Elvas/Algeciras, Madrid-Medina del Campo / Bilbao / San Sebastian-Irun-Bordeaux-Paris / Le Havre / Metz-Strasbourg / Mannheim”, which will constitute the hubs of the corridor.

The Rail Freight Corridor “Atlantic” connects directly four other corridors – Rail Freight Corridor “North Sea – Mediterranean” in Metz Woippy, Rail Freight Corridor “Mediterranean” in Madrid and Rail Freight Corridor Rhine-Alpine in Mannheim and will in future connect with Rail Freight Corridor Rhine Danube in Strasbourg and Mannheim.

This document is aimed at defining the means and strategy which the parties intend to implement in order to draw up during a given period the necessary and sufficient measures to establish Rail Freight Corridor “Atlantic”.

2 Corridor Description

The principal and divisionary lines of the Rail Freight Corridor Atlantic have around **6,200 km** in length and extends over Germany (174 km), France (2,625 km), Spain (2,366 km) and Portugal (1,045 km) running for long part along the Atlantic coast.

It is composed of infrastructure features substantially different, as shown in the simplified chart

The detailed maps and summary tables of the features of the existing railway network are set out in Annex 5.D– Key Parameters of Corridor Lines (Maps and Tables) of this Update to the Implementation Plan.

The infrastructure managers of the countries covered by Rail Freight Corridor Atlantic are the following:

GERMANY	DB NETZE	Theodor-Heuss Allee 7 60486 Frankfurt am Main | Deutschland www.dbnetze.com
FRANCE	SNCF RÉSEAU	Direction Commerciale 15 rue Jean-Philippe Rameau - CS80001 93418 LA PLAINE SAINT DENIS CEDEX | France www.sncf-reseau.fr
SPAIN	adif	Dirección Internacional C/ Sor Ángela de la Cruz nº 3, planta 2ª 28020-Madrid | España www.adif.es
PORTUGAL	Infraestruturas de Portugal	Departamento de Mobilidade e Clientes Departamento de Contratualização e Negócio Ferroviário | Corredor Atlântico Praça da Portagem 2809-013 Almada | Portugal www.infraestruturasdeportugal.pt

2.1 Key Parameters of Corridor Lines

Here follows a brief description of the existing railway infrastructures and performance-limiting factors of the corridor.

In addition, for a clearer overview of the Corridor characteristics please consult the Customer Information Platform in www.cip.rne.eu, Annex 5.D.2 and Annex 5.D.3.

2.1.1 Germany

For the freight traffic, the existing line has respectively:

- a principle line with double track between the French-German border, Saarbrücken and Mannheim via Neunkirchen, Homburg and Ludwigshafen (143 km),
- a diversionary line with double track between Saarbrücken and Homburg via Rohrbach (31 km),

with an UIC gauge, electrified at 15 kV~ and with an axle load of 22.5 tons.

The maximum speed for freight trains is 100 km/h, except for some agglomerations with lower speed limits due to construction works.

The tables below provide detailed characteristics of infrastructures by section.

General information principal line	■ Tracks with UIC gauge (1,435 mm) ■ Max. load 22.5 tons/axle ■ Electrification 15,000V~ ■ Max. speed 100km/h ■ Train communication system GSM-R ■ Signaling System : Main/preliminary signaling system (H/V) and Combined signaling system (Ks) ■ Length of trains limited to 740 m

2.1.1.1 French border – Mannheim section

MS1: French border - Saarbrücken - Neunkirchen - Homburg - Mannheim (143 km)	Current state – Main features: ■ 2 tracks, ■ Gauge type GB/GC, ■ Gross load hauled limited to 3,000 t with a single electric locomotive class 5,600 kW (with a section limited to 1720 t) Current state – Limiting factors: ■ A train length up to 740 m is possible in principle, may however be impacted by capacity restrictions resulting from timetabling and operations.
MS2: Saarbrücken - Rohrbach - Homburg (31 km)	Current state – Main features: ■ 2 tracks ■ Gauge type GB/GC ■ Gross load hauled limited to 3,000 t with a single electric locomotive class 5,600 kW (with a section limited to 1930 t) Current state – Limiting factors: ■ A train length up to 740 m is possible in principle, may however be impacted by capacity restrictions resulting from timetabling and operations.

2.1.2 France (2,625 km)

The existing line is a double track with UIC gauge, electrified respectively with:

- 25,000 V~ between Le Havre, Paris, Metz/Woippy, and Strasbourg/Stiring Wendel, between Nantes St Nazaire port and Tours SPDC, La Rochelle port and Poitiers (1,428 Km)
- 1,500 V DC between Paris and Hendaye (804 km)

and diversionary lines (393 km) with single or double track partially non electrified (238 km).

It is equipped with a signalling system of the Automatic Block System (BAL) and Semi automatically Block system (BAPR) type with a Beacon Speed Control (KVB),

The maximum speed of freight trains ranges between 100 and 120 km/h, except for some urban nodes with limits between 40 and 60 km/h.

The crossing of the railway complex Hendaye/Irun is ensured on 2 km by 1 track with an UIC gauge electrified with 1,500V DC and 1 track with an Iberian gauge electrified with 3,000 V DC.

The tables below provide detailed characteristics of infrastructures by section.

General information principal line	■ Tracks with UIC gauge (1,435 mm), ■ Max. load 22.5 tons/axle, ■ Max. gradient 6 to 8‰, except Bayonne-Hendaye section (12‰) ■ Length of trains limited to 750 m ■ Signalisation type Automatic Block System (BAL) with Beacon Speed Control (KVB). ■ Electrification 1,500 V DC between Irun and Sucy-Bonneuil, ■ Electrification 25,000 V~ between Sucy-Bonneuil and the triangle of Gagny, between Tours and Nantes St Nazaire, between Poitiers and La Rochelle, between Le Havre and Woippy / Strasbourg and Stiring Wendel (German border).

2.1.2.1 Paris – Le Havre section

PO3: Mantes la Jolie - Rouen (82.2 km)	Current state – Main features: ■ 2 tracks, except for sections Vernon – Gaillon - Aubevoye and Oissel – Rouen Rive Droite (with 4 tracks) ■ Gauge of GB1 type (except Mantes-la-Jolie - Oissel: GB type) Gross load hauled limited to 2,700 t with a single electric locomotive class 27 000. Current state – Limiting factors: ■ Line not modernized since the 1960s, with some original components (signalling system) ■ Absence of permanent counterflow installations ■ Hard spot: Rouen junction ■ Frailty of an engineered structure conditioning access to the Port of Rouen ■ Problem of coordination of work opportunities between the Ile-de-France and Upper and Lower Normandy regions
PO4: Rouen – Motteville – Port du Havre (88.4 km)	Current state – Main features: ■ 2 tracks ■ Gauge type GB1 Gross load hauled limited to 2,410 t with a single electric locomotive class 27 000 Current state – Limiting factors:

	■ Line not modernized since the 1960s, with some original components (signalling system) ■ Absence of permanent counterflow installations between Motteville and Rouen

2.1.2.2 Paris – Metz/Woippy-Stiring Wendel & Lérouville-Strasbourg section

PE1: Triangle of Gagny – Le Raincy followed by Le Raincy - Lérouville (278.8 km)	Current state – Main features: ■ 2 tracks, except for Le Raincy - Lagny - Thorigny section with 4 tracks ■ Gauge GB1 type (except section Trilport - Epernay: GB type) ■ Gross load hauled limited to 2,680 t with a single electric locomotive class 27 000 Current state – Limiting factors: ■ Lack of capacity for the freight paths during rush hour between the triangle of Gagny and Le Raincy ■ The sole limitation regards the gauge, between Trilport and Epernay (GB type)
PE2: Lérouville - Metz (65 km)	Current state – Main features: ■ 2 tracks ■ Gauge type GB1 ■ Gross load hauled limited to 2,400 t with a single electric locomotive class 27 000. Current state – Limiting factors: None
PE3: Metz-Stiring Wendel (German border) (74 km)	Current state – Main features: ■ 2 tracks ■ Gauge type GB1 ■ Gross load hauled limited to 2,625 t with a single electric locomotive class 27 000. Current state – Limiting factors: None
PE4: Metz – Woippy (8.6 km)	Current state – Main features: ■ 2 tracks ■ Gauge type GB1 ■ Gross load hauled limited to 2,400 t with a single electric locomotive class 27 000. Current state – Limiting factors: ■ The section between Metz Marchandises and Woippy has a limited capacity.

PE5: Lérouville-Strasbourg Port du Rhin (226 km)	Current state – Main features: ■ 2 tracks, 3 tracks between Vandenheim and Strasbourg ■ Gauge type GB1, except section Sarrebourg to Saverne (GB) ■ Gross load hauled limited to 2,185 t with a single electric locomotive class 27 000. Current state – Limiting factors: ■ Gradient 14‰ and gauge GB between Sarrebourg and Saverne

2.1.2.3 Paris – Hendaye/Irun (border Spain) section and connection to Nantes Saint Nazaire & La Rochelle ports

PS1: Hendaye-Bordeaux (232.8km)	Current state – Main features: ■ 2 tracks ■ Electrification: Non-interoperable catenary of MIDI type ■ Gauge GB type (except section Dax-Facture: GB1 type) Gross load hauled limited to 2,570 t with a single electric locomotive class 27 000 Midi [1] except between Hendaye and Bayonne limited to 1,405 t Current state – Limiting factors: ■ Gauge GB1 type (except section Bayonne-Hendaye: GB type) ■ Maximum weight < 1,800 t between Hendaye and Bayonne (1,405 t) ■ Limited speed passing through the stations of Bordeaux, Dax, Bayonne, Hendaye ■ Problem of interoperability of pantograph collector heads of the Midi catenary, requiring the exchange of locomotive at the south of Bordeaux ■ Insufficiency of freight lay-by of 750 m ■ Limited number of branch lines fit for D load (22.5 t/axle) ■ Few permanent counterflow installations (130 km without counterflow installations between Gazinet and Dax)
PS2: Bordeaux-Poitiers-Saint Pierre des Corps (Tours) (350.8 km)	Current state – Main features: ■ 2 tracks ■ Gauge GB1 type between Tours and Poitiers, GB type between Poitiers and Bordeaux Limited gross load hauled ranging between 2,550 t with a single electric locomotive class 27 000.

[1] Maximum gross tons hauled for a GEC Alsthom 26 000 engine; except 27 000 midi for line Bordeaux-Hendaye; 75000 thermique for non electrified lines. Source “Technical information” by line.

	Current state – Limiting factors: ■ Line extensively used for passengers traffic (TGV before entry into service LGV SEA and TER) ■ Ongoing works for the establishment of 4 tracks at the north exit of Bordeaux for commissioning in March 2016 ■ Gauge GB type between Poitiers and Bordeaux
PS3 : Poitiers – La Rochelle Port (148 km)	Current state – Main features: ■ Line with double track and some single track section (Lusignan – St Maixent 28,2 km / La Rochelle station – La Rochelle port 5,1 km) ■ Electrification 25,000 V~ ■ Gross load hauled limited to 1,850 t with a single electric locomotive class 27 000, except acces to the Port limited to 1,600 t. Current state – Limiting factors: ■ Gauge type GA (FR 3.3) between Niort and La Rochelle ■ Signalling system BAPR type ■ Virtual absence of freight lay-bys with 750 m
PS4 : Nantes St Nazaire port – Saint Pierre des Corps(Tours) (262 km)	Current state – Main features: ■ 2 tracks ■ Electrification 25,000 V~ ■ Gross load hauled limited to 2,680 t with a single electric locomotive class 27 000. Current state – Limiting factors: ■ Gauge type GB between Tours et Angers, ■ Signalling system type BAPR between Tours SPDC and Angers, type BAL between Angers and Nantes Saint Nazaire. ■ Line extensively used for passengers traffic TGV (before entry into service HSL BPL) and TER between Nantes and Angers
PS5: Saint Pierre des Corps (Tours)-Brétigny (201.7 km)	Current state – Main features: ■ 2 tracks; Les Aubrais - Etampes section with 3 tracks; Etampes - Brétigny-sur-Orge section with 4 tracks ■ Gauge type GB1 Limited gross load hauled ranging between 2,550 t with a single electric locomotive class 27 000. Current state – Limiting factors: ■ Line extensively used for passengers traffic (Intercity and TER) ■ Few freight lay-bys

2.1.2.4 Ile de France region

PS6: Brétigny-Juvisy – Valenton (22.9 km)	Current state – Main features: ■ 4 tracks; between Juvisy and Valenton, the section is divided by 2 itineraries with 2 tracks. ■ Gauge type GB1 ■ Gross load hauled limited to 2,000 t with a single electric locomotive class 27 000. Current state – Limiting factors: None
PS7: Valenton - Triangle of Gagny (15.4 km)	Current state – Main features: ■ 2 tracks, near *Grande Ceinture* Line, dedicated to freight ■ Gauge type GB1 ■ Gross load hauled limited to 2,600 t with a single electric locomotive class 27 000. Current state – Limiting factors: ■ Speed limited to 80 km/h
PO1: Triangle of Gagny – Val d'Argenteuil (26.6 km)	Current state – Main features: ■ 2 tracks ■ Gauge type GB1 ■ Gross load hauled limited to 2,240 t with a single electric locomotive class 27 000. Current state – Limiting factors: ■ Grande Ceinture Line, dedicated to freight Speed limited to 80 km/h
PO2: Val d'Argenteuil – Mantes la Jolie (44.6 km)	Current state – Main features: ■ 2 tracks ■ Gauge type GB1 ■ Gross load hauled limited to 2,700 t with a single electric locomotive class 26 000. Current state – Limiting factors: ■ 2 itineraries are possible, both of them are very used by passengers traffic: by the northern bank of the Seine river (main route via Conflans Ste Honorine), or by the southern bank of the Seine river (via Poissy) ■ Lack of capacity for freight paths during rush hour ■ The number of tracks on the principal itinerary on the right bank could become insufficient in case of development of passenger traffic from the Ile-de-France region and/or important works.

	■ The itinerary on the southern bank requires a crossing point at the same level with RER A in Sartrouville

2.1.2.5 Diversionary lines

From Bordeaux to Poitiers through Saintes and Niort (“C.A”)

C.A1: Bordeaux-Saintes-Niort (197.7 km)	Current state – Main features: ■ Line non electrified between Grave d’Ambarès and Niort ■ Single track between Saintes and Niort, 2 tracks between Bordeaux and Saintes Gauge type GB1 Current state – Limiting factors: ■ Single track between Saintes and Niort, lack of electrification between Grave d’Ambares and Niort. ■ Heterogeneous signalling system[2] ■ Gross load hauled limited to 1,250 t from Bordeaux to Saintes, (then 1,070 t) with a single diesel locomotive type 75 000 ■ Virtual absence of freight lay-bys with 750 m[3]

From Conflans Ste Honorine to Motteville through Gisors-Serqueux (“C.B”)

C.B1: Conflans-Gisors (46.2 km)	Current state – Main features: ■ 2 tracks ■ Electrification 25,000 V. ■ Signalling system BAL type (except for Pontoise-Gisors: BAPR type) ■ Gauge GA (FR3.3) type (except for Eragny-Chars GB1 type) Current state – Limiting factors: ■ Limited capacity of the section Conflans-Gisors equipped in BAPR and gauge FR3.3 ■ Gross load hauled limited to 1,800 t with a single electric locomotive class 27 000 (1,700 t between Pontoise and Gisors)
C.B2: Gisors-Serqueux (50.0 km)	Current state – Main features: ■ 2 tracks ■ Non electrified line Signalling system BAPR type (after renewal, start of operation 2013) Current state – Limiting factors:

[2] BAL Signalling system from Bordeaux to St-André-de-Cubzac, then BAPR-DV up to Beillant, BAL up to Saintes and BAPR-VB up to Niort.

	■ Signalling system BAPR type, sufficient for an alternative axle ■ Non electrified line ■ Line limited to gauge GB type as a result of a single tunnel ■ Speed limited to 40 km/h (before renovation works)
C.B3: Serqueux-Montérolier B. - Motteville (53.4 km)	Current state – Main features: ■ 2 tracks between Serqueux and Montérolier-Buchy; 1 track between Montérolier-Buchy and Motteville (35,6 km) ■ Electrification 25,000 V. ■ Signalling system type BAPR ■ Gauge GB1 type (except for Serqueux- Montérolier-B.: GB type) ■ Gross load hauled limited to 1,700 t with a single electric locomotive class 27000 Current state – Limiting factors: ■ Section Montérolier – Motteville (line dedicated to freight) has a single track, high gradient (15 %o) with a BAPR signalling system ■ The section Serqueux-Montérolier is limited to GB gauge

From Lérouville to Strasbourg through Remilly - Sarrebourg (“C.C”)

C.C1: Remilly – Sarrebourg - Reding (65.2 km)	Current state – Main features: ■ 2 tracks between Remily and Reding ■ Electrification 25,000 V. ■ Signalling system type BAL ■ Gauge GB1 type ■ Gross load hauled limited to 2,680 t with a single electric locomotive class 27 000. Current state – Limiting factors: N/A

2.1.3 Spain (2366 km)

The existing line has an Iberian gauge with an axle load of 22.5 tons; it is electrified with 3,000V DC or 25kV according to the following sections:

Between Irun, Medina del Campo and Fuentes de Oñoro (634 km):

- with a 3000V CC electrified double track between Irun and Medina del Campo (433 km),
- with a 25kV electrified single track between Medina del Campo and Fuentes de Onoro (201 km).

Between Alsasua, Pamplona and Zaragoza (238 km):

- with a single track Alsasua and Castejon (139 km),

- with a double track between Castejon and Zaragoza (99 km).

Between Miranda de Ebro and Bilbao (115 km):

- with a single track between Miranda de Ebro and Orduña (52 km),
- with a double track between Orduña and Bilbao (63 km).

Between Medina del Campo, Madrid and Algeciras (974 km through Cordoba):

- with an electrified double track between Medina del Campo and Santa Cruz de Mudela (465 km),
- with an electrified single track between Santa Cruz de Mudela and Bobadilla (333 km),
- with a non-electrified single track between Bobadilla and Algeciras (176 km).

Between Manzanares and Badajoz (405 km):

- with an electrified single track between Manzanares and Puertollano (105 km),
- with a non-electrified single track between Puertollano and Badajoz (300 km).

The maximum speed of freight trains ranges between 80 and 100 km/h, except for some agglomerations with limits between 40 and 60 km/h.

It is equipped with a signalling system of BAB / BAD / BAU / BLAU / BT type (depending on the sections) and ASFA speed control.

The maximum length of trains is included between 550 and 600 m, depending on the sections.

The tables below provide detailed characteristics of infrastructures by sections.

General information principal line	■ Tracks with Iberian gauge (1,668 mm) ■ Max. load 22.5 tons/axle ■ Iberian gauge

2.1.3.1 Irun/Hendaye (French border) - Madrid section

PS4: Madrid (Hortaleza) - Medina del Campo (210.4 km)	Current state – Main features: ■ 2 tracks ■ Electrification 3,000 V ■ Signalling system: BAD on the Medina del Campo – Ávila section, BAB with CTC on the Ávila - Madrid (Hortaleza) section ■ Connection track-to-train and ASFA ■ Gradient: 5-18 ‰ ■ Gross load hauled between 1,080-1,730 t (with a single electric locomotive class 253) Train length limited to 600 m Current state – Limiting factors: ■ Gross load hauled limited to 1,080 t ■ Important suburban traffic on rush hour on Pitis – Pinar de las Rozas – Villalba de Guadarrama section

PS5: Medina del Campo - Venta de Baños (78.9 km)	Current state – Main features: ■ 2 tracks, except for a single underground track from El Pinar to the entry of Valladolid (3.5 km) ■ Electrification 3,000 V ■ Signalling system: BAB with CTC BAU with CTC from El Pinar Sur to El Pinar Norte ■ Connection track-to-train and ASFA ■ Gradient: 3-10 ‰ ■ Gross load hauled between 1,730-2,500 t (with a single electric locomotive class 253) ■ Train length limited to 550 m Current state – Limiting factors: ■ Electrified single track, underground, over 3.5 km from El Pinar to the entry to Valladolid ■ Gross load hauled limited to 1,730 t (maximum value on the main lines in Spain)
PS6: Venta de Baños - Miranda de Ebro (172.4 km)	Current state – Main features: ■ 2 tracks ■ Electrification 3,000 V ■ Signalling system: BAB with CTC ■ Connection track-to-train and ASFA ■ Gradient: 12-15‰ ■ Gross load hauled limited to 1,240 t (with a single electric locomotive class 253) ■ Train length limited to 550 m Current state – Limiting factors: ■ Gross load hauled limited to 1,240 t
PS7: Miranda de Ebro - Irún (181.5 km)	Current state – Main features: ■ 2 tracks ■ Electrification 3,000 V ■ Signalling system: BAD between Irún - San Sebastián BAB with CTC between San Sebastián - Miranda de Ebro ■ Connection track-to-train and ASFA ■ Gradient: 9-18 ‰

	■ Gross load hauled between 1,080-1,730 t (with a single electric locomotive class 253) ■ Train length limited to 550 m Current state – Limiting factors: ■ 18‰ grade on the Tolosa – Brínkola section ■ Gross load hauled limited to 1,080 t

2.1.3.2 Madrid – Algeciras section

PS1: Algeciras - Córdoba (305.3 km)	Current state – Main features: ■ Single track ■ Electrified with 3,000 V on the Córdoba – Bobadilla section, non electrified on the Bobadilla - Algeciras section ■ BA type signalling system with CTC, apart from sections: Torres Cabrera - Fuente de Piedra (BEM type) Bobadilla - Ronda and Gaucín - Algeciras (BT type) ■ Connection track-to-train and ASFA solely on Córdoba – Bobadilla and Ronda-Gaucín sections ■ Gradient: 8-24 ‰ ■ Gross load hauled ranging between 920 and 1,980 t, with a single electric locomotive class 253 (electrified sections) and a single diesel locomotive class 333.3 (non electrified sections) ■ Train length ranging between 550-600 m Current state – Limiting factors: ■ Gross load hauled limited to 1,130 t connected to grades with 17‰ in the first section between Valchillón - Fuente de Piedra. ■ On the Bobadilla – Algeciras section, there are the most significant load limitations with values ranging between 920 - 960 t / train connected to grades with 24 ‰ ■ Section with a 305.3 km single-track line ■ Section with a non-electrified line over 176 km
PS2: Córdoba - Manzanares (244.6 km)	Current state – Main features: ■ 2 tracks between Manzanares - Santa Cruz de Mudela and Vadollano – Linares, single track on the remaining section ■ Electrification 3000 V ■ Signalling system: * BAB with CTC between Manzanares - Sta. Cruz de Mudela and Vadollano - Linares * BAU with CTC on the remaining section ■ Connection track-to-train and ASFA

	■ Gradient: 7-16 ‰ ■ Gross load hauled between 1,180-2,310 t (with a single electric locomotive class 253) ■ Train length limited to 600 m Current state – Limiting factors: ■ Gross load hauled limited to 1,180 t between Santa Cruz de Mudela and Vadollano ■ Single-track section over 194 km ■ Saturation between Córdoba and Alcolea connected to an important traffic of regional trains to the University. ■ Saturation between Alcolea and Espelúy over a period of 3 hours concomitantly with a maintenance period (bare relevance).
PS3: Manzanares - Madrid (Hortaleza) (213.2 km)	Current state – Main features: ■ 2 tracks, 4 tracks near Madrid region ■ Electrification 3,000 V ■ Signalling system: BAB type with CTC ■ Connection track-to-train and ASFA ■ Gradient: 5 - 16 ‰ ■ Gross load hauled between 1,180-2,310 t (with a single electric locomotive class 253) ■ Length of trains ranging between 550-750 m Current state – Limiting factors: ■ Gross load hauled limited to 1,180 t between Hortaleza and Villaverde ■ Important suburban passenger traffic on the Villaverde Bajo – Aranjuez section ■ Speed limited to 60 km/h on O'Donnell - Vicálvaro and Vallecas - Villaverde Bajo sections

2.1.3.3 Alsasua – Zaragoza section

PS8: Alsasua – Castejon (139,3 km)	Current state – Main features: ■ 1 single track ■ Electrification 3,000 V ■ Signalling system: BAU type with CTC ■ Connection track-to-train and ASFA ■ Gradient: 17 ‰ ■ Gross load hauled between 1,130 t (with a single electric locomotive class 253)

	■ Length of trains ranging 550 m Current state – Limiting factors: ■ Gradient: 17 ‰ ■ Length of trains ranging <750 m
PS9: Castejon - Zaragoza (98,8 km)	Current state – Main features: ■ 2 tracks ■ Electrification 3,000 V ■ Signalling system: BAB type with CTC ■ Connection track-to-train and ASFA ■ Gradient: 8 - 10 ‰ ■ Gross load hauled between 1,630 t (with a single electric locomotive class 253) ■ Length of trains ranging 575 m Current state – Limiting factors: ■ Length of trains ranging <750 m

2.1.3.4 Miranda de Ebro – Bilbao section

PS10: Miranda de Ebro - Bilbao (Santurtzi) (114.8 km)	Current state – Main features: ■ 2 tracks on Santurtzi – Orduña section, single track on Orduña - Miranda de Ebro section (62.9 km) ■ Electrification 3,000 V ■ Signalling system: ■ BAB with CTC between Santurtzi and Orduña ■ BAU with CTC between Orduña and Miranda de Ebro ■ Connection track-to-train and ASFA ■ Gradient: 9-18 ‰ ■ Gross load hauled between 1,080-1,840 t (with a single electric locomotive class 253) ■ Train length limited to 500 m Current state – Limiting factors: ■ Existence of 2 km of a single, electrified track line with a BA type signalling system on Bif. La Casilla - Aguja Enlace section ■ Grade of 18‰ on the single-track section of Orduña - Miranda de Ebro ■ Gross load hauled limited to 1,080 t

2.1.3.5 Medina del Campo – Fuentes de Oñoro section (border Portugal)

PS11: Vilar Formoso - Medina del Campo (201.1 km)	Current state – Main features: ■ Electrified 25 kV~ single track ■ Signalling system: BLAU with CTC ■ Connection track-to-train and ASFA ■ Gradient: 11-18 ‰ ■ Gross load hauled between 1,210-1,830 t ■ Train length limited to 600 m Current state – Limiting factors: ■ Gradient with 18 ‰ on the Salamanca - Fuentes de Oñoro section ■ Gross load hauled limited to 1,210 t ■ BT type signalling system from Vilar Formoso to Fuentes de Oñoro

2.1.3.6 Manzanares – Badajoz/Elvas (Portuguese border) section

PS12: Badajoz (Frontera) - Mérida – Ciudad Real - Manzanares (405.3 km)	Current state – Main features: ■ Single track ■ Electrified with 3,000 V on the Manzanares – Puertollano section, non-electrified on the Puertollano – Badajoz (Frontera) section ■ Signalling system: heterogeneous with three different types (BLA, BA and BT) ■ Without connection track-to-train on 5 sections, with ASFA on the whole section ■ Gradient: 5-17 ‰ ■ Gross load hauled ranging between 1,280 and 2,500 t, with a single electric locomotive class 253 (electrified section) and a single diesel locomotive class 333.3 (non-electrified section) ■ Train length ranging between 460-515 m Current state – Limiting factors: ■ Gross load hauled limited to 1,280 t on the Caracollera – Almorchón section. ■ Sidings limited to 460 m ■ BT type signalling system on the Caracollera - Villanueva de la Serena section ■ Section with a 405.3 km single-track line ■ Section with a non-electrified line over 300 km

2.1.4 Portugal (1045 km)

The existing line has respectively:

- a single track between Setúbal and Sines (180 km), Elvas and Entroncamento (169 km), Vilar Formoso and Pampilhosa (202 km), Oporto and Leixões (19 km), Feeder line of the Port of Aveiro (9 km), Setil and Águas de Moura (94 km),
- a double track between Lisbon and Entroncamento (118 km), Entroncamento and Pampilhosa (125 km), Pampilhosa and Oporto (107 km), Oporto and Valongo (17 km)

with an Iberian gauge, electrified with 25,000 V~ (except for the non-electrified Abrantes – Elvas section) with an axle load of 22.5 tons.

It is equipped with a signalling system of Reversible Automatic Block (RAB) type with an Automatic Train Control (ATC), except for the Abrantes - Elvas section, equipped with a manual block.

The maximum speed of freight trains is 70 km/h, except for some agglomerations with limits between 30 and 50 km/h.

The maximum length of trains ranges between 350 and 520 m.

The tables below provide detailed characteristics of infrastructures by section.

General information principal line	■ Tracks with Iberian gauge (1,668 mm) ■ Max. load 22.5 tons/axle ■ CPb+ type Iberian gauge (except on section Abrantes – Elvas, with CPb)

2.1.4.1 Oporto area

P6 : Douro line Ermesinde – Valongo/São Martinho do Campo (10.9 km)	Current state – Main features: ■ 2 tracks ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 1,240 t (with a single diesel locomotive type 4000) and 1,100 t (with a single electric locomotive type 4700) ■ Typical gradient of 18‰ Current state – Limiting factors: ■ Line extensively used by suburban passengers traffic, limiting the available capacity for freight trains in rush hours
P1 : Minho line Oporto (Campanhã) - Ermesinde (8.4 km)	Current state – Main features: ■ 6 tracks ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 1,350 t (with a single diesel locomotive type 4000) and 1,220 t (with a single electric locomotive type 4700) ■ Typical gradient of 16‰

	Current state – Limiting factors: ■ Line extensively used by suburban passengers traffic, limiting the available capacity for freight trains in rush hours
P5: Leixões line Contumil - Leixões (18.9 km)	Current state – Main features: ■ 1 track ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 1,310 t (with a single diesel locomotive type 4000) and 1,010 t (with a single electric locomotive type 4700) ■ Typical gradient of 18‰ Current state – Limiting factors: ■ Maximum length of train limited to 480 m Single track, with limited available capacity

2.1.4.2 Oporto – Pampilhosa – Entroncamento – Lisbon section

P8: Northern Line: Oporto (Campanhã) – Lisbon (Sta. Apolónia) (336.1 km)	Current state – Main features: ■ 2 tracks ■ Electrification 25,000 V. ■ BA signalling system with BO, except for Santana Cartaxo R – Entroncamento (43.1km) and Ovar – Gaia (31.5km) sections which has not a BO (adjustable block) ■ Gross load hauled limited to 1,250 t (with a single diesel locomotive type 4000), and limited to 1,100 t (with a single electric locomotive type 4700) ■ The typical gradient ranges between 6‰ and 18‰ Current state – Limiting factors: ■ Line extensively used by suburban passengers traffic between Oporto and Aveiro and between Azambuja and Lisbon, limiting the available capacity for freight trains in rush hours. ■ Typical gradient of 18‰ on the Entroncamento – Alfarelos (92.0km) section ■ Maximum length of the train limited to 400 m, on the Ovar – Oporto Campanhã (35.3km) section ■ Needs modernization in some sections
P90: Feeder line of the Port of Aveiro (8.8 km)	Current state – Main features: ■ 1 track ■ Non electrified ■ BA signalling system with BO

	■ Gross load hauled limited to 1,820 t with a single diesel locomotive type 4000 Current state – Limiting factors: ■ Maximum speed of 50 km/h

2.1.4.3 Vilar Formoso/Fuentes de Oñoro (Spanish border) - Pampilhosa section

P20: Beira Alta line Vilar Formoso - Pampilhosa (201.9 km)	Current state – Main features: ■ 1 track (2 tracks between the bifurcation of Pampilhosa – bifurcation of Luso, 7.3 km), ■ Electrification 25 000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 1,260 t (with a single diesel locomotive type 4000) and 1,000 t (with a single electric locomotive type 4700) ■ The typical gradient ranges between 16‰ and 18‰ Current state – Limiting factors: ■ On the section of Pampilhosa – Bifurcation of Pampilhosa (0.7 km), the maximum speed corresponds to 30 km/h

2.1.4.4 Elvas/Badajoz (Spanish border) - Entroncamento section

P25: Beira Baixa line Abrantes - Entroncamento (28.6 km)	Current state – Main features: ■ 1 track ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 1,670 t (with a single diesel locomotive type 4000) and 1,430 t (with a single electric locomotive type 4700) ■ Maximum length of the train of 450 m (<500 m) Current state – Limiting factors: ■ Maximum length of train limited to 450 m
P27 : East line Elvas - Abrantes (140.7 km)	Current state – Main features: ■ 1 track ■ Non electrified. ■ BT signalling system ■ Gross load hauled limited to 1,180 t (with a single diesel locomotive type 4000) ■ The typical gradient ranges between 17‰ and 18‰ Current state – Limiting factors: ■ On the Torre das Vargens – Portalegre (42.3 km) section, the maximum speed is 50 km/h

	■ Maximum length of train limited to 400 m

2.1.4.5 Lisbon area

P29: Cintura line Braço de Prata - Alcântara (11.3 km)	Current state – Main features: ■ 1 track between Alcântara Mar – Agulha 13 (2.4km), 4 tracks between Sete Rios – Technical terminal of Chelas (3.7km) and 2 tracks on the remaining (5.2 km), ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 980 t (with a single diesel locomotive type 4000) and 990 t (with a single electric locomotive type 4700) Current state – Limiting factors: ■ Typical gradient of 20‰ ■ Maximum speed of 50 km/h ■ Maximum length of train limited to 350 m ■ Line extensively used by suburban passengers traffic and with bottlenecks in Alcântara and between Technical terminal of Chelas and Braço de Prata (2.8 km), limiting the available capacity for freight trains.

2.1.4.6 Lisbon – Sines section

P33: Vendas Novas line Setil – Vendas Novas (64.7 km)	Current state – Main features: ■ 1 track ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 1,370 t (with a single diesel locomotive type 4000) and 1,220 t (with a single electric locomotive type 4700) Current state – Limiting factors: ■ Single track
P34: Alentejo line Vendas Novas - Poceirão (21.3 km)	Current state – Main features: ■ 1 track ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 2,230 t (with a single diesel locomotive type 4000) and 1,800 t (with a single electric locomotive type 4700) ■ Needs modernization in some sections Current state – Limiting factors: ■ Limited available capacity

P46: Poceirão Concordance Poceirão – Águas de Moura (7.7 km)	Current state – Main features: ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 1,640 t (with a single diesel locomotive type 4000) and 1,300 t (with a single electric locomotive type 4700) ■ Maximum length of the train of 600 m ■ Double track between Agualva and Águas de Moura (2.8 km) Current state – Limiting factors: ■ Single track in major part of the section (in 4.9 km)
P37: Sul line Setúbal – Ermidas do Sado (99.0 km)	Current state – Main features: ■ 1 track ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 1,500 t (with a single diesel locomotive type 4000) and 1,300 t (with a single electric locomotive type 4700) Current state – Limiting factors: ■ Limited available capacity.
P38: Sines line Ermidas do Sado - Sines (50.7 km)	Current state – Main features: ■ 1 track ■ Electrification 25,000 V. ■ BA signalling system with BO ■ Gross load hauled limited to 1,190 t (with a single diesel locomotive type 4000) and 1,040 t (with a single electric locomotive type 4700) Current state – Limiting factors: ■ Limited available capacity. ■ Typical gradient of 21‰ ■ Maximum length of train limited to 480 m
P68: Variant of Alcácer (29.7 km)	Current state – Main features: ■ 1 track ■ Electrification 25,000 V, BA signalling system with BO ■ Gross load hauled limited to 1,790 t (with a single diesel locomotive type 4000) and 1,430 t (with a single electric locomotive type 4700) Current state – Limiting factors: ■ Limited available capacity.

2.2 Corridor Terminals

In accordance with Article 2.2c of the Regulation, 'terminal' means '*the installation provided along the freight corridor which has been specially arranged to allow either the loading and/or the unloading of goods onto/from freight trains, and the integration of rail freight services with road, maritime, river and air services, and either the forming or modification of the composition of freight trains; and, where necessary, performing border procedures at borders with European third countries*'.

According to Implementing Regulation (EU) 2177/2017, operators of service facilities, hence also terminal operators, are obliged to make available detailed information about their facilities to the IMs.

The terminals along the Corridor are also displayed in a map in the CIP: www.cip.rne.eu.

The below terminal list provides a summary of the terminals along the Corridor, together with a link to a detailed terminal description, if provided by the terminal to the IM.

ATLANTIC CORRIDOR

All the following Terminals are also displayed in a map in the CIP: www.cip.rne.eu.

In addition, Section 3 the CID TT 2023 as well as the concerning Annex 3A and Annex 5.D.1 and Annex 5.D.2 to the present document, further detailed terminal description, if provided by the terminal.

Country	Terminal Name	Link to Terminal Description
Germany (see Annex 3.A1)	1. Beckingen Puhl Gmbh	www.puhl.eu
Germany (see Annex 3.A1)	2. Ludwigshafen KTL	www.ktl-lu.de/?lang=en
Germany (see Annex 3.A1)	3. Ludwigshafen Contargo	www.contargo.net/en/terminals/ludwigshafen/
Germany (see Annex 3.A1)	4. Mannheim Contargo	www.contargo.net/en/terminals/mannheim/
Germany (see Annex 3.A1)	5. Mannheim DP World Logistics	www.dpworldlogistics.eu/our-businesses/Mannheim
Germany (see Annex 3.A1)	6. Mannheim-Handelshafen DUSS	www1.deutschebahn.com/ecm2-duss/mannheim_flyer.pdf
Germany (see Annex 3.A1)	7. Mannheim Rangierbahnhof	http://www1.deutschebahn.com/ecm2-duss/start/
Germany (see Annex 3.A1)	8. Kirkel Terminal	www.bahnlog.saarlor.net/
Germany (see Annex 3.A1)	9. Germersheim DP World Logistics	www.dpworldlogistics.eu/our-businesses/germersheim

Germany (see Annex 3.A1)	10. DUSS Saarbruecken	www.puhl.eu
Germany (see Annex 3.A1)	11. Rhenania Worms AG	www.rhenania-worms.de
Germany (see Annex 3.A1)	12. Rangierbahnhof Einsiedlerhof	www1.deutschebahn.com/ ecm2-duss/start/
France (see Annex 3.A2)	1. Grand Port Maritime du Havre	www.europorte.com/uk/ | subsidiaries/Railway-infrastructure-management/
France (see Annex 3.A2)	2. Terminal du Havre – Soquence	www.naviland-cargo.com/contact/centre-de-national-des-operations
France (see Annex 3.A2)	3. Grand Port Maritime of Rouen	www.europorte.com/uk/ | subsidiaries/Railway-infrastructure-management/
France (see Annex 3.A2)	4. Terminal of Le Bourget	
France (see Annex 3.A2)	5. Terminal of Noisy Le Sec	www.novatrans.eu/images/ | PDFterminaux/Terminal_Noisy.pdf
France (see Annex 3.A2)	6 Terminal of Woippy	
France (see Annex 3.A2)	8. Terminal of Hausbergen	
France (see Annex 3.A2)	8. Terminal of Valenton	www.naviland-cargo.com/implantations/paris-valenton | http://www.novatrans.eu/ | images/PDFterminaux/ | Terminal_Valenton.pdf | www.t3m.fr
France (see Annex 3.A2)	9. Port de Nantes St Nazaire	www.nantes.port.fr/ | https://www.europorte.com/uk/ | subsidiaries/Railway-infrastructure-management/
France (see Annex 3.A2)	10. Terminal of Saint Pierre des Corps (Tours)	www.brangeon.fr/transports-logistique/logistique/carte-implantations-logistiques/
France (see Annex 3.A2)	11. Grand Port Maritime de La Rochelle	www.larochelle-port.eu/ www.europorte.com/uk/ subsidiaries/Railway-infrastructure-management/
France (see Annex 3.A2)	12. Terminal of Cognac	www.naviland-cargo.com/implantations/cognac
France (see Annex 3.A2)	13. Grand Port Maritime de Bordeaux – Bassens	www.bordeaux-port.fr/en www.bordeaux-port.fr/sites/default/ files/bassens2013.pdf
France (see Annex 3.A2)	14. Terminal of Bordeaux – Hourcade	www.naviland-cargo.com/implantations/bordeaux | www.novatrans.eu/images/ | PDFterminaux/Terminal_Bordeaux.pdf
France (see Annex 3.A2)	15. Port of Bayonne	https://www.bordeaux-port.fr/en
France (see Annex 3.A2)	16. Terminal of Bayonne – Mouguerre	www.novatrans.eu/ | mages/PDFterminaux/ | Terminal_Bayonne.pdf | ambrogiointermodal.com/en |

		www.mivacef.com/articles-les.entreprises-logistique,et,report,modal
France (see Annex 3.A2)	17. Terminal of Hendaye	www.railsider.com/en/facilities-freight-transport/atlantic-axis-logistic-services
France (see Annex 3.A2)	18. Changing bogies installation of Hendaye	http://www.transfesa.com/rail-spain-en/where-are-we/international-connections/axle-change-facilities-1923450w
Spain (see Annex 3.A3)	1. Terminal Irún Mercancías	www.adif.es/es_ES/ | infraestructuras/terminales/11601/ | ficha_instalacion_logistica_0030.shtml
Spain (see Annex 3.A3)	2. Terminal de Pasaia	www.adif.es/es_ES/ | infraestructuras/terminales/11515/ | ficha_instalacion_logistica_0023.shtml
Spain (see Annex 3.A3)	3. Terminal de Júndiz	www.adif.es/es_ES/ | infraestructuras/terminales/11221/ | ficha_instalacion_logistica_0021.shtml
Spain (see Annex 3.A3)	4. Terminal Bilbao Mercancías	www.adif.es/es_ES/ | infraestructuras/terminales/13408/ | ficha_instalacion_logistica_0026.shtml
Spain (see Annex 3.A3)	5. Terminal de Noain	www.adif.es/es_ES/ | infraestructuras/terminales/80103/ | ficha_instalacion_logistica_0009.shtml
Spain (see Annex 3.A3)	6. Terminal Complejo de Zaragoza Plaza	www.adif.es/es_ES/ | infraestructuras/terminales/10600/ ficha_instalacion_logistica_0003.shtml
Spain (see Annex 3.A3)	7. Terminal Complejo de Valladolid	www.adif.es/es_ES/ | infraestructuras/terminales/95104/ | ficha_instalacion_logistica_0005.shtml
Spain (see Annex 3.A3)	8 Terminal Madrid Abroñigal	www.adif.es/es_ES/ | infraestructuras/terminales/98201/ | ficha_instalacion_logistica_0004.shtml
Spain (see Annex 3.A3)	9. Terminal Centro Logístico de Vicálvaro	www.adif.es/es_ES/ | infraestructuras/terminales/98201/ | ficha_instalacion_logistica_0004.shtml
Spain (see Annex 3.A3)	10. Terminal Madrid Puerto Seco de Coslada	www.puertoseco.com/ingles/ | dryport.html | www.conterail.com
Spain (see Annex 3.A3)	11. Terminal Córdoba El Higuerón	www.adif.es/es_ES/ | infraestructuras/terminales/50512/ | ficha_instalacion_logistica_0075.shtml
Spain (see Annex 3.A3)	12. Terminal de San Roque – La Línea Mercancías	www.adif.es/es_ES/ | infraestructuras/terminales/55026/ | ficha_instalacion_logistica_0089.shtml
Spain (see Annex 3.A3)	13. Terminal Algeciras Mercancías	www.adif.es/es_ES/ | infraestructuras/terminales/55020/ |ficha_instalacion_logistica_0088.shtml
Spain (see Annex 3.A3)	14. Puerto Bahía de Algeciras	www.apba.es/ferrocarril
Spain (see Annex 3.A3)	15. Puerto de Bilbao	www.adif.es/es_ES/ | infraestructuras/terminales/13408/ |ficha_instalacion_logistica_0026.shtml
Spain (see Annex 3.A3)	16. Puerto de Pasaia	www.adif.es/es_ES/ | infraestructuras/terminales/11515/ | ficha_instalacion_logistica_0023.shtml

Portugal (see Annex 3.A4)	1. Leixões Port	Documento de Informação da Instalação de Serviços para os Terminais Ferroviários de Mercadorias da Bobadela e Leixões 2020 | http://www.apdl.pt/plataforma_logistica
Portugal (see Annex 3.A4)	3. Valongo Terminal	https://www.spc.sapec.pt/ | content.php?menuid=79&contentid=36
Portugal (see Annex 3.A4)	2. Vila Nova de Gaia Terminal	www.infraestruturasdeportugal.pt
Portugal (see Annex 3.A4)	4. Cacia Logistic Platform	www.portodeaveiro.pt
Portugal (see Annex 3.A4)	5. Aveiro Port	www.portodeaveiro.pt
Portugal (see Annex 3.A4)	6. Pampilhosa Terminal	www.infraestruturasdeportugal.pt
Portugal (see Annex 3.A4)	7 Mangualde Terminal	www.infraestruturasdeportugal.pt
Portugal (see Annex 3.A4)	8. Guarda Terminal	www.infraestruturasdeportugal.pt
Portugal (see Annex 3.A4)	9. Alfarelos Terminal	www.tmip.pt
Portugal (see Annex 3.A4)	10. Entroncamento Terminal	www.mscportugal.com | www.tvt.pt/PT/servicos
Portugal (see Annex 3.A4)	11. Bobadela Terminal	Documento de Informação da Instalação de Serviços para os Terminais Ferroviários de Mercadorias da Bobadela e Leixões 2020 | Documento de informação da instalação de serviços terminal norte do complexo ferroviário da Bobadela | www.spc.sapec.pt/content.php? | menuid=90&contentid=49 | www.alcont.pt/instalacoes
Portugal (see Annex 3.A4)	12. Lisboa Port	www.yilport.com/en/ports/ | default/Liscont-Portugal/111/0/0 | www.yilport.com/pt/portos/ | default/Sotagus-Portugal/978/0/0
Portugal (see Annex 3.A4)	13. Poceirão Terminal	www.infraestruturasdeportugal.pt
Portugal (see Annex 3.A4)	14. Setúbal Port	www.yilport.com/en/ports/default/ | Tersado-Portugal/241/0/0 | www.yilport.com/en/ports/default/ | Setubal-Portugal/116/0/0www.portodesetubal.pt/terminais_portuarios.htm | www.spc.sapec.pt/content.php?menuid=80&contentid=38 | www.somincor.com.pt/company/ | en.thenavigatorcompany.com/ | Institutional/Our-activity/Setubal
Portugal (see Annex 3.A4)	15. Sines Port	www.ete.pt/Grupo/Empresas/ | Portsines_P.htm | www.psasines.pt

2.3 Bottlenecks

In terms of infrastructures limitations, the following main points can be noted:

- the different track gauge between the Iberian Peninsula, France and Germany, requiring the freight transfer across the border between France and Spain
- the maximum length of the trains limited to 500 m in Portugal, 550 to 600m in Spain and 750 m in France and 740 m in Germany
- the maximum grades reaching 18‰ and more in Spain and Portugal requiring additional traction south of Bayonne, depending on the gross load hauled
- the sections with single-track lines limiting the available capacity, and/or conditioning timetabling
- the sections with non-electrified lines requiring, when appropriate, the exchange of the locomotive
- the disparity in the signalling systems requiring the exchange of machines and drivers at borders,
- the disparity of the power supply requiring rolling stock with dual voltage, triple voltage or thermal,
- the disparity of maintenance periods or works to be carried out on rail infrastructures depending on the country (by day, by night, on weekends) with partial or complete closure of a route.

In terms of exploitation, the duration of freight transfer at the border of Hendaye/Irun is associated with real-time availability of consignment notes and the capacity of transhipment sites, a capacity limited to the means of production available (including the length of tracks); these sites are the following:

- TRANSFESA (rail axle changing, requiring specially a customised management of the limited stock of the different types of axle on site)
- TECO and RAIL SIDER (HENDAYE MANUTENTION) (transhipment of containers)

Therefore, the ordering of international train paths for freight is closely related to the following aspects:

- on the line, to the capacity of the sections with a single-track line, to the passage of certain junction stations on rush hour (Paris, Bordeaux, Madrid, Lisbon, etc.) and to the eventual reinforcement of traction on certain sections with steep grades,
- at the border of Hendaye/Irun, to the capacity of freight transhipment sites and to the operations of recomposition of the train length (2 UIC trains = 3 Iberian trains),
- to borders, to the minimum duration of machine and/or driving changes in order to address the gauge conversion, the signalling system and/or electrification.

Different points of Rail Freight Corridor Atlantic can constitute “train bottlenecks” depending on:

- the configuration of existing infrastructures,
- the time of day (specially on passenger movement during rush hours)
- the type and period of servicing and maintenance of rail infrastructures (eventually requiring partial or complete halt of traffic)

There is an ongoing close analysis in order to specify the nature of the action programme to be implemented, and thus eliminate these “rail bottlenecks” in the long term.

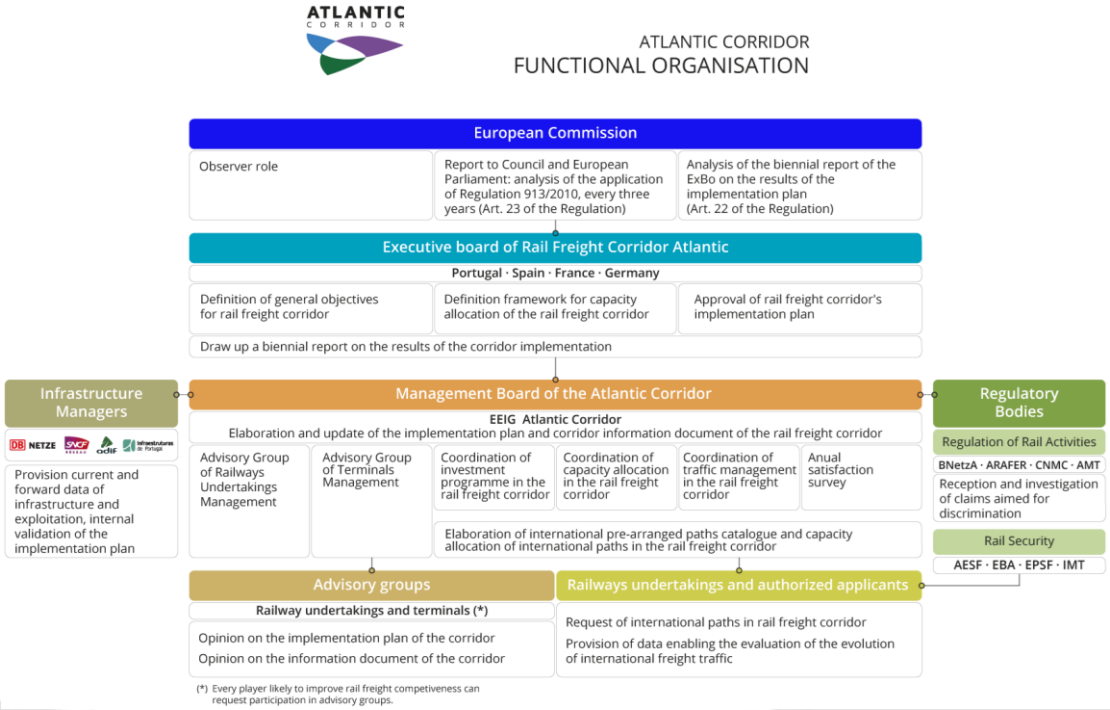
2.4 Rail Freight Corridor Governance

A detailled descriptio of the RFC atlantic Organization can be found in Section 1, chapter 1.4 of the CID TT 2023 and in the RFC's webpage: https://www.atlantic-corridor.eu/our-corridor/our-governance/. Implementation Update provides the scope of the part each body has in the implementation of the Corridor.

According to the directives of Regulation 913/2010, the necessary measures taken for the creation of the corridor are at several levels:

- European institutions,
- national regulatory bodies,
- infrastructure managers,
- Railway Undertakings and terminal operators.

The following chart illustrates the missions of each of these bodies in the context of implementation of the corridor.



The European Commission takes action at several levels for the implementation of Regulation (EU) 913/2010, 1315/2013 and 1316/2013 by means of DG MOVE (Directorate-General for Mobility and Transport). It organises regular meetings with the representatives of the Member States and the infrastructure managers in order to assess the progress of the implementation of European freight corridors: meetings including those of the SERAC Rail Freight Corridor Working Group3, the TEN-T Core Network Corridor forum and the Corridor Working Group.

2.4.1 Executive Board

At Member States level, an Executive Board of Rail Freight Corridor Atlantic has been established between the Ministries of Transport of Germany (BMVI), France (DGITM), Spain (SGPF) and

[3] SERAC stands for Single European Railway Area Committee

Portugal (DGAE). Regular meetings are held between the representatives of the Ministries involved: during these meetings issues accountable to Member States and the advances of the management board of the corridor regarding the progress of the implementation of the corridor are addressed.

The Members of the Atlantic Corridor ExBo are as follows:

Germany	Bundesministerium für Verkehr und digitale Infrastruktur (BMVI)	Abteilung Eisenbahnpolitik (LA 10) Robert-Schuman-Platz 1 D-53175 Bonn www.bmvi.de
France	Ministère de la Transition Ecologique et Solidaire	DGITM Grande Arche de la Défense - Arche Sud 92055 La Défense CEDEX www.ecologique-solidaire.gouv.fr
Spain	Ministerio de Transportes, Movilidad y Agenda Urbana	Subdirección General de Planificación Ferroviaria Plaza de los Sagrados Corazones n°7 28071 MADRID www.mitma.es
Portugal	Ministério do Planeamento e das Infraestruturas	IMT – Instituto da Mobilidade e dos Transportes Av. das Forças Armadas, 40 1649-022 Lisboa www.imt-ip.pt

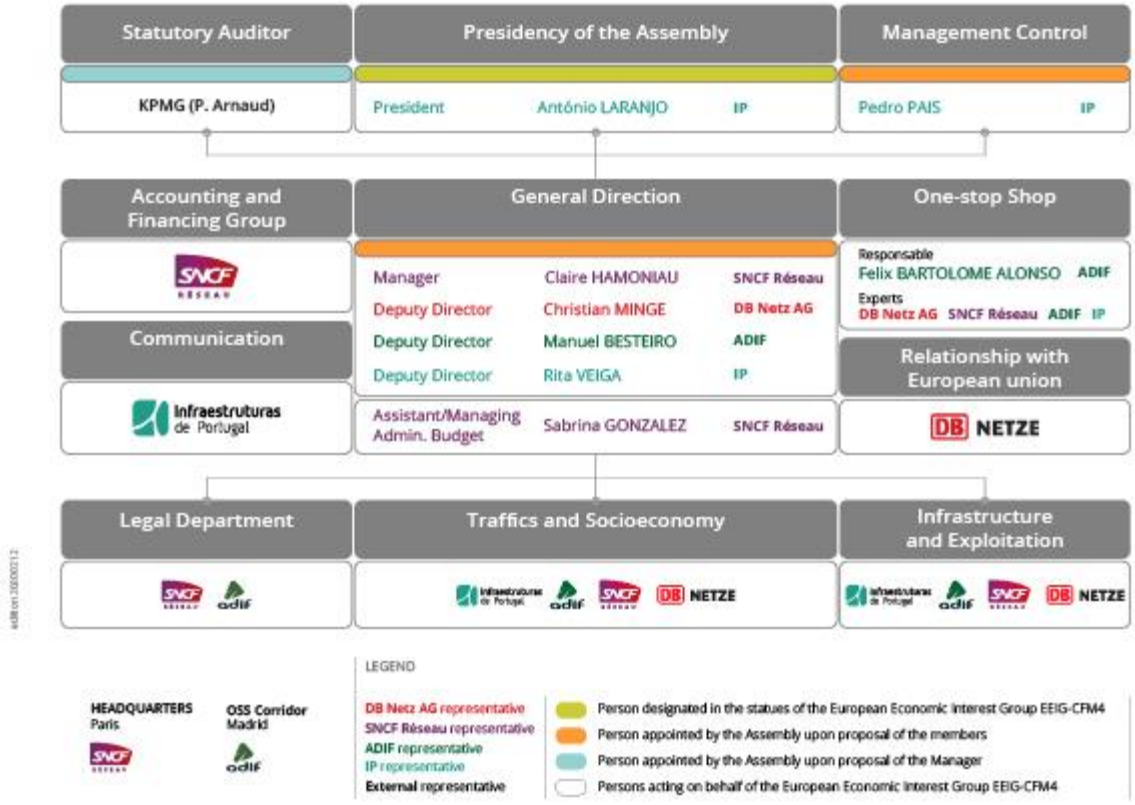
2.4.2 Management Board

In terms of Infrastructure Managers, a Management Board of Rail Freight Corridor Atlantic has been implemented; it takes the legal form of a new EEIG designated “European Economic Interest Grouping for Rail Freight Corridor Atlantic” or “EEIG Atlantic Corridor” established on 28th of April 2015 between the rail infrastructure managers in Germany (DB Netz AG), France (SNCF Réseau), Spain (ADIF) and Portugal (IP). The constitutive general assembly of this new EEIG, held on 26th of June 2015 in Frankfurt, has appointed its members as provided for in the statutes.

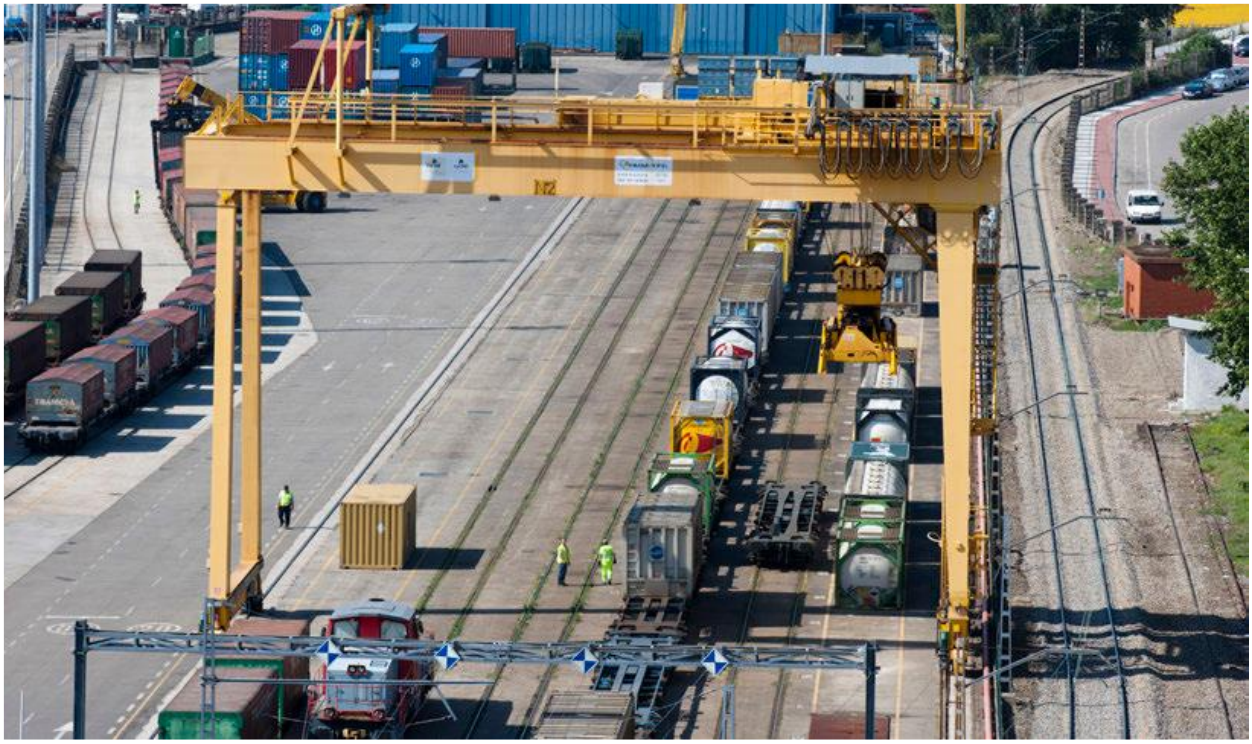
The flow chart of EEIG Atlantic Corridor is shown below.

ATLANTIC CORRIDOR

ATLANTIC CORRIDOR
FLOW CHART



2.4.3 Advisory Groups



In accordance with the obligations conferred upon it by Regulation 913/2010, the Management Board of Rail Freight Corridor Atlantic invited the following parties to participate in Advisory Groups, namely:

- on one hand, the Railway Undertakings involved on Rail Freight Corridor Atlantic,
- on the other, the Terminal Managers and others Logistic Players located at Rail Freight Corridor Atlantic.

Each of these Advisory Groups may issue an opinion on all proposals of the Management Board of Rail Freight Corridor Atlantic which has direct consequences on all interested companies, particularly on investments and terminal management. It may also issue opinions on its own initiative. The Management Board shall take any of these opinions into account.

Detailed information about the RFC Atlantic Advisory Groups may be found both in Section 1, chapter 1.4 of the CID TT 2023 and on the RFC webpage on https://www.atlantic-corridor.eu/our-corridor/our-partners-clients/.

3. Market Analysis Study

3.1 Traffic Market Study

3.1.1 Overview

The Atlantic Corridor is part of the Trans-European Transport Network (TEN-T) core network. It connects, through the Atlantic coast, the Iberian Peninsula (from Lisbon to Madrid to the Transpyrenean border) to the rest of Europe, on one hand towards the axis of the Seine to Le Havre, on other part to the East of France and Germany.

Among them, the Rail Freight Corridor Atlantic (previously named RFC4) includes the railway connection: Lisboa / Leixões, Sines-Elvas/Algeciras-Madrid-Medina del Campo/Bilbao/San Sebastián – Irún -Bordeaux-Paris/Le Havre/Metz –Strasbourg/Mannheim. It was extended to Strasbourg and Mannheim a first time in 2016, and a second time to Nantes St Nazaire & La Rochelle ports, Zaragoza and Valongo terminal at the beginning of 2018.

The purpose of this transport market study is overall to provide the RFC Atlantic with a knowledge of the current and future market (volume but also the understanding of modal choice), and to identify the main issues to improve the rail competitiveness.

First, the Economic and Territorial frameworks were developed. Thus, countries and regions along the corridor have been the subject of an analysis on economic variables and their overall situation regarding freight transport.

The past evolution of rail freight has been analysed and compared with the previous Transport Market Study of 2014. While national GDP and international trade increase, we have seen a decrease in rail traffic: we notice that rail traffic on the Atlantic Corridor declined by more than 50% between 2007 and 2018. This is in part due to the 2009 economic recession, but the trend appears to continue afterwards independently of economic conjuncture. The main explanations are the importance of the works between Paris and Hendaye, which limited the quality paths, and the numerous strikes in France.

On the basis of these analyses and taking into account the latest long-term projections for trade partners' GDPs, available from internationally recognized sources, forecasts are made in the short and medium terms (respectively 2025, 2030). The definition of macroeconomic scenarios includes the 2020 pandemic and its impact on the economy and traffic.

From the supply side, the transport infrastructure projects provided for different horizons were reviewed and analysed to consider their impact on traffic projections. Particular attention is now given to the extension's perimeter in what concerns capacity, transhipment facilities, tracks (loading profiles, axle loads, train lengths and weights, etc.), and infrastructure development plans.

This study deals with the evaluation of possible extensions to terminals and seaports (La Coruna, Gijon, Vigo, Lisboa, Huelva and Seville, as well as with new connections to corridors Rhine-Alpine and North Sea-Mediterranean) or to Ireland (Brexit) and main economic areas, showing the benefits that can be expected from further extensions of the Atlantic Corridor eastwards.

A new set of comprehensive discussions was undertaken with a large variety of stakeholders in the four countries covered by the RFC Atlantic, i.e. port operators, railway operators, terminal operators, shipping companies, corridor managers, infrastructure managers and logistic operators.

Finally, demand forecasts on freight flows on the Corridor are provided - taking into account all the elements mentioned above (economic forecasts, context, demand, supply and determinants of modal choice).

The studied extensions are shown on the map below.

*Figure 1 - Corridor and possible extensions (*Source: Consultant)

3.1.2 Summary

Despite the economic crisis of 2008 (then 2012 in Spain and Portugal), the economies of the 4 countries of the Atlantic Corridor have regained their dynamics: GDP growth over the period 2010-2018 varies between 1 to 2% for Portugal and Spain, 7% for France and finally 17% for Germany. International trade increased between 10% (Portugal) and 22% (Germany) in volume, over the same period.

However, rail traffic did not follow this dynamic. If it increases on certain ODs, we notice however that rail traffic on the Atlantic Corridor declined by more than 50% between 2007 and 2018. This is in part due to the 2009 economic recession, but the trend appears to continue afterwards independently of economic conjuncture. Rail has lost in competitiveness on the RFC Atlantic, and therefore in modal share. The two main explanations are the following:

- Works in France along the Atlantic Corridor disturbing freight trains 'paths
- Social factors in France and especially French Aquitaine region such as recurrent strikes in the years 2016, 2018 and 2019.

In addition to these elements, the fact that certain projects to improve rail infrastructure have been postponed over time (Basque Y for example) explains why the previous transport market study, carried out in 2014, finally established forecasts that were higher than this. which was actually observed in 2018 and 2019.

Regarding the traffic forecasts for 2030 that have been made in this current transport market study, taking into account the economic impact of COVID required the definition of two scenarios, in order to better understand the uncertainty about the characteristics of the economic recovery. In any case, demand growth is not expected to be an important driver of traffic growth along the Atlantic Corridor in the coming decade due to the impact of the pandemic-linked recession.

The potential for modal shift towards rail on the Atlantic Corridor remains high but depends on major infrastructure projects (Y Basque, Caia-Badajoz, Atlantic rolling motorway for instance) and is limited by issues facing the rail sector in France where recurrent works on the infrastructure and national strikes considerably reduce train paths' reliability and rail competitiveness.

The combined impact of those issues facing rail is particularly visible at the Irun-Hendaye border crossing where rail traffic has decreased significantly over the last decade, even though the previous transport market study expected a strong rail traffic growth. There is today no reason to believe that those problems will improve in the near future. It is even possible that increasing local passenger traffic around cities such as Bordeaux, Paris and Metz could further impact capacity allocated to freight trains along the Atlantic Corridor, but this question is beyond the scope of this transport market study.

Therefore, it is doubtful that the European aim of increasing rail freight traffic by 50% by 2030, as stated in the 2020 Sustainable and Smart Mobility Strategy published by the European Commission, can be achieved on the Atlantic Corridor as long as those issues persist. According to the results of this TMS, rail freight on the Atlantic Corridor can be expected to increase by around +50% on some Transpyrenean OD relations which are the most likely to benefit from the major infrastructure programme in Spain and at the French-Spanish border. But the overall number of international trains on the RFC Atlantic is only expected to increase by +20% between 2018 and 2030.

3.1.3 Diagnosis

3.1.3.1 Socio-economic background

First at all, it is important to mention that the data period analysed here is 2010-2018, and it does not include the current crisis due to the COVID-19 pandemic.

The main socioeconomic variables provide positive information about the recent evolution of the four countries within the Atlantic Corridor. The main variables are presented in the table below.

	Germany	*France*	*Spain*	*Portugal*
Population (10^6habitants)	82,8	66,9	46,7	10,3
GDP (10^9€)	3 344	2 361	1 202	204
GDP per capita (€/hab)	40 898	35 177	25 872	19 631
Rail transport (10^9 t.km)	117,9	32,0	10,7	2,8
Rail modal share	18%	9%	3%	10%
Evol rail tkm (2013-18)	4,7%	-0,6%	14,1%	20,7%

Table 1 – Socio-economic and transport indicators (2018) (Source: Eurostat)

The figure below shows the GDP ate the regional level.

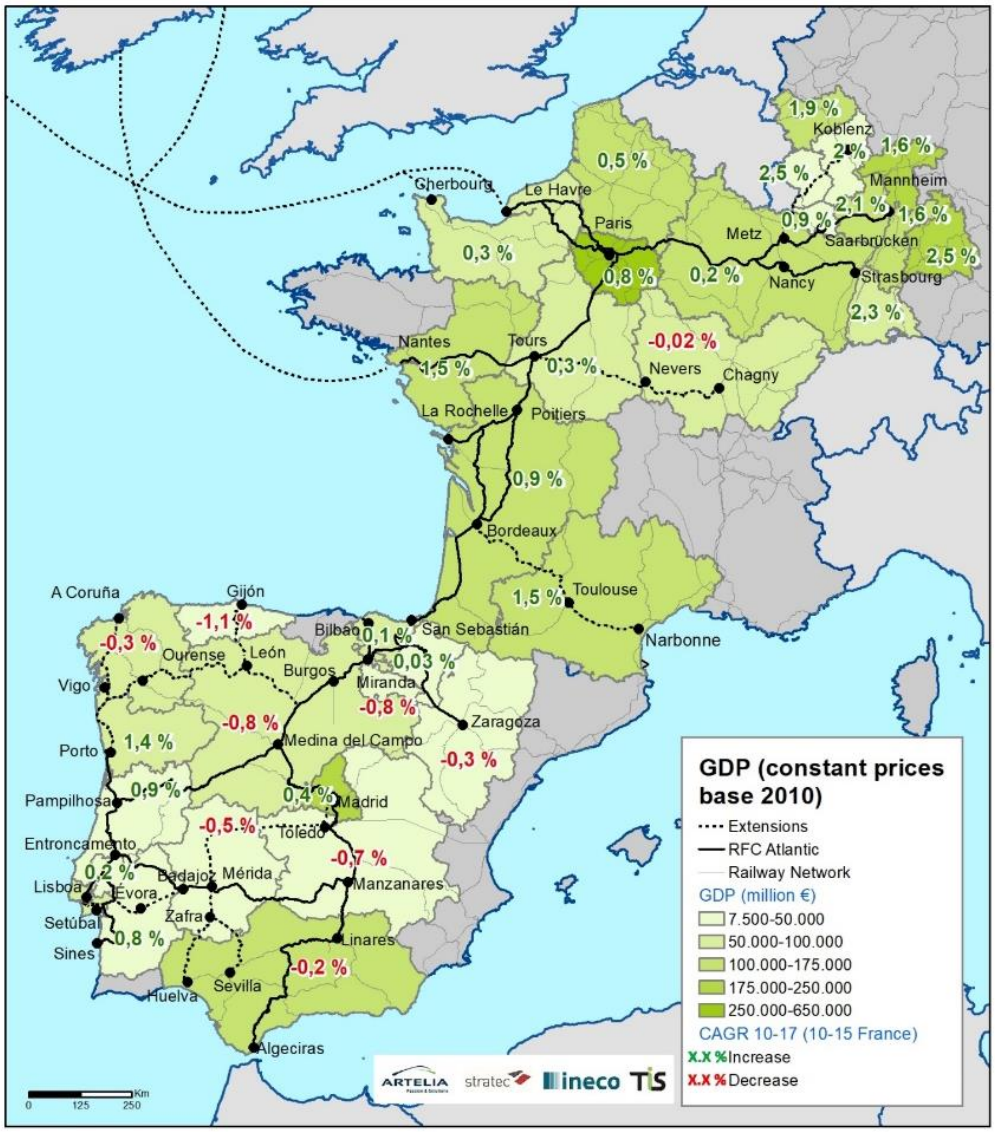


Figure 2 - Total GDP in 2010 constant prices and global growth by NUTs 2, 2010-2018 (source EUROSTAT)

Population data shows that Germany and France have a positive trend; Spain keeps stable results and Portugal significatively decreases. GDP data present that the global wealth of the countries is in a positive trend and the purchasing power of the inhabitants. Positive results in these factors imply an increase in the productive activities and consumption. Even though Spain has a higher level of unemployment than the rest of the Corridor countries, in the recent years they are improving their results and decreasing unemployment levels very fast. The trend of the other countries also shows a general decrease in unemployment rates.

3.1.3.2 Transport infrastructure and services

The analysis of rail infrastructures shows a discontinuity between the North of Pyrenees (Germany and France) on the one hand and the Iberian Peninsula on the other hand (Spain and Portugal), firstly in terms of track gauge, a hard constraint for the rail traffic. Indeed, such gauge difference leads to a heavy use of specific infrastructures, rolling stock and personnel in order to conduct the transhipment of cargo or axle change operations. This translates into an increase in costs for the rail operators and has an impact on rail efficiency and consequently its

competitiveness. It also shows a discontinuity in terms of maximum train length, number of tracks with the same distribution. The slope can also be an issue as it plays a main role, as depending on the rolling stock and the traction (braking, traction power, strength of the couplings…); it limits the gross tonnage hauled.

The analysis of the international freight paths shows a significant demand between the four countries. In order to meet the demand, the rail infrastructures tend to be more interoperable between the countries. Indeed, some projects are planned such as:

- Parts of the Iberian freight network that will be implemented by offering the two gauges indifferently in order to facilitate the rail traffic between UIC and Iberian network,
- Commissioning of new lines (new line Evora – Caia in 2023, Basque Y in 2029),
- The electrification of some parts of the RFC Atlantic, mainly in Spain in medium term,
- The increase of the maximum train length in the centre of Portugal in short term and in Spain in medium term,
- The increase of the number of tracks and the improvement of the tunnel gauge, especially on the New High Speed Line Plasencia-Cáceres-Badajoz.

The figures below show the electrification improvement between the current situation and 2030.

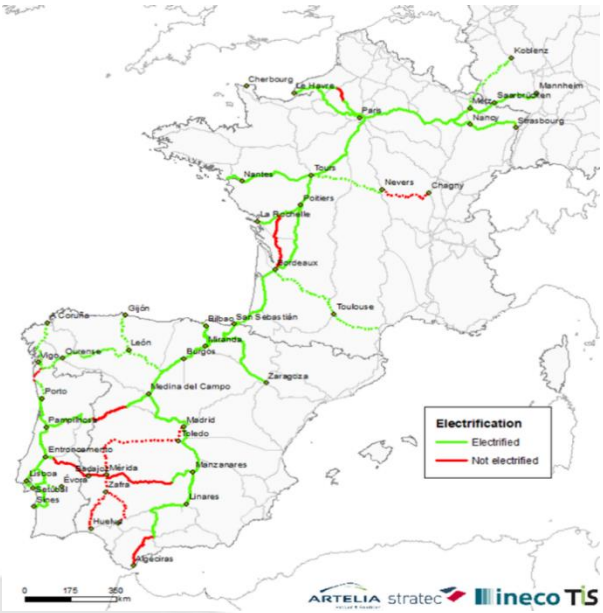


Figure 3 - Electrification, current situation

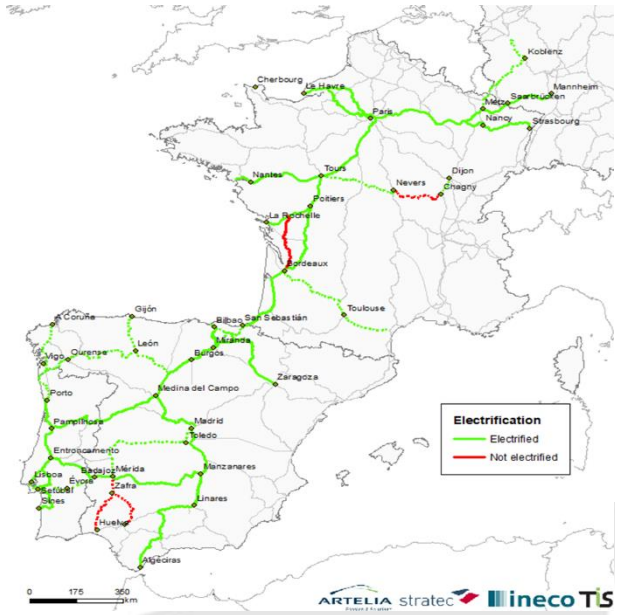


Figure 4 - Electrification, 2030

To meet the rail undertakings' demand, the number of Pre-arranged Paths (PaP) provided by the RFC Atlantic has increased, especially between France and Germany due to the extension of the Corridor to Germany in 2016. It has slightly increased between Spain and Portugal but slightly decreased between Spain and France. However, we can note that a large part of the trains using a PaP is still delayed (over 30% in 2018).

Concerning the intermodal network, 46 terminals referenced in the TEN-T are located on the RFC (36) and its extensions (10), showing a potential for the extensions. They offer relations between terminals of the RFC, but also with the main economic, logistic and industrial sites in Western Europe (Rotterdam, Antwerp, Marseille, Barcelona, etc.). Moreover, several rolling motorway projects exist on the RFC Atlantic, in France and Spain.

The Atlantic Corridor connects 23 seaports of the Atlantic coast (7 in France, 11 in Spain and 5 in Portugal), of which 9 on the extensions. There are also 14 inland ports (5 in Germany, 7 in France, 1 in Spain and 1 in Portugal). A short overview shows that every type of goods can be handled in the corridors port infrastructure, showing their diversity.

3.1.3.3 Current transport demand

All trade cumulates 410 million tonnes in 2018 (and 300.7 million tonnes when we only focus on the "core" perimeter (Benelux, Germany, France, Spain and Portugal), of which 67% by road (respectively 81%), the majority mode. The maritime mode, with 124 million tonnes, represents 30% of the whole (but only 16% of the core perimeter), but with strong variations depending on the ODs of course. The maritime mode thus represents approximately 45% of the exchanges of Portugal and Spain with its European partners.

TOTAL Freight traffic, thousand tonnes – 2018								
O / D	Portugal	Spain	France	Germany	Benelux	North Europe	East Europe	TOTAL
Portugal	-	17 530	590	830	3 090	1 980	2 050	26 070
Spain	21 110	-	25 530	8 840	10 410	7 950	26 900	100 740
France	2 020	28 760	-	56 020	8 880	2 760	10 450	108 890
Germany	550	8 300	73 080	-	-	-	-	81 930
Benelux	3 580	12 790	10 910	-	-	-	-	27 280
North Europe	3 130	7 970	2 730	-	-	-	-	13 830
East Europe	4 140	37 360	10 050	-	-	-	-	51 550
TOTAL	34 530	112 710	122 890	65 690	22 380	12 690	39 400	410 290

Table 2 – Freight traffic in the RFC perimeter, 2018

Finally, the rail mode transports only 15.3 million tonnes or 4% of the modal share. However, these shares vary from 0% to 7% depending on the country, in the core perimeter. The flows between Portugal and its partners are mainly maritime or road, the rail mode being used only with Spain (market share of 6%).

Rail Freight traffic, modal share - 2018				
both ways	Portugal	Spain	France	TOTAL
Portugal				
Spain	6%			6%
France	0%	1%		1%
Germany	2%	7%	4%	5%
Benelux	0%	3%	1%	2%
North Europe	0%	1%	3%	1%
East Europe	0%	0%	19%	4%
TOTAL	4%	2%	6%	4%

Table 3 – Rail modal share in the RFC perimeter, 2018, 2 directions

3.1.4 Scenarios and demand projections

3.1.4.1 Past evolution

The previous Transport Market Study carried out in 2014 forecasted a strong increase in rail traffic on the corridor. Instead, the opposite happened even before the impact of the COVID-linked recession with a continuous decline in rail traffic. This is particularly true for cross-Pyrenean traffic at Irun-Hendaye. The following chart presents the evolution of road and rail traffic between Spain

and France (dotted lines), with a focus on the Atlantic Corridor. We notice that rail traffic on the Atlantic Corridor declined by more than 50% between 2007 and 2018. This is in part due to the 2009 economic recession, but the trend appears to continue afterwards independently of economic conjuncture.

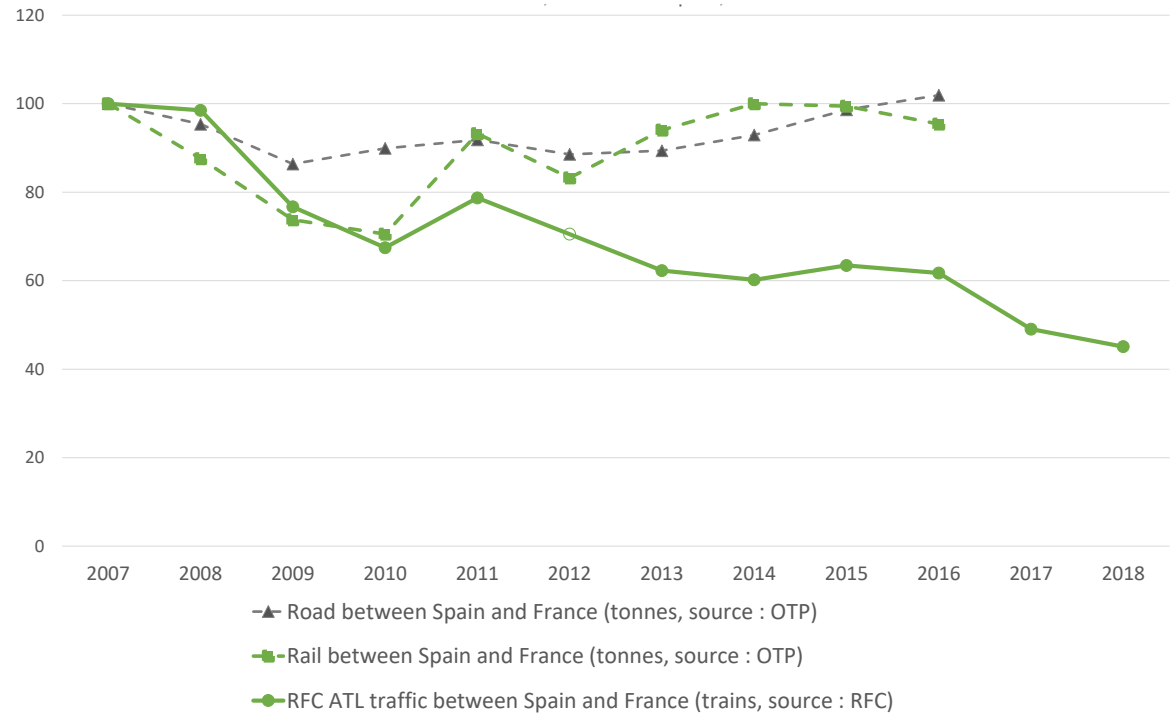


Figure 5 - Road and rail traffic between Spain and France (2007-2018)

The following table presents cross-Pyrenean traffic forecasted on the Atlantic corridor by the previous TMS, and compares it to 2018 real. From a base year of 2010, land traffic (rail + road) was forecasted to increase by 18% (1.7%/year), but with a strong modal shift since the rail modal share (conventional + CT + rolling motorway) was expected to grow from 3.7% in 2010, to 10.2% in 2020.

Real rail traffic is hence estimated to be -74% lower than forecasted (see table below).

Rail traffic at Hendaye-Irun in Kt	2010	2018 forecasted	2018 real*	2020 forecasted
Conventional + TC	1 963	3 696	1 495	4 330
Rail motorway	0	1 954	0	2 021
Total rail traffic	**1 963**	**5 650**	**1 495**	**6 351**

* Estimated with train numbers at the border crossing

Figure 6 - Rail traffic at Hendaye-Irun (1000 tonnes)

If we leave the question of modal shift aside and first focus on the evolution of total demand, we see that total demand according to OTP (Observatoire des Trafics à travers les Pyrénées) data has increased at a rate of 2.1% per year between 2010 and 2016. This is above the AAGR of 1.7% forecasted by the previous TMS.

Indeed, economic forecasts of the time appear to have underestimated economic growth up until 2019. We chose here to exclude 2020 which was marked by a strong recession due to the covid pandemic and which could not have been forecasted. The following chart compare forecasted economic growth from the previous TMS with real economic growth between 2010 and 2019. Hence, between 2010 and 2019, the economy grew faster than expected at the time of the previous TMS for all four countries of the Atlantic corridor.

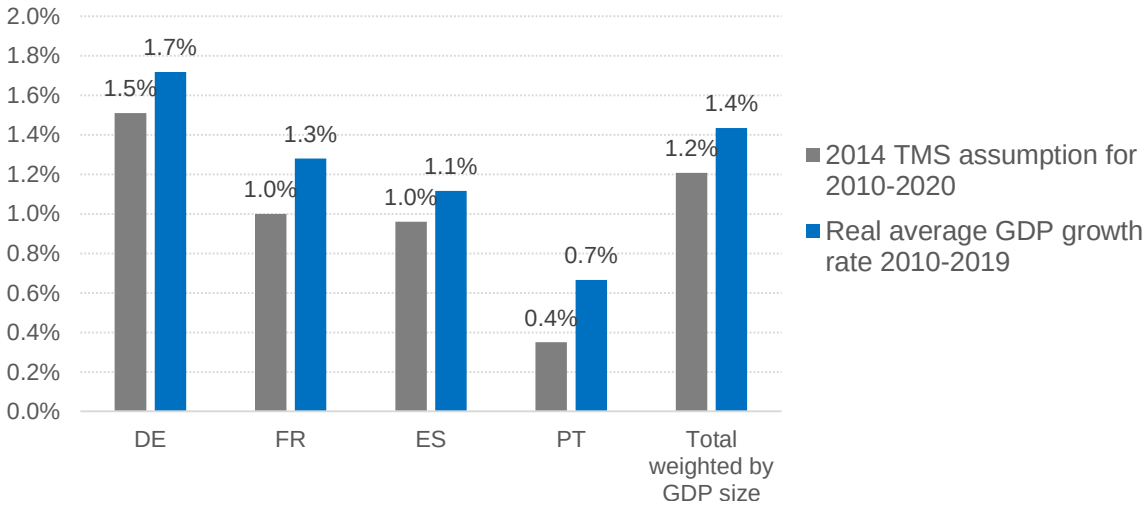


Figure 7 - GDP growth (2010-2019): reality vs 2014 assumption

The difference between the evolution of forecasted and real rail traffic on the Atlantic corridor is therefore entirely due to modal shift and trade-off between Atlantic and Mediterranean borders. The two maps below are extracts from the previous TMS presenting transport projects taken into account in France and Spain.

With hindsight, the 2014 TMS was optimistic in terms of rail projects, both for infrastructure and services:

- Y Basque is now postponed to 2029
- Improvement of the rail complex Hendaye-Irun is now planned for 2023
- AF Atlantic (rolling motorway) was postponed, redesigned and is dependent on Y Basque to reach Spain
- Bordeaux - Hendaye HSL (GPSO) is now considered for 2050
- VFCEA : Nevers-Chagny still not electrified
- etc.

Hence, rail ability to gain modal shares was largely overestimated for the 2020 timeframe, in large part due to projects postponement. But even if rail modal share had been constant between 2010 and 2018, we should still have seen a growth in traffic equivalent to total demand and not a decrease in rail traffic.

Rail has lost in competitiveness on the RFC Atlantic, and therefore in modal share. The two explanations are the following:

- Works in France along the Atlantic Corridor disturbing freight trains' paths
- Social factors in France and especially French Aquitaine region such as recurrent strikes in the years 2016, 2018 and 2019.

As a consequence, rail flows have either shifted to other modes of transport such as road or long-distance rail flows have shifted towards the RFC Mediterranean, with a decrease in the share of the Atlantic corridor in trans-Pyrenean rail flows, from over 40% in 2010 to less than 30% in 2016, out of a total of 3.5 million tonnes4. If we assume that the market shares (40% - 60%) observed in 2010 for these rail flows had been maintained in 2016, then rail traffic across the border at Irun-Hendaye should have been 1.4 million tonnes, all other things being equal.

3.1.4.2 Macro-Economic Scenarios (2030)

During the study, it was necessary to take into account the economic impact of the 2020 COVID-19 pandemic, and its consequences on rail traffic. The choice of assumptions for economic growth was a delicate matter. It was therefore decided to retain 2 sets of economic forecasts over the recovery period, then the 2018 Ageing report' scenario from the European Commission was used up to 2030:

- Scenario 1 was estimated based on economic patterns observed during the previous economic recession following the 2008 sub-prime financial crisis up to 2025,
- Scenario 2 is based on the last available economic forecasts up to 2023, GDP growth is then assumed to come back to its long-term economic trend after 2023.

The figure below shows the evolution of the two GDP's scenarios for each country.

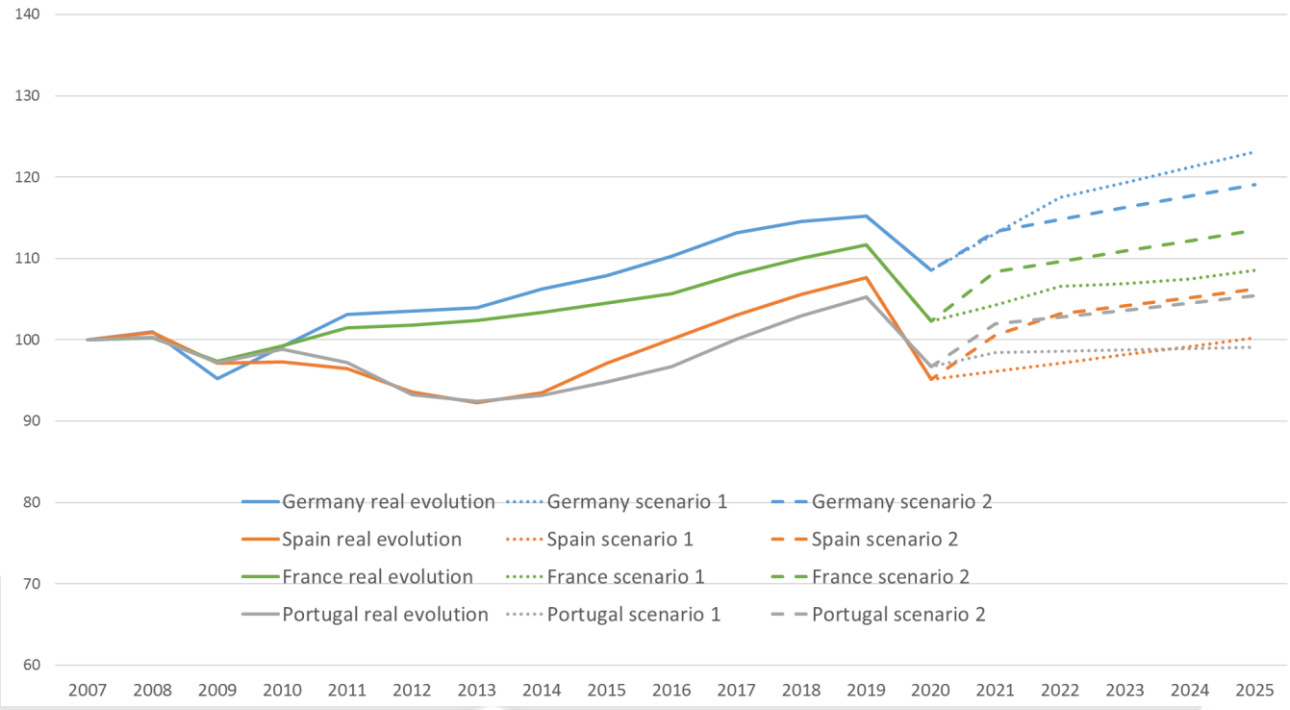


Figure 8 - Evolution of 2 GDP's scenarios (constant price), base 100

3.1.4.3 Demand Projections

Demand forecast is estimated on the basis of economic growth. The relationship between all modes traffic and the main known economic variables (for which medium-term projections were available) was tested over the past period. Traffic growth was analysed in terms of tonne-

[4] OTP data's last available year. Only rail traffic going through the borders between Spain and France (not included lorries. Lorries loads that cross the border to be transhipped onto a train in France (Mouguerre, Hendaye) are not included.

kilometres for rail (national + international + through traffic) and road (nation + international, without through traffic). It was not possible to focus on international traffic alone since Eurostat data was not always consistent with national data.

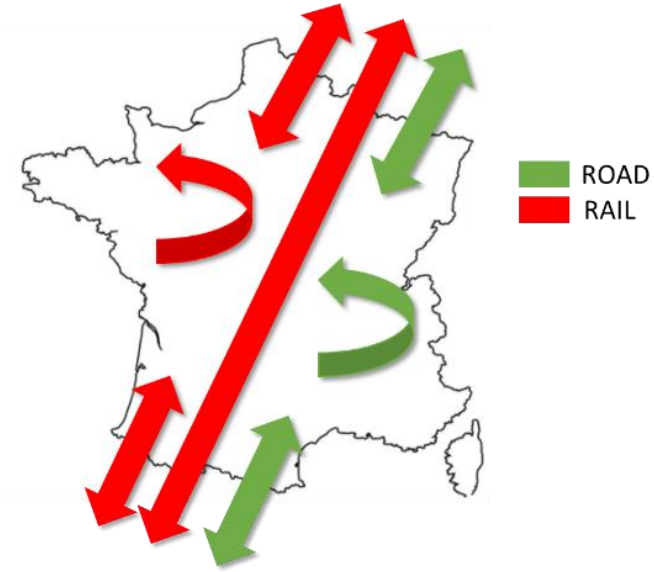


Figure 9 - Example of perimeters taken into account for French tonnes-kilometres

An analysis of the past evolution of traffic growth observed according to Eurostat in the four countries of the Atlantic Corridor for the time period 2007-2018 was finally retained (allowing both to take into account the past but mitigating the consequences of the 2008 economic crisis). This analysis shows a correlation between economic growth (GDP) and demand for freight transport over the period 2007-2018, which is equal to 0.84: when economic growth increases by + 1%, then freight traffic increases. by + 0.84%.

3.1.5 Traffic projections

3.1.5.1 Traffic Model's main characteristics

The traffic model incorporates the characteristics of the road, rail and sea networks, the demand for freight transport for all modes, and cost functions which allow the calculation of travel time and transport costs. It then estimates how shippers change their choice of mode according to the costs and time specific to each mode and how they optimise the freight route. The modal assignment model has been developed at European level (detailed with NUTS3), with 13 categories of goods.

The modal choice considers several criteria such as terminal equipment, transport cost and travel time for each mode, as well as the respective competitiveness of each mode. This competitiveness essentially depends on each shipper's location, logistical organisation (storage area, private rail line, etc.) and shipments size. It is also translated, in the utility function of each mode, by a modal constant measuring all exogenous factors of the modal choice.

Costs and travel time used in the model are values calculated between origins and destinations, which are modelled by centroids located on shippers' zones.

Concerning more specifically the rail mode, the model makes distinction:

- Between full trains, combined transport and automobile transport trains,
- Between 4 train's lengths,
- Between electricity and diesel's engines.

Moreover, the transhipment modalities between the UIC and Iberian gauges are taken into account at an additional cost and time.

It was also necessary to take into account the problems of train path reliability, which strongly impacts rail demand in relation to France, so as to be consistent with the feedback from the RUs during the interviews which underline the difficulty of maintain quality services on the Atlantic Corridor due to works, particularly in Aquitaine, and more generally strikes in France.

3.1.5.2 Traffic forecast to 2030

GLOBAL DEMAND PROJECTIONS

The results presented below are detailed by ODs between countries concerned by the corridor. For example, flows between Germany and Spain presented below can also pass through the Mediterranean corridor. Likewise, not all flows between France and Germany go north-south through northern Lorraine.

Traffic forecasts vary between 425.2 and 436.8 million tonnes by 2030, depending on the scenario, i.e. an increase varying between + 3.6% and 6.5%. This small increase is the direct consequence of the 2020 pandemic. In any case, demand growth is not expected to be an important driver of traffic growth along the Atlantic Corridor in the coming decade due to the current pandemic-linked recession.

TOTAL Freight traffic, thousand tonnes – 2030 scenario 1								
O / D	Portugal	Spain	France	Germany	Benelux	North Europe	East Europe	TOTAL
Portugal	-	17 350	600	920	3 370	2 190	2 270	26 700
Spain	20 980	-	26 100	9 840	11 410	8 510	29 000	105 840
France	2 010	28 470	-	62 310	10 280	2 970	11 050	117 090
Germany	540	8 230	74 550	-	-	-	-	83 320
Benelux	3 560	12 660	11 160	-	-	-	-	27 380
North Europe	3 110	7 890	2 780	-	-	-	-	13 780
East Europe	4 120	37 000	9 960	-	-	-	-	51 080
TOTAL	34 320	111 600	125 150	73 070	25 060	13 670	42 320	425 190

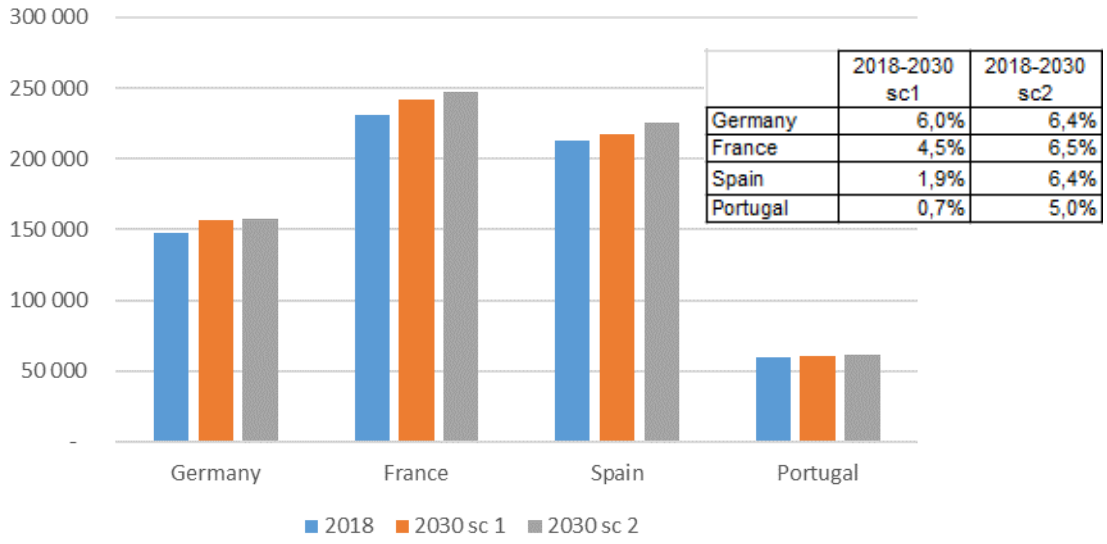
TOTAL Freight traffic, thousand tonnes – 2030 scenario 2								
O / D	Portugal	Spain	France	Germany	Benelux	North Europe	East Europe	TOTAL
Portugal	-	18 600	620	880	3 370	2 190	2 270	27 930
Spain	21 790	-	27 100	9 470	11 410	8 510	29 000	107 280
France	2 100	30 560	-	59 910	10 280	2 970	11 050	116 870
Germany	560	8 830	77 420	-	-	-	-	86 810
Benelux	3 710	13 600	11 580	-	-	-	-	28 890
North Europe	3 240	8 480	2 900	-	-	-	-	14 620
East Europe	4 290	39 720	10 350	-	-	-	-	54 360
TOTAL	35 690	119 790	129 970	70 260	25 060	13 670	42 320	436 760

Table 4 – Freight traffic in the RFC perimeter5, 2030, 2 macro-economic scenarios, thousand tonnes

Growth is mainly driven by the dynamics of the countries to the north of the Corridor (Germany, Benelux mainly), which explains why the flows between these zones and the rest of the Corridor

[5] Only flows passing through the Atlantic Corridor

(France, Spain and Portugal) are stronger than between France, Spain and Portugal. In the case of scenario 1, we note that the economic recovery after COVID therefore does not always compensate for the fall in 2020, the level of traffic in 2030 is sometimes lower than its level in 2018 (flows from the north to Portugal and Spain). But overall, traffic in 2030 is higher than the 2018 level across the entire scope of the corridor.



	2018-2030 sc1	2018-2030 sc2
Germany	6,0%	6,4%
France	4,5%	6,5%
Spain	1,9%	6,4%
Portugal	0,7%	5,0%

Figure 10 - Evolution of freight traffic in the RFC perimeter, 2018-2030, macro-economic scenarios 1 and 2 (thousand tonnes)

TOTAL Freight traffic, % evolution 2018-2030 scenario 1								
O / D	Portugal	Spain	France	Germany	Benelux	North Europe	East Europe	TOTAL
Portugal		-1%	2%	11%	9%	11%	11%	2%
Spain	-1%		2%	11%	9%	7%	8%	5%
France	0%	-1%		11%	16%	8%	6%	8%
Germany	0%	-1%	2%					2%
Benelux	0%	-1%	2%					0%
North Europe	0%	-1%	2%					0%
East Europe	0%	-1%	-1%					0%
TOTAL	-1%	-1%	2%	11%	12%	9%	7%	4%

Table 5 – Evolution of freight traffic in the RFC perimeter, 2018-2030, macro-economic scenario 1

TOTAL Freight traffic, % evolution 2018-2030 scenario 2								
O / D	Portugal	Spain	France	Germany	Benelux	North Europe	East Europe	TOTAL
Portugal		6%	6%	7%	9%	11%	11%	7%
Spain	3%		6%	7%	9%	7%	8%	6%
France	4%	6%		7%	16%	8%	6%	7%
Germany	4%	6%	6%					6%
Benelux	4%	6%	6%					6%
North Europe	4%	6%	6%					5%
East Europe	4%	6%	3%					6%
TOTAL	3%	6%	6%	7%	12%	9%	7%	6%

Table 6 – Evolution of freight traffic in the RFC perimeter, 2018-2030, macro-economic scenario 2

FOCUS ON RAIL FORECASTS

A. Scenario 1 (economic pattern similar to 2007's recession)

Results from the first scenario are presented for the four main OD groups on the Atlantic Corridor. For example, this means that the rail flows between Germany and Spain presented here only pass through the Atlantic corridor, and those passing through the Mediterranean corridor are not taken into account.

- The first chart below present rail traffic growth within the perimeter of the RFC between 2018 and 2030, whereas the second chart explains the component of traffic growth. Growth rates notably higher than those presented above for national matrices, since modal shift tends to concentrate on OD relations within the RFC perimeter. **Between France and Germany, rail traffic along the corridor is forecasted to increase by 8% between 2018 and 2030**, these rail traffic gains are mainly driven by economic growth in France and Germany as there are not major infrastructure development between the two countries.
- **On cross-Pyrenean OD relations, rail traffic along the corridor is forecasted to increase significantly** (+42% for Spain-France and +62% for Spain-Germany) due to the modal shift expected to happen thanks to the Y Basque and other rail infrastructure projects, such as 750m trains, in Spain. Despite this strong growth, cross-Pyrenean rail traffic does not come in 2030 back to 2010 levels.
- Further South, **between Spain and Portugal, rail traffic is expected to increase by 3%** thanks to modal shift (+4% between 2018 and 2030) due to network upgrades such as the new Evora- Caia link, whereas total demand remains stable according to the economic assumptions of scenario 1 for Spain and Portugal (-1%).

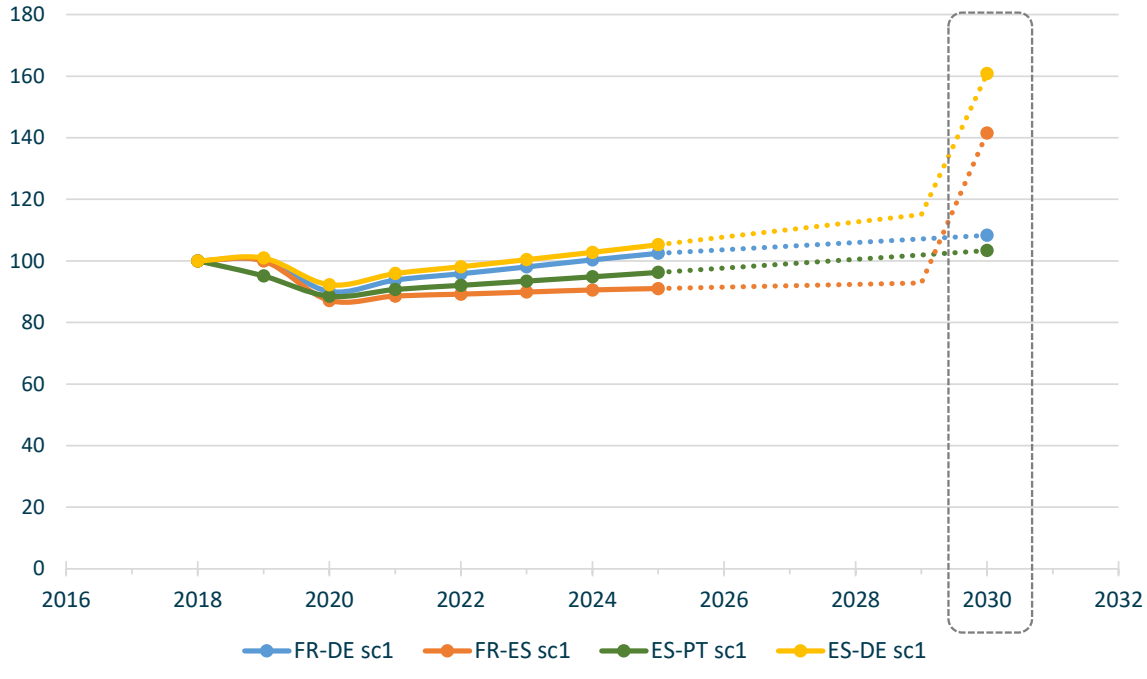


Figure 11 - Rail traffic forecasts on the RFC Atlantic according to scenario 1 by origin-destinations, index 100

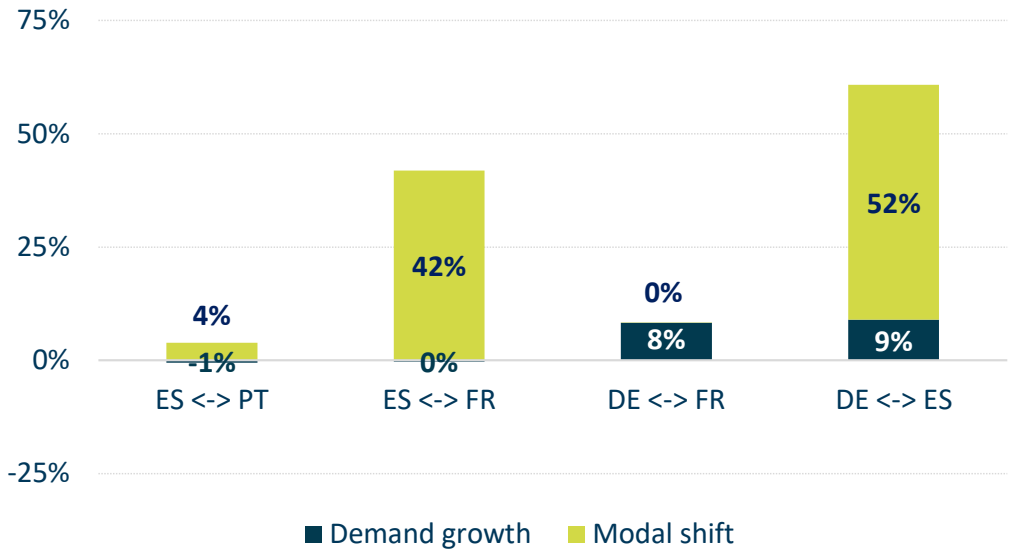


Figure 12 - Sources of rail traffic growth between 2018 and 2030 on the RFC Atlantic according to scenario 1 (%)

The Road is still the main mode. If we focus on land transport, the road modal share slightly decreases from 94.7% to 94.5%. If the rail sector remains at a reduced level, its average share nonetheless increases, from 5.3% to 5.5% to represent 16.6 million in 2030, i.e. increase in volume of +8,3% (+1.3 million tonnes). The increase of the rail mode observed between Spain and Portugal is +97'000 tonnes. Despite the improvement of the infrastructure in the Iberian Peninsula, the economic dynamic is not sufficient (as consequences of the COVID on economy crisis).

RAIL Freight traffic, thousand tonnes' evolution 2018-2030, scenario 1								
O / D	Portugal	Spain	France	Germany	Benelux	North Europe	East Europe	TOTAL
Portugal	-	21	-	4	-	-	-	25
Spain	76	-	35	37	32	12	15	207
France	-	90	-	410	17	7	292	816
Germany	1	10	46	-	-	-	-	57
Benelux	-	44	4	-	-	-	-	48
North Europe	-	8	4	-	-	-	1	13
East Europe	-	15	72	-	-	0	-	87
TOTAL	77	188	160	451	49	19	308	1 253

Table 7 – Evolution of rail traffic in the RFC perimeter, 2018-2030, macro-economic scenario 1, thousand tonnes

RAIL Freight traffic, % evolution 2018 - 2030 scenario 1								
O / D	Portugal	Spain	France	Germany	Benelux	North Europe	East Europe	TOTAL
Portugal		14%		27%				15%
Spain	3%		29%	32%	39%	27%	18%	8%
France		18%		12%	17%	8%	14%	13%
Germany	18%	1%	2%					2%
Benelux		7%	2%					6%
North Europe		20%	5%					10%
East Europe		11%	4%					4%
TOTAL	3%	7%	4%	12%	27%	14%	14%	8%

Table 8 – Evolution (%) of rail traffic in the RFC perimeter, 2018-2030, macro-economic scenario 1

The potential for modal shift towards rail on the Atlantic Corridor remains high but depends on major infrastructure projects (Y Basque, Caia-Badajoz, Atlantic rolling motorway for instance) and is limited by issues facing the rail sector in France where recurrent work on the infrastructure and national strikes considerably reduce train paths' reliability and rail competitiveness.

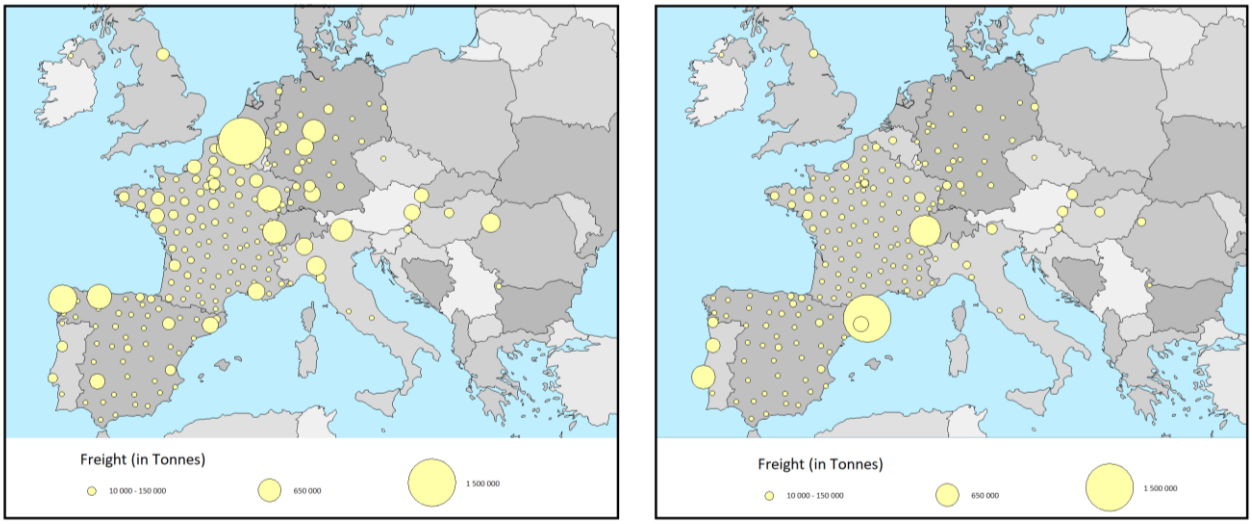


Figure 13 - Origins and destinations of rail traffic in 2030 (scenario 1)

B. Scenario 2 (national economic forecasts)

The second scenario is identical in terms of network and cost assumption, the difference with scenario 1 lies in economic growth which is more balanced among the four countries, as assumed by official economic forecasts. Growth rates presented below are notably higher than those presented for national matrices, since modal shift tends to concentrate on OD relations within the RFC perimeter.

- **Between France and Germany, rail traffic along the corridor is forecasted to increase by 7% between 2018 and 2030**, these rail traffic gains are mainly driven by economic growth in France and Germany as there are no major infrastructure development between the two countries.
- **On cross-Pyrenean OD relations, rail traffic along the corridor is forecasted to increase significantly** (+48% for Spain-France and +59% for Spain-Germany) due to economic growth driving a small demand increase and the modal shift expected to happen thanks to the Y Basque (opening in 2029) and other rail infrastructure projects, such as 750m trains, in Spain. Despite this strong growth, cross-Pyrenean rail traffic only comes back in 2030 to 2006 levels.
- Further South, **between Spain and Portugal, rail traffic is expected to increase by 8%** with a combination of modal shift (+4% between 2018 and 2030) and demand growth (+4%) due to network upgrades such as the new Evora- Caia link.

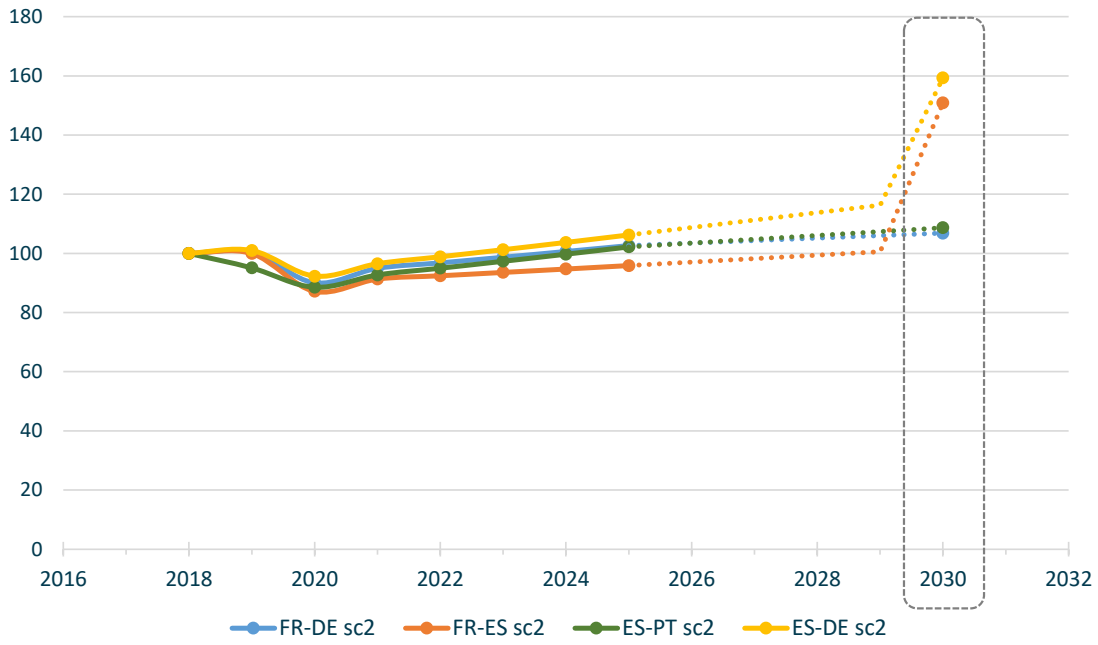


Figure 14 - Rail traffic forecasts on the RFC Atlantic according to scenario 2 by origin-destinations, index 100

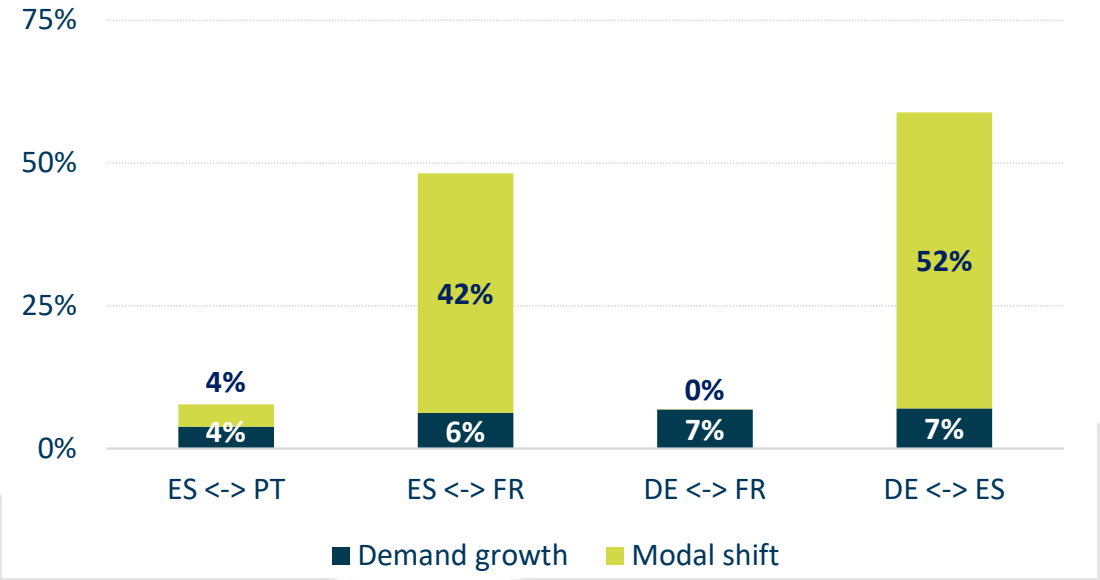


Figure 15 - Sources of rail traffic growth between 2018 and 2030 on the RFC Atlantic according to scenario 2, %

The Road is still the main mode. If we focus on land transport, the road modal share slightly decreases from 94.7% to 94.5%. If the rail sector remains at a reduced level, its average share nonetheless increases, from 5.3% to 5.5% to represent 16.9 million in 2030, i.e. increase in volume of +10.2% (+1.6 million tonnes). The increase of the rail mode observed between Spain and Portugal is +1.0 million tonnes which confirms that the improvement of the infrastructure in the Iberian Peninsula has made it possible to strengthen the competitiveness of the rail mode.

RAIL Freight traffic, thousand tonnes' evolution 2018-2030, scenario 2								
O / D	Portugal	Spain	France	Germany	Benelux	North Europe	East Europe	TOTAL
Portugal	-	33	-	3	-	-	-	36
Spain	171	-	41	31	32	12	15	303
France	-	134	-	257	17	7	292	707
Germany	1	93	126	-	-	-	-	220
Benelux	-	93	10	-	-	-	-	103
North Europe	-	12	7	-	-	-	1	20
East Europe	-	26	149	-	-	0	-	175
TOTAL	172	392	332	291	49	19	308	1 564

Table 9 – Evolution of rail traffic in the RFC perimeter, 2018-2030, macro-economic scenario 2, thousand tonnes

RAIL Freight traffic, % evolution 2018 - 2030 scenario 2								
O / D	Portugal	Spain	France	Germany	Benelux	North Europe	East Europe	TOTAL
Portugal		23%		19%				22%
Spain	8%		34%	27%	39%	27%	18%	11%
France		27%		7%	17%	8%	14%	11%
Germany	16%	8%	6%					7%
Benelux		15%	6%					13%
North Europe		30%	9%					16%
East Europe		19%	8%					9%
TOTAL	8%	15%	8%	8%	27%	14%	14%	10%

Table 10 – Evolution (%) of rail traffic in the RFC perimeter, 2018-2030, macro-economic scenario 2

As for scenario 1, the potential for modal shift towards rail on the Atlantic Corridor remains high but depends on major infrastructure projects (Y Basque, Caia-Badajoz, Atlantic rolling motorway for instance) and is limited by issues facing the rail sector in France where recurrent work on the infrastructure and national strikes considerably reduce train paths' reliability and rail competitiveness.

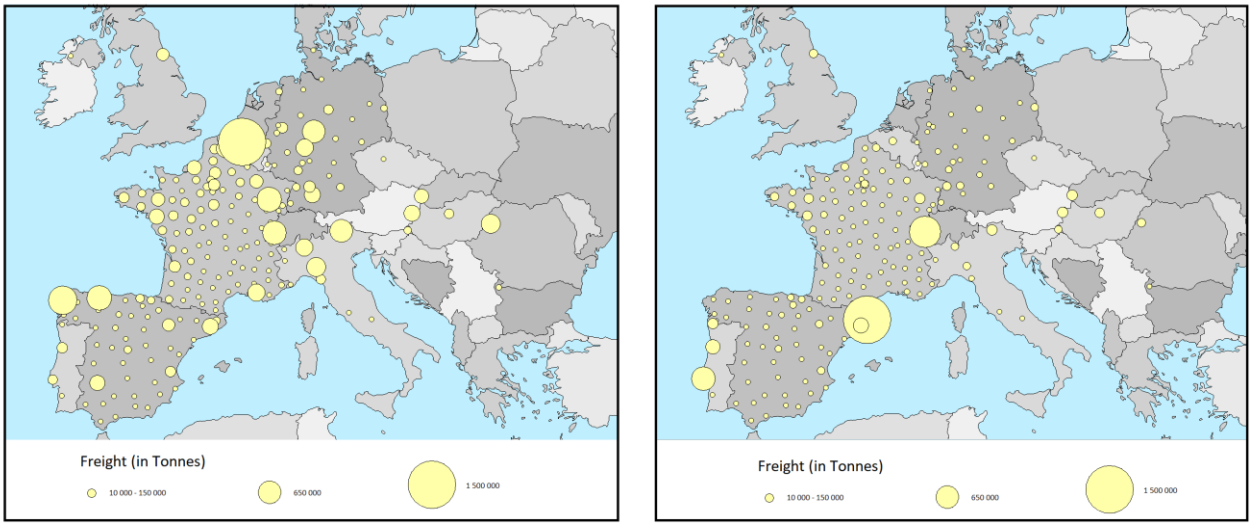


Figure 16 - Origins and destinations of rail traffic in 2030 (scenario 2)

C. Train traffic forecasted

The figures below show the number of annual trains on the corrido, for both scenarios.

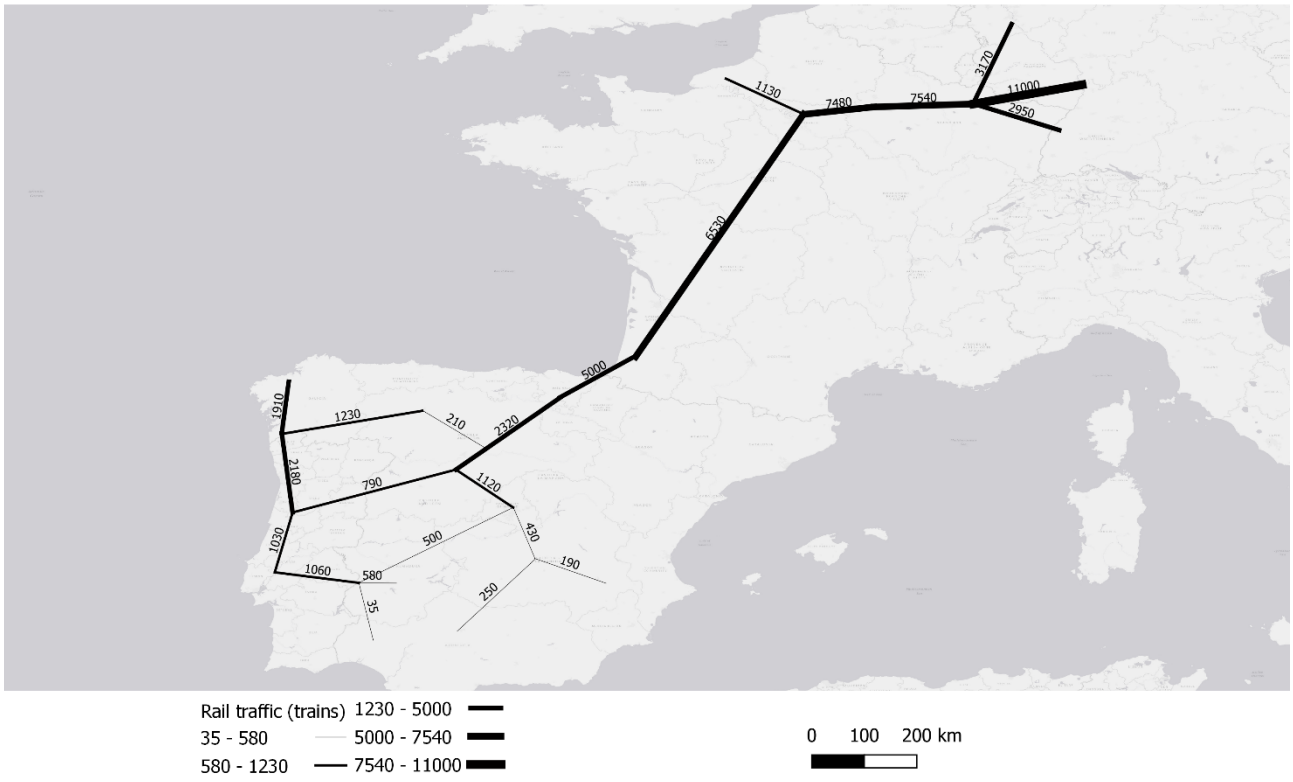


Figure 17 - Yearly train flows along the RFC Atlantic in 2030 (scenario 1)

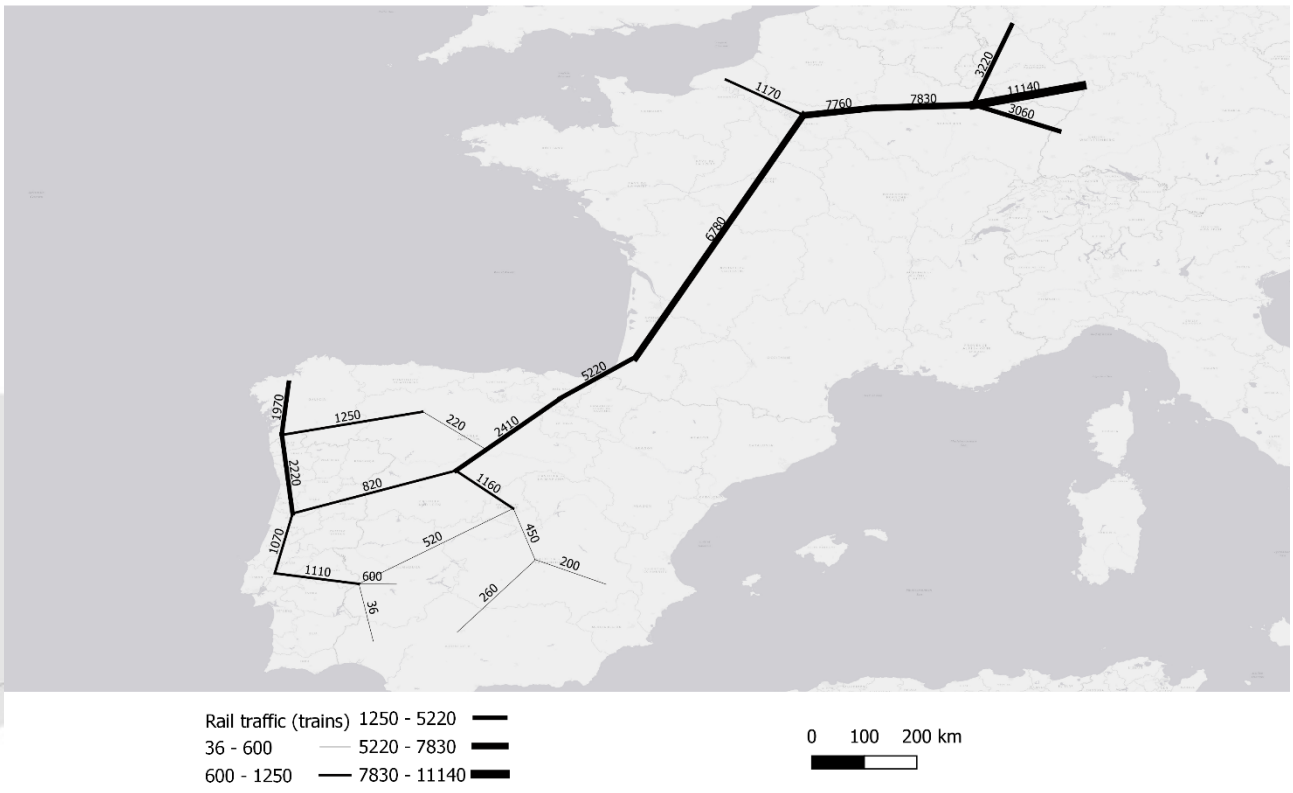


Figure 18 - Yearly train flows along the RFC Atlantic in 2030 (scenario 2)

Forbach – Saarbrucken is expected to remain the main border crossing of the RFC Atlantic with around 11’000 trains per year in 2030.

Due to the impact of modal shift on cross-Pyrenean traffic, **Irun-Hendaye is expected to see the strongest growth in rail traffic:**

- +73% trains (5'000 trains per year in 2030) according to scenario 1 and the test with 750m train on the entire Spanish network,
- +79% trains (5'200 trains per year in 2030) according to scenario 2,
- +121% trains according to the new rolling stock test (6'400 trains per year).

Finally, **between Spain and Portugal, the impact of rail traffic increases lead to over 4'000 trains crossing the border in 2030 at the three border crossings**. Due to network upgrades in the South of Portugal and in the North of Spain, we also expect a shift of traffic from Vilar Formoso – Fuentes (-25% to -28%) towards the other two border crossings in the South at Caia – Badajoz (+64% to +71%) and in the North at Valença – Tui, which is not currently a part of the RFC Atlantic (+15% to +17%).

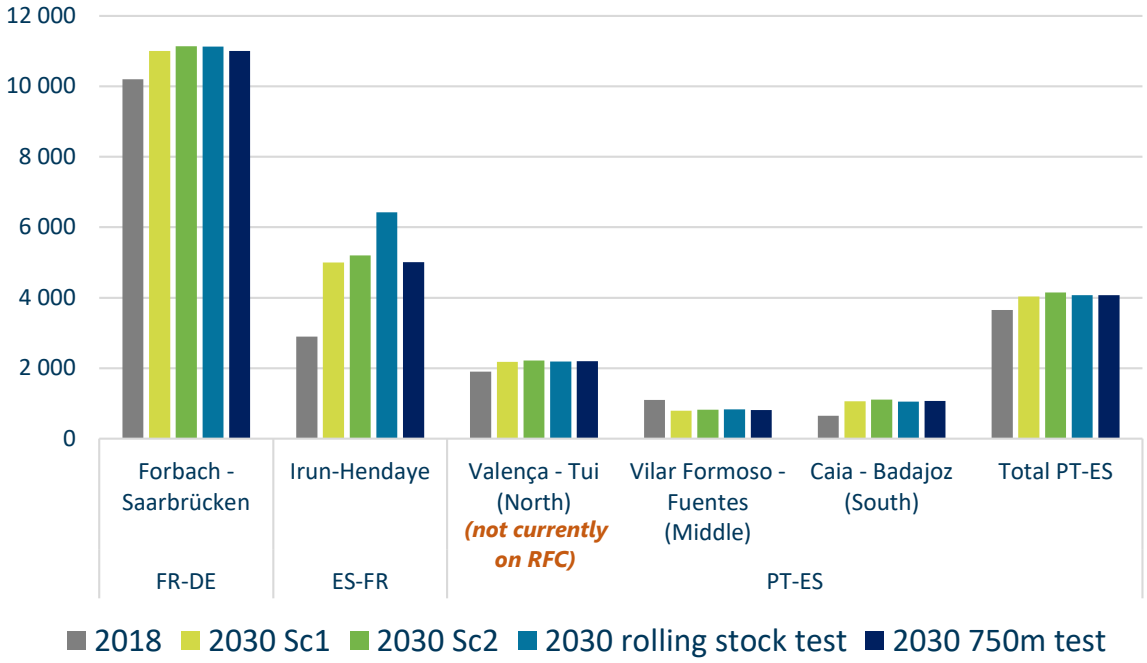


Figure 19 - Yearly number of trains at border crossings according to the scenarios and tests

The following chart presents the number of additional trains expected at border crossings according due to demand growth and modal shift. Demand growth is the main driver for rail traffic crossing the French-German border, whereas modal shift is expected to play a larger role at the French-Spanish and Portuguese-Spanish borders.

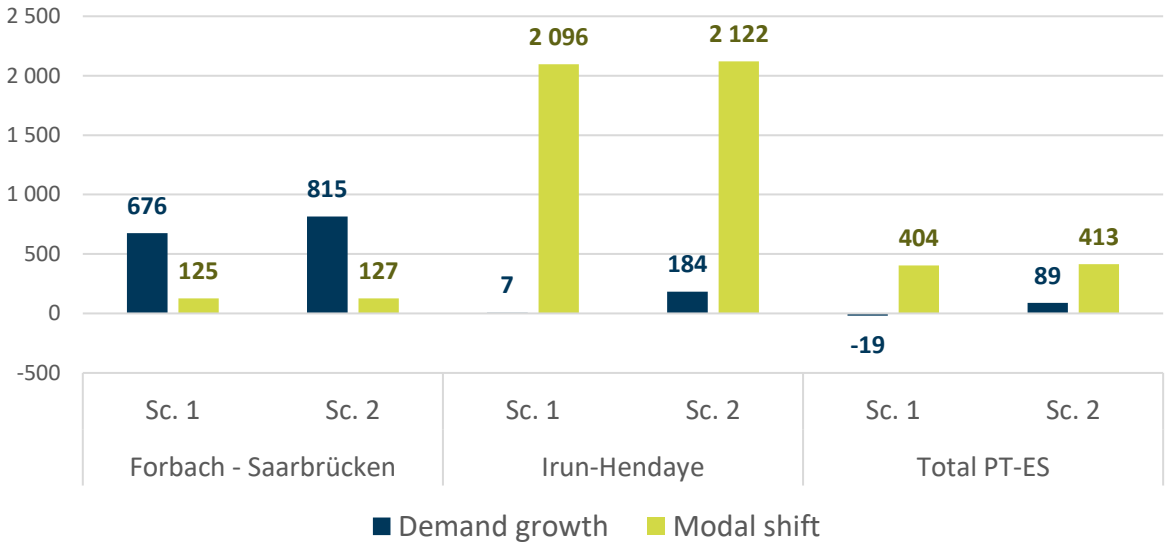


Figure 20 - Additional annual trains at border crossings in 2030 compared with 2018 due to demand growth and modal shift

The number of trains forecasted at border crossings are presented on the table below.

Border crossing	2018	2030 Sc1	2030 Sc2	2030 rolling stock test	2030 750m test
Forbach	10 200	11 000	11 140	11 130	11 000
Irun-Hendaye	2 900	5 000	5 210	6 420	5 010
Valença - Tui (North)	1 900	2 180	2 220	2 180	2 200
Vilar Formoso - Fuentes (Middle)	1 100	790	820	830	810
Caia - Badajoz (South)	650	1 060	1 110	1 050	1 070
Total PT-ES	3 650	4 040	4 150	4 070	4 070

Table 11 – Trains at border crossings according to scenarios and tests

Those trains are split along the following main OD relations.

OD relation on the RFC Atlantic perimeter	2030 sc1	2030 sc2
ES <-> PT	4 040	4 220
ES <-> FR	1 970	2 400
DE <-> FR	10 160	10 030
DE <-> ES	510	590
BENELUX <-> ES	370	440
ES <-> North Europe	30	40
East Europe <-> ES	240	290
East Europe <-> FR	3570	3630
Total	17 320	18 010

Table 12 – Train flows on the RFC Atlantic perimeter by main OD in 2030

3.1.5.3 Conclusions on the traffic forecasts

Uncertainty is currently high when it comes to forecasting economic activity, two scenarios were therefore considered with two different methods. The first scenario assume that national economies would follow a pattern similar to the recovery from the previous 2009 recession, whereas scenario 2 is based on official national economic forecasts. Hence, the second scenario is more pessimistic for traffic in relation to the Iberian Peninsula which was characterised by economic stagnation in the 2010's. The first scenario therefore leads us to lower increases in rail traffic on the Iberian Peninsula. Multimodal freight flows in relation with Portugal increase by 0.7% in scenario 1 and 5.0% in scenario 2 between 2018 and 2030. For Spain, multimodal traffic increase is 1.9% in scenario 1 and 6.4% in scenario 2. The two scenarios are closer when it comes to traffic in relation to France (+4.5% in scenario 1, +6.5% in scenario 2) and Germany (+6.0% in scenario 1 and +6.4% in scenario 2). In any case, demand growth is not expected to be an important driver of traffic growth along the Atlantic Corridor in the coming decade due to the impact of the pandemic-linked recession.

The potential for modal shift towards rail on the Atlantic Corridor remains high but depends on major infrastructure projects (Y Basque, Caia-Badajoz, Atlantic rolling motorway for instance) and could be limited in future by issues facing the rail sector in France where recurrent work are still planned between Tours and Hendaye on the infrastructure.

The combined impact of those issues facing rail is particularly visible at the Irun-Hendaye border crossing where rail traffic has decreased significantly over the last decade, even though the previous transport market study expected a strong rail traffic growth. There is today no reason to believe that those problems will improve in the near future. It is even possible that increasing local passenger traffic around cities such as Bordeaux, Paris and Metz could further impact capacity allocated to freight trains along the Atlantic Corridor, but this question is beyond the scope of this transport market study.

Therefore, it is doubtful that the European aim of increasing rail freight traffic by 50% by 2030, as stated in the 2020 Sustainable and Smart Mobility Strategy published by the European Commission, can be achieved on the Atlantic Corridor as long as those issues persist. According to the results of this TMS, rail freight on the Atlantic Corridor can be expected to increase by around +50% on some Transpyrenean OD relations which are the most likely to benefit from the major infrastructure programme in Spain and at the French-Spanish border. But the overall number of international trains on the RFC Atlantic is only expected to increase by +20% between 2018 and 2030

3.1.6. Interviews

In total, 32 interviews were conducted, aimed at forming a better understanding of the challenges along the Atlantic Corridor and to identify potential new markets, as well as assess the relevance of the different corridor extensions considered. Contacts were therefore made with corridor managers, port authorities, terminal operators, railway undertakings and cargo owners (shippers), both current rail users and potential users. Information specific to train path quality is summarized below.

The currently existing infrastructures are correct for the existing traffic but for various reasons (fragility of the system and insecurity of the infrastructure due to works, strikes and roadblocks) its full potential is not being obtained.

In the case of the Irun border, the little coordination between Hendaye - Irun since the disappearance of the joint management organization for international trains of RENFE and SNCF (GOTI, Operational Management of International Transport), makes coordination and agility in this last mile very complicated, producing dysfunctions that impact transit times and imply a deterioration of the service compared to other alternatives such as the highway.

The strikes carried out, in France, in a repetitive manner in recent years and more and more lasting, have resulted in a transfer of transport flows to other alternative means. These flows have not returned to rail (or partially).

The works carried out to condition the infrastructure, especially in French territory, have repeatedly caused service interruptions for long periods of time. Moreover, the Clients mention the lack of coordination between the works' planning in the railway network in relation to the needs of the freight market. It needs greater anticipation in the notification of works / cuts to the Railway Undertakings: planning dates, compensatory measures, alternative solutions, etc. The large number of work slots has had the effect of reducing the capacity available and average speed of trains on the Atlantic Corridor.

Requesting Pre-arranged rail Paths from the RFC requires of advance planning for the RU. The PaP request timeline is nor adequate to the RUs business as they have clients with often late and irregular requests.

Moreover, the Clients indicate the difference between the paths finally offered and what has been programmed ("deformed" paths). Finally, they also mention the strong heterogeneity in the quality of train paths (on the same OD and for a regular schedule) during the year.

This deterioration in the quality of paths has resulted in a reduction in the paths for the transport of goods that has a negative impact on the development of traffic. It largely explains the decrease in rail traffic on the Atlantic Corridor's French sections (greater decrease than the decrease observed on average in France) and the transfer of traffic through the Mediterranean passage (market share estimated at 70%), or a transfer to other means of transport alternative to the rail.

The rail paths are limited in the "Linha do Norte", in Portugal. Some clients indicate they suffered for years from a lack of supply of rail transport capacity. They have the potential to move more goods by rail than they currently do, so they are forced to use alternative modes. The example of lack of capacity Spain North-West and Portugal is given. Other clients ask for an improvement of signalling and cantonment on the line Huelva Port - Badajoz – Portugal border, with the aim of improving the operation and capacity of the line.

3.1.7 Focus on possible extensions

3.1.7.1 Metz-Trier-Koblenz extension

The Metz-Trier-Koblenz extension runs from Metz in the Grand-Est region in France, via the border point Apach and through Trier and Koblenz in Rhineland-Pfalz, where it connects with the Rhine-Alpine Corridor in the North.

Figure 21 - Extension in Southwest of Germany – France border

This extension is foremost a diversionary rail route offering an alternative to existing lines of the RFC Atlantic and RFC Rhine-Alpine. The potential for new markets for the RFC Atlantic along the line itself is limited.

The proposed extension offers an opportunity for the development and expansion of rail freight transport between Northern and Southern Europe. This potential extension is indeed strategically located between Mediterranean and North European countries. It would improve intermodal connections between France and Germany, the two largest economies in the EU since Brexit. The benefits of this new proposal would be:

- •Alternative connection to RFC Rhine-Alpine for long distance flows: This connection could be a shorter alternative route than the current line through Mannheim for traffic coming from the North, that is from Köln and the Ruhr area. It is important to highlight the mileage savings using this line rather than the current corridor lines, which is of about 150 kilometres. The total capacity available on the lines between Koblenz and the Metz area (Lorraine) would also increase with this extension, especially since the line from Thionville to Koblenz has a significant share of available capacity.
- Improving the flow of goods between southern to northern countries, in favour of regions in various economic shapes and with different types of economic activities, but with several important manufacturing areas.
- Rail infrastructures that are already technically in line with the RFC Atlantic.
- Transport offer for the significant potential demand between France and the North-West of Germany (or even beyond).
- Connection to different seaports (in particular the port of Rotterdam). It will expand the trade to new locations, increasing the diversity of products. In addition, ports would be connected, which improves the flow of goods between the corridor and other countries.
- Connection to industrial areas and their transport logistics nodes and inland ports. Overall, a medium potential for new rail traffic generated by economic activities along the line due

to the extension of the corridor, but taking into consideration its strategic situation, this connection could foster the exchange of goods, opening new markets and generating new rail traffic.

However, it is important to note that current rail traffic along this potential extension does not yet match the Atlantic Corridor alignment. An analysis of train paths on this extension pointed out that:

- 86% of trains run between the German Ruhr area and the French Metz in Lorraine, with most trains stopping within 30-50 km of the French-German border and only 2 trains per week continue on the RFC Atlantic (Ile-de-France, Champagne-Ardenne).
- Long distance trains on this line don't run through France via RFC Atlantic but via North-Sea Mediterranean Corridor towards Lyon and further South (19 trains per week).

Furthermore, it must be noted that the long-distance train services to Spain already use the Pre-Arranged-Path (PaP) product in France of RFC North-Sea Mediterranean. And looking on the RFC Atlantic capacity offer with the Pre-Arranged-Paths (PaPs) it has to be noted that the demand rate of the RU for the offered PaP on the German section of RFC Atlantic has been very poor for years (but could be increase in the future, according to RU's strategy).

The following graph shows the train traffic forecasted by the model at Perl - Apach border for years 2018 and 2030.

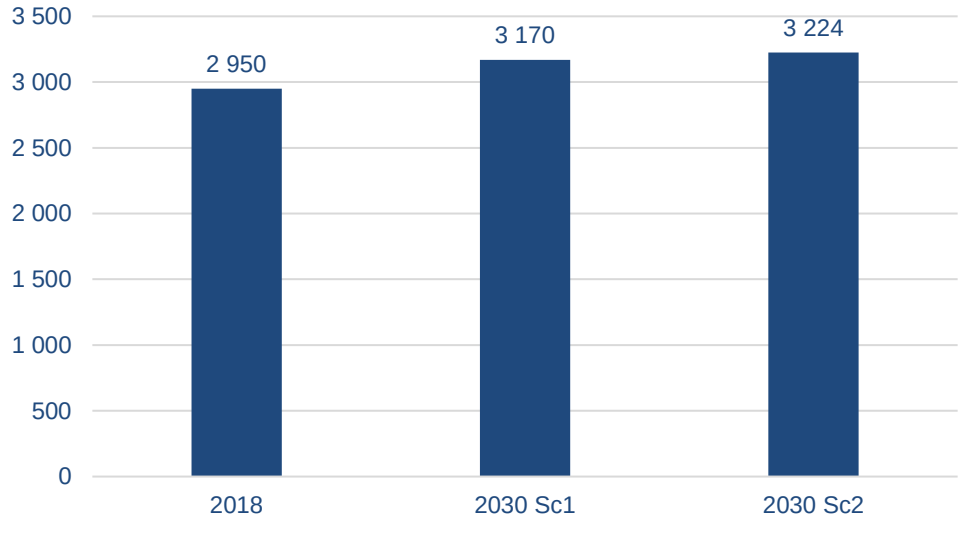


Figure 22 - Annual train traffic forecasted at Perl-Apach

Although long distance traffic may yet increase if the line was added to the RFC Atlantic, the main reason for this lack of long-distance demand running on this extension towards the Atlantic Corridor is probably linked to other difficulties which have been identified elsewhere in France. Recurrent works in Nouvelle Aquitaine Region appears to seriously reduce the reliability of trains paths offered. Hence, although we consider that this extension could notably improve connections between France and Germany along the Atlantic Corridor, it appears that other issues elsewhere on the Atlantic Corridor probably limit the interest of this extension for long distance traffic.

In conclusion, although this extension appears to be relevant to the corridor in terms of rail functionality, train traffic demand does not yet justify its addition to the Atlantic Corridor. This could change however when several key issues of the Atlantic Corridors are solved at the French-Spanish border in the coming decade. The two main issues are currently the persistence of Iberian track gauge, which will eventually be solved with the Y Basque, and recurrent work along the corridor in France which are expected to be over by 2030.

3.1.7.2 Tours-Chagny extension

This extension runs through Tours in the Centre-Val-de-Loire region and Chagny in the Bourgogne-Franche-Comté region connecting the RFC Atlantic with the RFC North Sea-Mediterranean (as alternative itinerary for the Atlantic rail freight traffic flows crossing Paris region).

Figure 23 - Extension in Centre of France

The aim of this potential extension between Tours and Chagny could offer 3 features:

- connect the two main freight corridors in France (RFC Atlantic and RFC NSM),
- be an alternative route to the passage through Ile-de-France,
- connect the west of France (Pays de la Loire and Brittany regions) and the east of France (Lyon region, Alsace).

But the first two functionalities are linked, since there are already numerous flows between the two corridors (for example Spain - Hendaye with Germany), which pass through Ile-de-France. However, the undeniable interest of offering the possibility of bypassing the Ile de France, a region regularly encountering problems of saturation of the rail network at certain times of the day. This would provide an alternative, reliable route with a low level of traffic. However, this route is not in line with the RFC Atlantic in terms of electrification and tunnel gauge.

The third functionality (connect the west of France and the east of France) concerns several types of flows. First of all, this will improve the rail service to the port of Nantes-Saint-Nazaire, even if its current hinterland probably does not extend beyond Nevers. Ultimately, this hinterland could extend to the Rhone corridor (Dijon / Lyon) although these areas are already served by the port of Marseille to the south, the port of Antwerp to the north (or even the port of Le Havre to the north-west, but less importantly). But for moment the current characteristics of the infrastructure explain that there is no traffic passing through this extension. The analysis of paths confirms that it's not an axis that is taken from end to end. Traffic passing through the entire extension is

extremely low, with only one train per week between Vittel (Vosges) and Angers (Maine-et-Loire). It's a mineral water train, to a logistics warehouse. In the medium term, if the infrastructure was improved, this will facilitate exchanges between east and west, which currently pass through Ile-de-France because the route is more efficient than through Nevers-Chagny although it is longer.

On the other hand, the economies of the territories between Tours and Chagny are not very dynamic, and do not represent a great potential of traffic. The Tours-Chagny extension therefore has no interest in serving local generators.

Because this extension is internal to France and is not competitive for international routes, there is currently no international demand and we could not produce traffic forecasts. It is possible that some international traffic switch to this route in the future when the line is upgraded and fully electrified and if capacity becomes too scarce on other lines through Ile-de-France.

This extension therefore offers a diversionary rail route functionality.

3.1.7.3 Bordeaux-Toulouse-Narbonne extension

This extension runs through Occitanie and Nouvelle-Aquitaine regions connecting the Port of Bordeaux and the RFC Atlantic to the RFC Med, and the economic centre of Toulouse. It is also considered as alternative route in case of traffic disruption on between Bordeaux and Hendaye (on RFC ATL) or between Narbonne and Perpignan/Cerbère (on RFC MED).

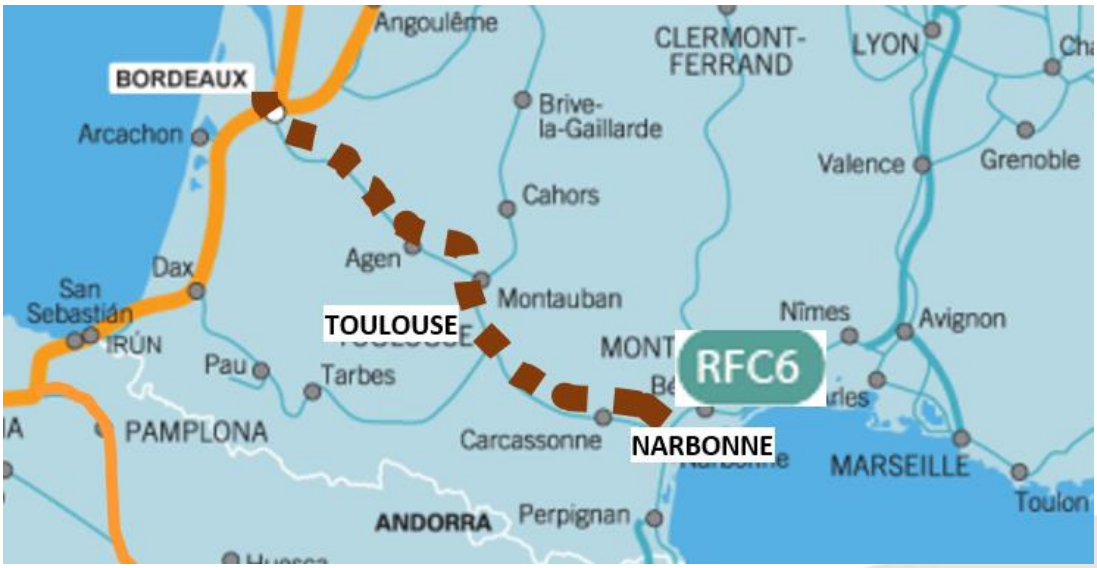


Figure 24 - Extension in South of France

The extension proposed in the south of France will serve as an opportunity for communication and trade at international level, and especially among the countries that make up the European Union. The extension running from Bordeaux to Narbonne will connect with the different modes of transport and logistic nodes, opening new possibilities for trade and economy.

The advantages of this extension are shown below:

- Connexion to the port of Bordeaux and city's logistics terminal. This will lead to a greater international trade and an increase in the goods flow from maritime transport. Furthermore, as it is the leader city in wine production, its connexion with the logistics terminals will help favouring this sector and its expansion to new markets. The port of Bordeaux is very interested in extending the corridor to Narbonne, which would allow it to improve its rail service to the east (Toulouse and Languedoc-Roussillon), which probably represents its greatest development potential.

- The logistics nodes in Toulouse have a capital importance because of the aeronautical and economic activities that take place in Airbus headquarters. In addition, the Toulouse conurbation is a dynamic economic territory, with a growing population, and is therefore a major generator of flows. Serving the Toulouse metropolitan area, a large generator of traffic in the southwest, is also interesting, both for national flows (combined transport services between Toulouse and the north of France) and international (between Catalonia and Toulouse).
- Rail infrastructures that are already in line with the RFC Atlantic.
- Transport offer for the significant demand between north-east of Narbonne and Bordeaux-Hourcade from where they go south (Hendaye-Irun) and north (Poitiers / Ile-de-France) and between the south of Narbonne (Perpignan, Cerbère) and the north of Bordeaux (Ile-de-France in Valenton and Nord-Pas-de-Calais in Dourges).
- Connexion with the Mediterranean corridor in Narbonne. This connexion can be a good opportunity to connect traffics coming between Mediterranean region (Marseille and Barcelona areas) or located on the North Sea – Mediterranean corridor (Lyon industrial area), and Atlantic Corridor regions.
- This extension is located in a strategic place due to the proximity to the border between Spain and France achieving a greater fluidity and movement of goods.
- This extension is also of interest to the port of Marseille / Fos sur Mer for its westward flows. Indeed the Toulouse metropolitan area is also mainly in the hinterland of Marseille (containers and petroleum products) although it can also be supplied by the port of Bordeaux in addition.
- Finally, it is also considered as alternative route in case of traffic disruption on between Bordeaux and Hendaye (on RFC ATL) or between Narbonne and Perpignan/Cerbère (on RFC MED).

The Bordeaux-Narbonne extension has several advantages, and clearly offers an interest in connecting the RFC Atlantic to the Mediterranean RFC.

Traffic on this extension mainly national and is therefore in large part not considered in the traffic model. We can however provide traffic forecasts by applying traffic growth assumptions from the model to existing flows (see chart below). Hence, overall traffic on this extension should increase between 2018 and 2030 by 1.8% according to scenario 1 (economic path from previous recession) and by 6.2% according to scenario 2 (official national economic forecasts).

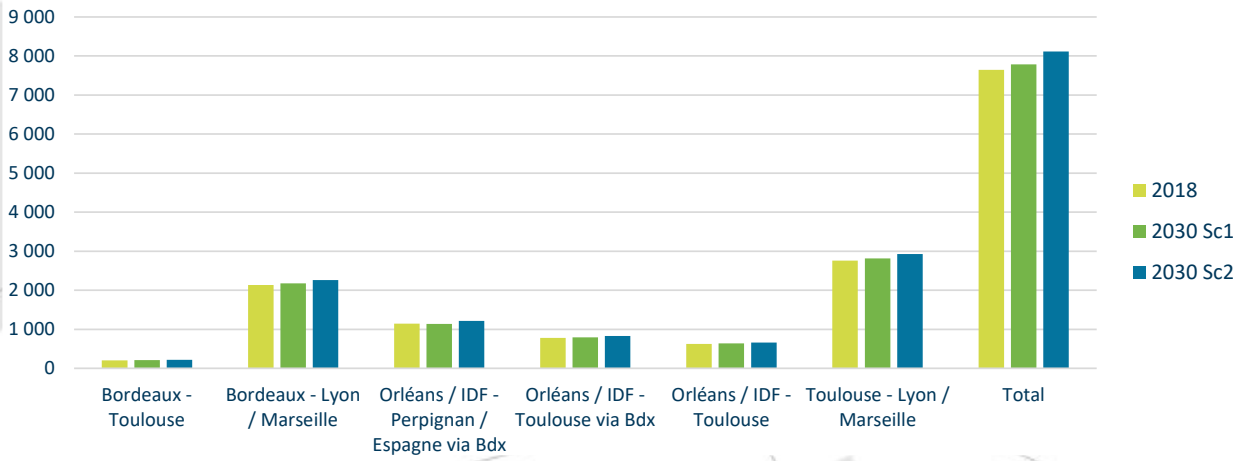


Figure 25 - Annual train traffic forecasted on Bordeaux-Toulouse-Narbonne extension

3.1.7.4 North of Iberian Peninsula extension

This extension pretends to connect Asturias and Gijón Port with the rest of the Atlantic Corridor. The proposed route runs through Venta de Baños – León –Gijón.

Figure 26 - Extension in Asturias-Northwest of Iberian Peninsula

This extension's functionality is the opportunity to offer an international connection to markets.

Including this region in the Atlantic Corridor may provide the following benefits:

- Connection with the Steel industry located in Asturias.
- The opening of new markets that could improve the regional economy.
- Connection with the Port of Gijón, although it is mainly a bulk port and the first one in freight railway transport in Spain, its freight rail traffic is mainly national.

The aim of this extension is to connect the corridor to traffic generators such as the port of Gijon. The following chart presents international train traffic forecasted towards Portugal and the rest of Europe. Rail traffic is expected to increase by only around 10% between 2018 and 2030 since traffic is mainly in relation to Portugal and this extension should benefit less from improving rail connections towards France.

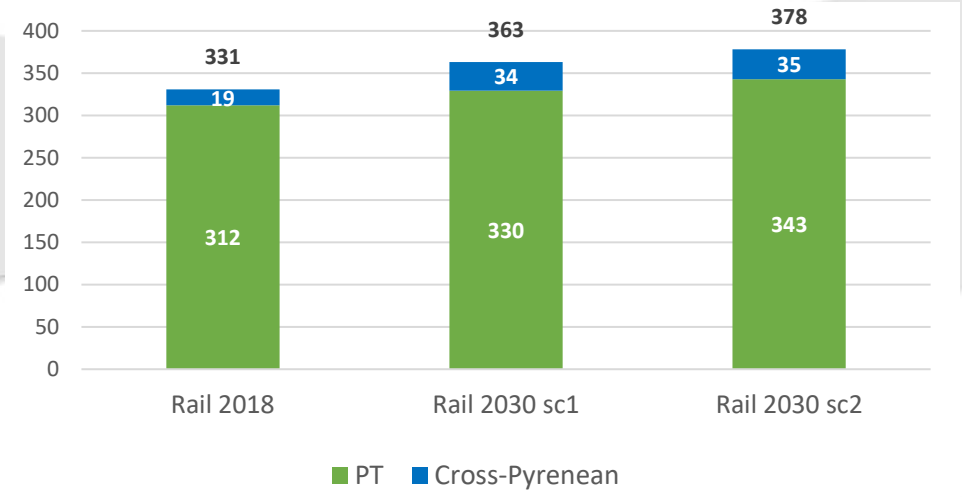


Figure 27 - International train traffic in relation to León and Asturias (annual number of trains)

An important fact to mention is that rail infrastructures are already or will be in line with the RFC Atlantic.

3.1.7.5 Northwest of Iberian Peninsula extension

In the northwest area of the Iberian Peninsula (Norte region in Portugal and Galicia in Spain), three extensions are proposed:

- Venta de Baños - León – Ourense
- A Coruña – Vigo to Leixões (via Tui – Portugal Border)
- Connexion to the new terminal of Lousado

Figure 28 - Extensions in Northwest of Iberian Peninsula

These extensions offer 2 functions:

- International connection to markets for A Coruña – Vigo to Leixões (via Tui – Portugal Border),
- National connection to international market (León – Ourense – Vigo).

These extensions will connect the most important ports of the north of Spain and Portugal with the current RFC Atlantic, favouring the international connexion to markets and the efficiency of the international trade. “Venta de Baños - León – Ourense” extension will connect the industrial areas and the main ports of the northwest with the current Atlantic RFC. “A Coruña – Vigo to Tui – Portugal Border” extension will also provide an Atlantic Corridor connexion thought the border between Norte region in Portugal and Galicia in Spain for the most significative demand between the two countries.

The “connexion to the new terminal of Lousado” will connect Norte region of Portugal with the centre and South of Portugal and the Northwest of Spain, consolidating the rail transport network of the Iberian Peninsula. According to MEDWAY, a traffic of around 10 trains per day is expected between the terminal of Lousado and the Terminal XXI (Sines).

Since the aim of this extension is to connect North-Western Spain to international markets, we look at internal train traffic forecasted on this potential extension.

Towards Portugal, the following chart presents the number of trains expected at the Valença – Tui border crossing. From 1 900 trains per year, traffic is expected to increase to around 2 200 trains per year by 2030.

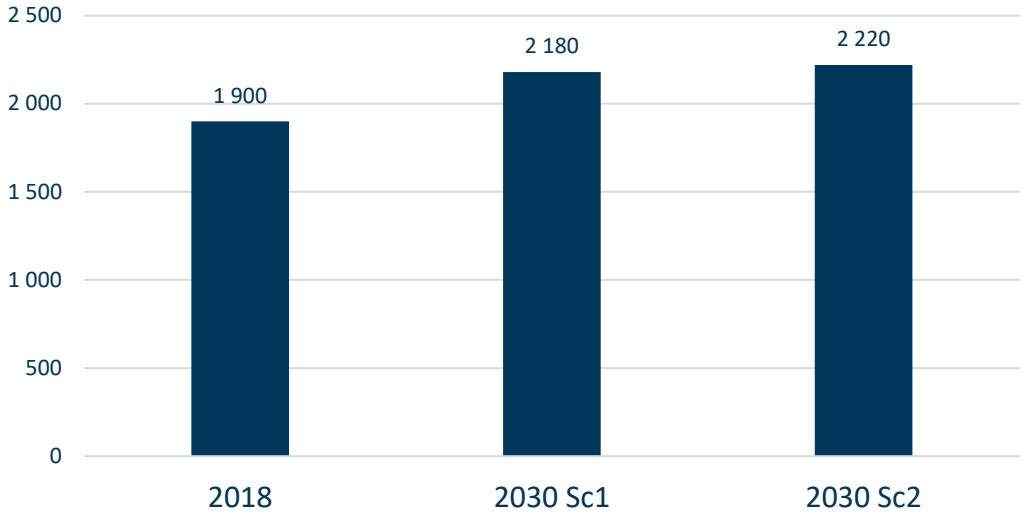


Figure 29 - Train traffic forecasted at Valença - Tui

Towards the rest of Europe, cross-Pyrenean traffic is expected to increase by around +70%.

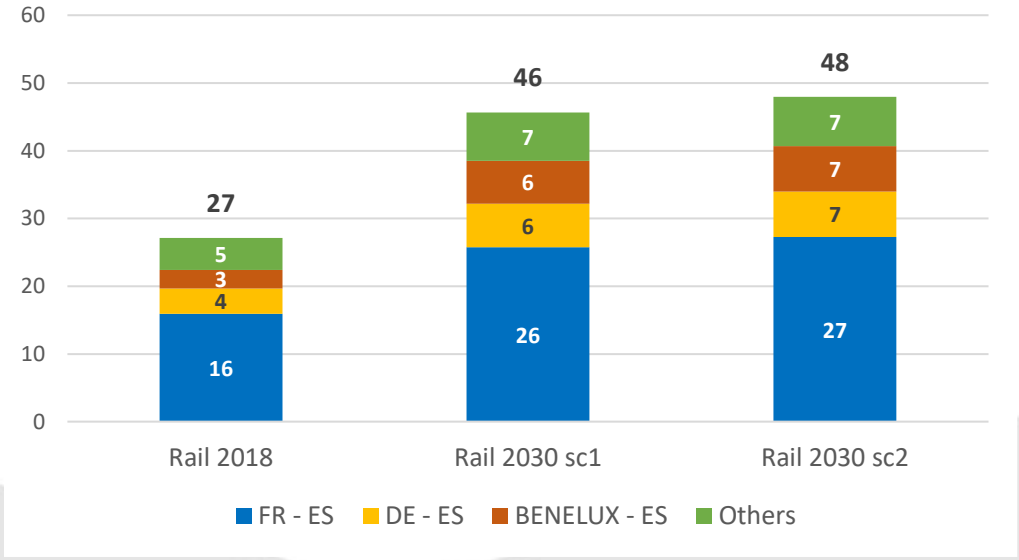


Figure 30 - Cross-Pyrenean traffic in relation to North-Western Spain (annual number of trains)

Improving the proposed extension in the Iberian Peninsula main benefits can be summarised as:

- Improving the connections between the areas of northwest of Spain and Portugal with rest of the Atlantic Corridor.
- Promoting the trade between the corridor and countries outside through the ports of A Coruña, Vigo, Leixões and Sines.
- Providing Portugal with more connexions to the European markets.
- Developing the regional economy and increasing the trade to/from the Northwest of the Iberian Peninsula.

- Connecting important industries such as wood, metal, textile and automotive with the RFC.
- Including Tui-Valença do Minho border point in the Atlantic Corridor (which has important rail and road international traffic between Spain and Portugal) would promote modal shift through improving the Infrastructure Manager services, such as improved the capacity and the coordination of works.

3.1.7.6 Madrid – Southwest of Iberian Peninsula extension

The connexion “Madrid-Cáceres-Badajoz” and the new link Evora-Caia, connects Madrid with the southwest of the Iberian Peninsula, highlighting the improvement of connexions between Madrid and Lisbon. This perimeter also includes the connection to the extension of Lisboa port in Barreiro. Moreover, this is the connection to Madrid foreseen in the TEN-T and CNC.

Figure 31 - Extension in Madrid- Southwest of Iberian Peninsula

This extension’s functionality is the international connection to markets.

Madrid is the economic and financial centre of Spain. With this extension of the RFC Atlantic it is intended to improve the connexion Madrid-Lisbon. These two markets represent the engine of their national economies and developing better connexions among them may benefit not just the 2 countries, but the global Corridor economy. The proposed extensions main benefits can be summarised as:

Improving the connexions between the areas of Lisbon and Madrid, which are important economic centres for their countries and where the demand is significant.

Improving the connection from Lisboa port to its Spanish hinterland (especially Madrid area),

Approaching Portugal to other European markets.

A faster and more competitive rail connexion between two national capitals can attract new markets and increase the flow of goods in the corridor.

Consolidate the economic position of these South European countries.

This extension will add two new lines between Portugal and Spain, with more efficient characteristics (length of trains and electrified routes) which leads to a significant increase in traffic

at this border crossing due to modal shift, but also shifting of existing rail traffic from Vilar Formoso – Fuentes in the north to Caia – Badajoz.

The impact of improving connections and rail routes between Spain and Portugal is + 4% between 2018 and 2030on rail traffic, all other things being equal.

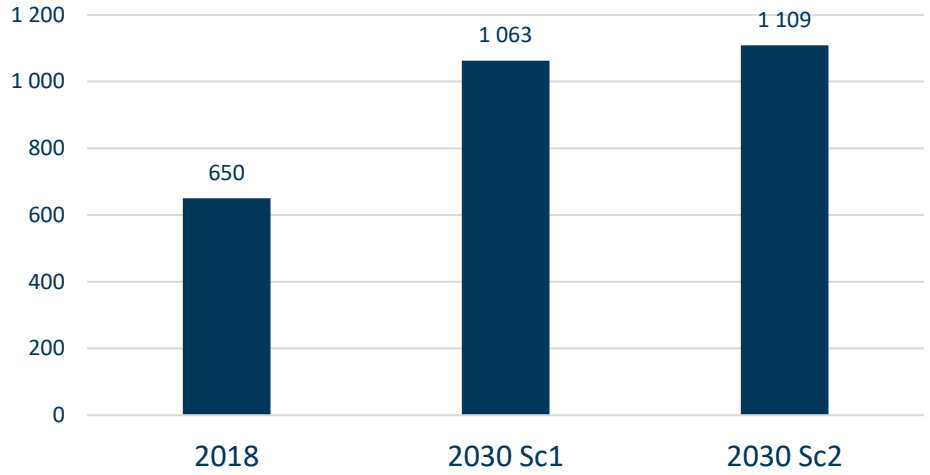


Figure 32 - Annual train traffic forecasted at Caia - Badajoz

For comparison, the following chart presents trains flows forecasted further North at Vilar Formoso – Fuentes which is expected to decline due to traffic shifts towards Caia – Badajoz, but also, to a lower extent, towards Valença – Tui.

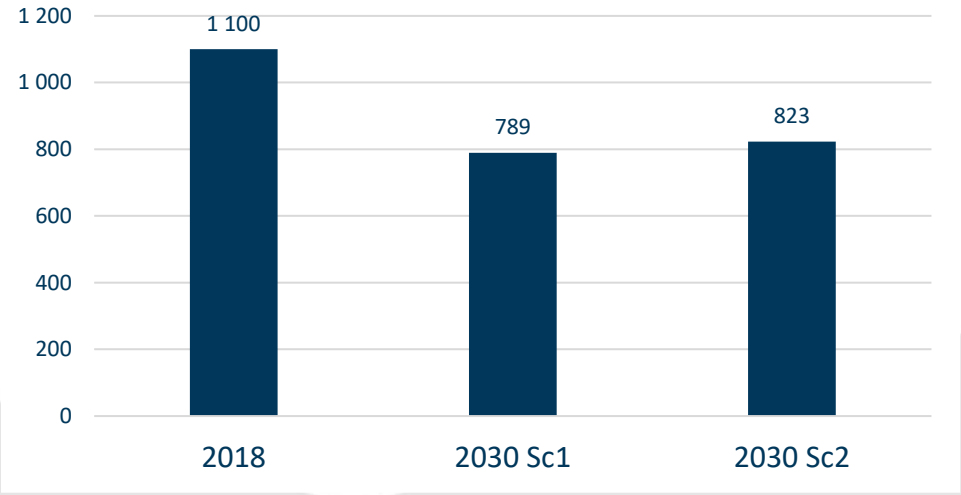


Figure 33 - Annual train traffic forecasted at Vilar Formoso - Fuentes

For now, the rail infrastructures are not really in line with the RFC Atlantic, but it will be in medium term (2030).

3.1.7.7 Southwest of Iberian Peninsula extension

In the southwest area of the Iberian Peninsula, three extensions are proposed:

- Port of Huelva/Sevilla – Badajoz – Portugal Border
- New link Evora – Caia
- Connexion to the extension of Lisbon Port in Barreiro

Figure 34:- Extensions in Southwest of Iberian Peninsula

This extension's functionality is the international connection to markets.

The proposed extensions will improve the corridor functionality and provide a range of advantages. The extension "Port of Huelva/Sevilla – Badajoz – Portugal Border" will connect the corridor with two important ports, consumption and production centres such as Huelva and Sevilla, improving the international connexion to the markets through a more efficient flow of goods. The strategic location of Extremadura, at the border with Portugal and in the centre of the triangle Madrid, Sevilla and Lisbon, will benefit both the aforementioned areas and also the region, which fullest potential has not been exploited so far, and the corridor activity will help to boost the undeveloped regional economy.

The "new link Evora-Caia" provides a new connexion between Portugal and Spain and a more direct route for freight coming from Lisbon region (Ports of Lisbon and Setubal), Centro and Alentejo (Port of Sines) to Madrid and to the south of Spain, increasing the international hinterland of Portugal. According to MEDWAY, an increase on the rail freight traffic at the Port of Sines is expected due to this extension.

The "connexion to the extension of Lisbon port in Barreiro" was expected to will reinforce the current trade of goods between Lisbon and its commercial partners, increasing the attractive of the region as an international hub. However, following the environmental assessment procedures, the decision for the new container terminal of Barreiro has been suspended.

The proposed extensions in the southwest of the Iberian Peninsula main benefits can be summarised as:

- Connection the ports of Huelva and Sevilla with the current RFC Atlantic.
- Improving the connexions between the South-West areas of the Iberian Peninsula with the ports of Lisbon (and industrial activities), Sines, Huelva and Sevilla, which could increase the trade of the Atlantic.
- Connecting to the international railway network important industries such as chemistry and agri-food ones.

However, the rail infrastructure is not really in line with the RFC Atlantic.

This extension will add two new lines between Portugal and Spain, with more efficient characteristics (length of trains and electrified routes) which leads to a significant increase in traffic

at this border crossing due to modal shift, but also shifting of existing rail traffic from Vilar Formoso – Fuentes in the north to Caia – Badajoz.

The impact of improving connections and rail routes between Spain and Portugal is + 4% between 2018 and 2030on rail traffic, all other things being equal.

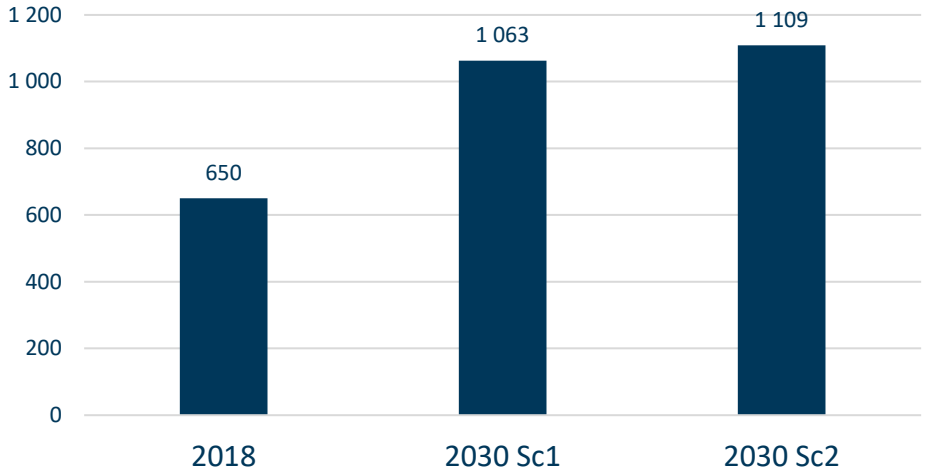


Figure 35 - Annual train traffic forecasted at Caia - Badajoz

3.1.7.8 Extension to Ireland Ports

The extensions to Ireland ports are new maritime connection from the most important Irish ports (Shannon Foynes/Dublin/Cork) to Le Havre, Cherbourg and Nantes-Saint-Nazaire.

Figure 36: Extension to Ireland ports

The analysis of the extensions to Ireland ports aimed to understand the impact of new maritime connection from Shannon Foynes / Dublin / Cork to Le Havre, Cherbourg and Nantes-Saint-Nazaire on rail freight business. For now, Brexit is still too recent to identify structural changes. In addition, the impact of the pandemic on flows also has a temporary effect, which is difficult to distinguish from the Brexit effect.

For the moment, only the port of Cherbourg seems to benefit from a certain Brexit effect (strengthening of direct maritime lines with Ireland), with an impact on its rail service. As a result,

the rail motorway project between Cherbourg and Mouguerre, led by Brittany Ferries, should be launched soon.

For the ports of Nantes and Le Havre, there is currently no identified impact, but this could change over time.

This extension offers an interest in connecting the RFC Atlantic to the Ireland, in the Brexit context.

3.1.7.9 Extension prioritization

There are 3 functions to the possible extensions: international connection to markets, national connection to international market and diversionary rail routes.

We propose below a hierarchy of extensions, according to 3 degrees of relevance:

1. Already interesting
2. Potentially interesting in the medium term
3. Potentially interesting in the long term

The extensions are described below, and their degree of interest is indicated, which varies with the horizon of relevance.

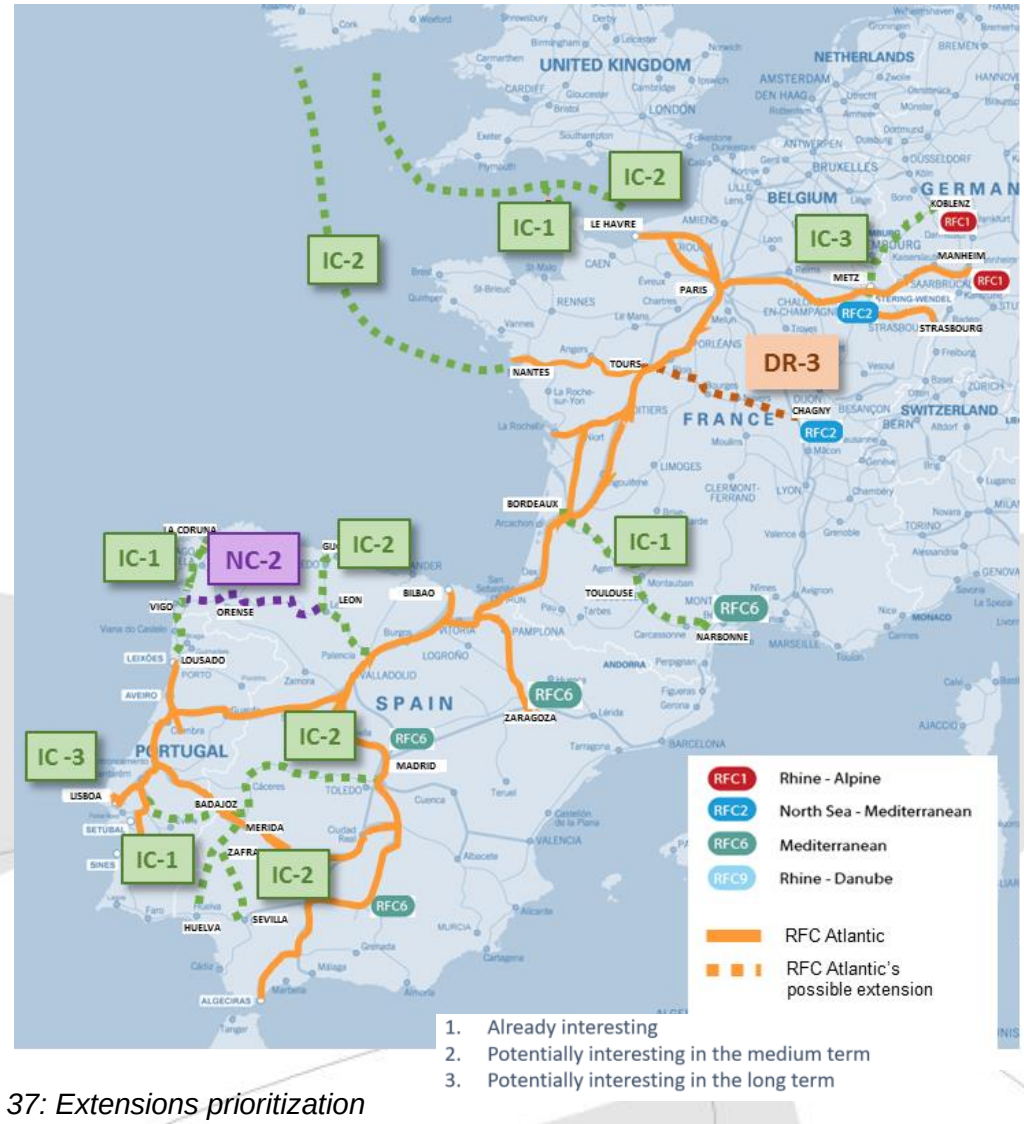


Figure 37: Extensions prioritization

3.2 Other Market relates Studies

In addition to the Traffic Market Study referred to in Chapter 3.1, the EEIG Atlantic Corridor performed several other Market related Studies in order to achieve the goals of the Regulation 913/2010.

3.2.1 Feasibility Study about ERTMS deployment on the French-German Cross-Border Section Woippy - Mannheim

For RFC Atlantic the deployment of ERTMS is according to EU directive a compliance criteria, which has to be met by 2030. However, this ERTMS deployment is complex because it is part of a more global policy of railway infrastructure renewal including maintenance operations, regeneration programs, and modernization of signalling.

By means of this study the compatibility of the current national ERTMS implementation plans of SNCF Réseau and DB Netz was analysed in the following way:

- Analysis of the cross-border rail traffic flows
- Diagnostic of the rail infrastructure in the cross-border section
- Analysis and feasibility study of ERTMS deployment and the French/German border transition
- Assessment of ERTMS implementation benefits for the rail market

Several lessons can be learnt from this feasibility study. The business case for the implementation of ERTMS is positive for Infrastructure manager (IM) as well as for Railway Undertaking (RU). Although SNCF Réseau and DB Netz already have started ERTMS implantation projects there are still missing rail section which need to be equipped with ERTMS in order to activate the business case.

- In France there are currently no detailed ERTMS implementation plans for the section Herny to the French/German border.

- In Germany the main route for rail freight trains is oriented towards the route via Neunkirchen to bypass the Saarbrücken Main Station. This route is not part of the core network corridor and hence, there are no ERTMS implementation plans.

Additional information on the Feasibility Study about ERTMS deployment on the French-German Cross-Border Section Woippy – Mannheim can be found in Annex 5.E.

3.2.2 Assessment impact of the infrastructure constraints on Railway Undertakings

The objective of the study is to assess the infrastructure constraints on the railway undertakings operations along the Rail Freight Atlantic Corridor (RFC 4), taking into account studies which have already been conducted by the Atlantic Corridor EEIG, and in particular the Transport Market Study (TMS) and the Infrastructure and Exploitation Study. The TMS study has identified major international relations along the corridor for transport demand, along which these infrastructure constraints will be assessed. The IDOARC study has provided information about infrastructure description, links and nodes, for the base year and at the horizon 2030.

However in this study the perimeter of the corridor had to be adapted to new connections in particular towards Germany, Zaragoza, and Atlantic ports, so that the RFC4 corridor becomes better aligned with the Atlantic Core Network Corridor (CNC 7), the multimodal corridor defined to structure the Core Network of the TEN-T network.

From a methodological point of view this study is particularly challenging and relevant

- Challenging because of the necessity to adopt a very analytical approach with a large volume of information to be taken into account concerning different segments of demand, but mainly the conditions of operations per type of train for relations with Spain and Portugal having different rail gauge than the rest of Europe, and often a difficult geographic context with important slopes. Along a given route the operating solution will most of the time depend upon a "sequence" of constraints encountered and a consequence is that all this information had to be "geocoded" and integrated in order to assess performance of a route, taking into account the operating constraints, and possible solutions to face them;
- Relevant because the performance of rail operations is what comes up at the end as the critical point for competitiveness of rail transport against road, and this is too often neglected or underestimated in infrastructure investments. In the case of the Atlantic corridor, there is a situation where average distances for international exchanges are generally quite long as compared to other corridors. This occurs even within Spain and Portugal, which should play in favor of rail, but with on the other hand more infrastructure constraints for international relations and it is then important to investigate what is the resulting impact for final performances along relations.

However, beyond the detailed analytical approach required to assess operation performances along the main relations of the corridor, a concept of "ideal solution" had to be proposed by EEIG so that impact of different types of infrastructure investments at horizon 2030 could be assessed and compared. Indeed, such assessment and comparison could only be done on the base of "optimal" operation solutions as regards existing infrastructure constraints, without infrastructure investments.

The first step for final results of assessment of impact of infrastructure investments is the estimation of the modal shift related to each investment scenario. The valuation of the gains for each scenario is just the difference in costs per ton transported by road and rail as regards common base scenario, weighted by the volume of tons, transferred. This valuation is done per O/D relation, region to region, and aggregated in the following tables per main types of international relations.

TABLE 7 INVESTMENTS SCENARIOS

SCENARIO	NAME	GENERATION MATRIX	RAIL OPERATINGS	Y BASQUE	NEW LINE LISBON/MADRID	ELECTRIFICATION	LENGHT OF TRAIN	GRADIENTS	UIC	ERTMS
SCENARIO 1	NO INVESTMENT	2030	IDEAL SITUATION X3 FREIGHT TYPES	BASIS NETWORK (1)	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK
SCENARIO 2	Y BASQUE	2030	IDEAL SITUATION X3 FREIGHT TYPES	NEW LINES IN Y BASQUE IN UIC GAUGE	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK
SCENARIO 3	LISBON/MADRID	2030	IDEAL SITUATION X3 FREIGHT TYPES	BASIS NETWORK	NEW LINE BETWEEN LISBON AND MADRID VIA CACERES IN IBERIAN GAUGE	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK
SCENARIO 4	ELECTRIFICATION	2030	IDEAL SITUATION X3 FREIGHT TYPES	BASIS NETWORK	BASIS NETWORK	ELECTRIFICATION BETWEEN VILAR FORMOSO – MEDINA DEL CAMPO & ALGECIRAS – BOBADILA	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK
SCENARIO 5	LENGHT OF TRAIN	2030	IDEAL SITUATION X3 FREIGHT TYPES	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	750M ON ALL SPAIN AND PORTUGAL	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK
SCENARIO 6	GRADIENTS	2030	IDEAL SITUATION X3 FREIGHT TYPES	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	NEW PROFILE OF LINE BETWEEN PAMPILHOSA & VILAR FORMOSO	BASIS NETWORK	BASIS NETWORK
SCENARIO 7	EXTENSION UIC	2030	IDEAL SITUATION X3 FREIGHT TYPES	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	GLOBAL EXTENSION ON SPAIN AND BETWEEN PAMPILHOSA AND VILAR FORMOSO	BASIS NETWORK
SCENARIO 8	ERT MS	2030	IDEAL SITUATION X3 FREIGHT TYPES	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	BASIS NETWORK	ERTMS ON ALL NETWORK
SCENARIO 9	ALL INVESTMENTS	2030	IDEAL SITUATION X3 FREIGHT TYPES	NEW LINES IN Y BASQUE IN UIC GAUGE	NEW LINE BETWEEN LISBON AND MADRID VIA CACERES IN IBERIAN GAUGE	ELECTRIFICATION BETWEEN VILAR FORMOSO – MEDINA DEL CAMPO & ALGECIRAS – BOBADILA	750M ON ALL SPAIN AND PORTUGAL	NEW PROFILE OF LINE BETWEEN PAMPILHOSA & VILAR FORMOSO	GLOBAL EXTENSION ON SPAIN AND BETWEEN PAMPILHOSA AND VILAR FORMOSO	ERTMS ON ALL NETWORK

(1) EXISTING NETWORK

Additional information on the Assessment impact of the infrastructure constraints on Railway Undertakings can be found in Annex 5.E.

3.2.3 Assessment optimization of Capacity Management and Operational Coordination

This study aims to assess the optimization of the international rail freight capacity allocation along the Atlantic Corridor.

Indeed, the main task is to define and allocate capacity, and coordinate the operation of traffic management and planning of maintenance periods.

This general objective has been broken down into two scopes:

1. To evaluate, assess and identify possible improvements of main issues related with capacity

2. To propose alternatives in order to increase capacity allocation for international freight trains

The main issues related with capacity along the Atlantic Corridor that have been studied are:

- Works along the corridor axes
- Maintenance schedules
- Urban nodes and terminals
- Cross-border and tools

This document tries to synthesise the most relevant aspects affecting these issues.

First, it has been analysed maintenance schedules and works along the corridor axes, in order to get a general overview of the routes taken by international trains along the corridor, and the possible impacts on traffic in the coming years.

Then, it has been analysed the main urban nodes along the corridor (Lisbon, Madrid, Paris and Mannheim), the interaction with passenger traffic, and the accessibility to closest terminals.

Finally, it has been carried out the analysis of the cross-border sections between the for countries. They are particularly sensible because of the related issues: type of infrastructures in both sides of the cross-borders, type of communications between countries (including information systems), and consistency to optimize maintenance and works schedules at international level, need of manoeuvres and/or stop in the border, etc. All these analyses have allowed to identify possible improvements.

Additional information on the Assessment optimization of Capacity Management and Operational Coordination can be found in Annex 5.E.

3.2.4. Impact of Atlantic Ports' development on International Rail Freight Traffic

The implementation of the rail freight corridor comes from the European policy to foster efficiency and competition in the transport market of Europe. It begun in 1996 when the European Commission published the main orientation for the development of the trans-European transport network. Later in 2004, the Rail Net Europe was founded to optimize rail path allocation, quickly followed in 2005 by the definition of ERTMS corridors to improve interoperability. To put this plan into action, the Ten-T Executive Agency was created in 2006 which decided the ERTMS deployment in 2009. To give a framework and define the competencies of the European Rail Freight Corridor, the EC 913/2010 regulation was published in 2010. The EC 1315/2013 regulation was later published in 2013 concerning the TEN-T network development. In 2014, Transport Ministers of 3 countries (France, Spain and Portugal) declared the implementation of the Atlantic Rail Freight Corridor and signed with their German counterpart the extension to Germany.

Indeed, currently implying both SNCF Réseau for the French network, ADIF for the Spanish network and Infraestruturas de Portugal (former Refer) for the Portuguese network, the Atlantic Corridor projects an extension to Germany, connecting to the DB Netz network for the late 2016. The Atlantic Corridor includes the rail network connections from the south of the Iberian peninsula (Lisboa – Sines – Setúbal – Aveiro – Leixões – Algeciras) to north from Madrid until the German border through the Paris rail node (Madrid – Bilbao – Bordeaux – Paris – Le Havre – Metz). Another extension to connect the ports of La Rochelle port and Nantes-St-Nazaire is under consideration.

In this context, the aim of this study is to understand and identify the constraints and levers to develop rail pre/post haulage to the 14 ports connected to the Atlantic Corridor. For this purpose:

The Task 1 presents an overview of these ports activity as well as their positioning and specificities. An analysis of main volumes of their hinterland is proposed, followed by a description of maritime traffics split in terms of transhipment, local traffics, hinterland and by mode of pre or post haulage.

The Task 2 presents a more detailed overview of pre-post haulage markets via an analysis of ports rail services and related volumes, a description of current railway facilities and constraints and a study of the road pre post haulages by class of distance and type of cargo so as to identify potential modal shifts to rail.

The Task 3 concerns an estimation and comparison of transport costs to locate the competitiveness areas of rail services against road haulage from and to the Atlantic ports and to understand how far cost parameters are determinant for the modal split and competition.

The Task 4 provides an analysis from seaport side via Port Authorities and Shipping companies surveys to have a better insight in the decision-maker criteria, their constraints and orientations.

The Task 5 envisages various possibilities of modification of the EC 913/2010 Regulation to foster the development of the Atlantic Corridor towards the ports. A case study is detailed to present some limits of the current regulation or some conflict with the non-discriminatory principles of the Community railway market.

The Task 6 summarizes the market analysis, gives an outlook of maritime and railway traffics as foreseen by Port Authorities and detail the development potentials by type of cargo.

Additional information on the Impact of Atlantic Ports' development on International Rail Freight Traffic can be found in Annex 5.E.

3.2.5 Feasibility of Rolling Motorway Service at short, medium and long term on the Atlantic Corridor

The study evaluated the feasibility (technical and financial) of implementing rolling motorway services connecting main nodes in the Iberian Peninsula to main nodes in France and Germany. Services inside Iberian Peninsula were also tested.

The study proceeded under 3 steps :

- Phase A : analysis of characteristics and experiences of today existing rolling motorways in Europe; survey and interviews of trucking and logistics companies;
- Phase B : analysis of technical feasibility of implementing a rolling motorway service on the Atlantic Corridor;
- Phase C : proposal of a business plan for a specific service on the Atlantic Corridor.

Phase A has as objective to understand the back ground of ROMOs existing services: types of OD, types of technologies, types of public support, impact on infrastructure. It leads to a first selection of type of ROMOs.

Phase B is dedicated to the description of infrastructure on the corridor, and to highlight the different parameters that have an impact on ROMOs services. These parameters are quantified all along the corridors.

Phase C is dedicated to simulations of scenarios that could be implemented along the corridors. Those scenarios are built on the basis of first and second steps results. Level of traffics and OD are coming from the study "Traffic and market research update for the Atlantic corridor" – 2014.

On the basis of those scenarios, business plans are elaborated and then calculated, in order to highlight the profitability, or not, of ROMOs services on the Atlantic corridor. In addition, it is possible to have an evaluation of impact of different technologies and type of operation on the profitability of the services.

Additional information on the Feasibility of Rolling Motorway Service at short, medium and long term on the Atlantic Corridor can be found in Annex 5.E.

3.2.6 Implementation of 750 m length trains on the Iberian Peninsula

Freight traffic on rail is considered as an efficient modal transport of goods such as steel, manufactured products by containers, wood, automobile, etc., on long distances and especially on the European Corridors designed for this kind of traffic.

The railway undertakings (RUs) strongly wish to run trains up to 750m – hereafter referred to as long trains - on all line sections of the European Corridors as soon as possible to reduce the cost per train. However, there are different reasons that prevent riding long trains today.

European industries have the duties to reduce their carbon impact by finding the best transport solution in the same time as guarantee to their suppliers and customers the best balance between cost and delays. Europe has the chance to inherit of many rail lines, interconnected between countries. The interoperability system, led by Europe, tends towards the facilitation of the traffic, by setting up the same constraints. The subject of this study is the implementation of the 750 m length trains on the Iberian Peninsula, on the perimeter of the Atlantic Corridor, since France and Germany already allow these long trains. The traffics, from the previous studies, has been analysed more precisely to justify which stations should be improved. The cost of the adaptations has been estimated to have a global idea of the investment amount.

Additional information on the Implementation of 750 m length trains on the Iberian Peninsula can be found in Annex 5.E.

4. List of Measures

The EEIG Atlantic Corridor has an organisational structure which responds to the terms of Regulation 913/2010 (from Articles 12 to 19).

The management of activities of Rail Freight Corridor Atlantic depends on the EEIG Atlantic Corridor and on the role that each infrastructure manager (IM) plays in a coordinated manner. For each Article mentioned is presented below a summary of the actions established.

4.1 Coordination of planned temporary capacity restrictions

In order to ensure the coherence and continuity of the available infrastructural capacity along the freight corridor, all rail infrastructural and equipment works that might restraint the capacity available on Rail Freight Corridor Atlantic will be coordinated at the level of the freight corridor and will be subject to an up-to-date publication.

In this document, the term “works” describes the needs of IM for all activities reducing the capacity of their infrastructure (exp: maintenance, repair, renewal, improvement, construction works).

The coordination of works should enable the consideration of capacity limits in terms of the needs of infrastructure managers and needs from a market point of view by rationalising and optimising the serious impact and duration of the reduction of capacity of infrastructure managers.

In the following table it is showed the general schedule for this coordination of infrastructural works.

Date	Stages	Observations
X-24	First information of capacity restrictions on the corridor published by EEIG Atlantic Corridor.	This information will be demanded from the IMs in X-26
X-17	Update before the beginning of construction of the prearranged train paths	This information will be demanded from the IMs in X-19 The railway undertakings and terminals will be consulted in X-18
X-12	Update before the publication of the train paths prearranged in X-11	This information will be demanded from the IMs in X-14 The railway undertakings and terminals will be consulted in X-13 This information will be included in the declarations of national networks.
X-4	Update before the final attribution and planning of the capacity for trains ad-hoc	This information will be demanded from the IMs in X-6 The railway undertakings and terminals will be consulted in X-5

The content of the update of information and the decisions of update are a responsibility of the infrastructure managers of Rail Freight Corridor Atlantic. The infrastructure managers may decide to obtain information on these updates at any moment (ex.: per quarter, monthly and at any moment in case of occurrence of modifications).

Further information about TCRs may be found in Chapter 4.4 of Section 4 - Procedures for Capacity, Traffic and Train Performance Management of the CID TT 2023 to which this Implementation Plan is Annexed to. The relevant information about TCRs is also published on the RFC website, here: https://www.atlantic-corridor.eu/library/public-documents/?cat=1245

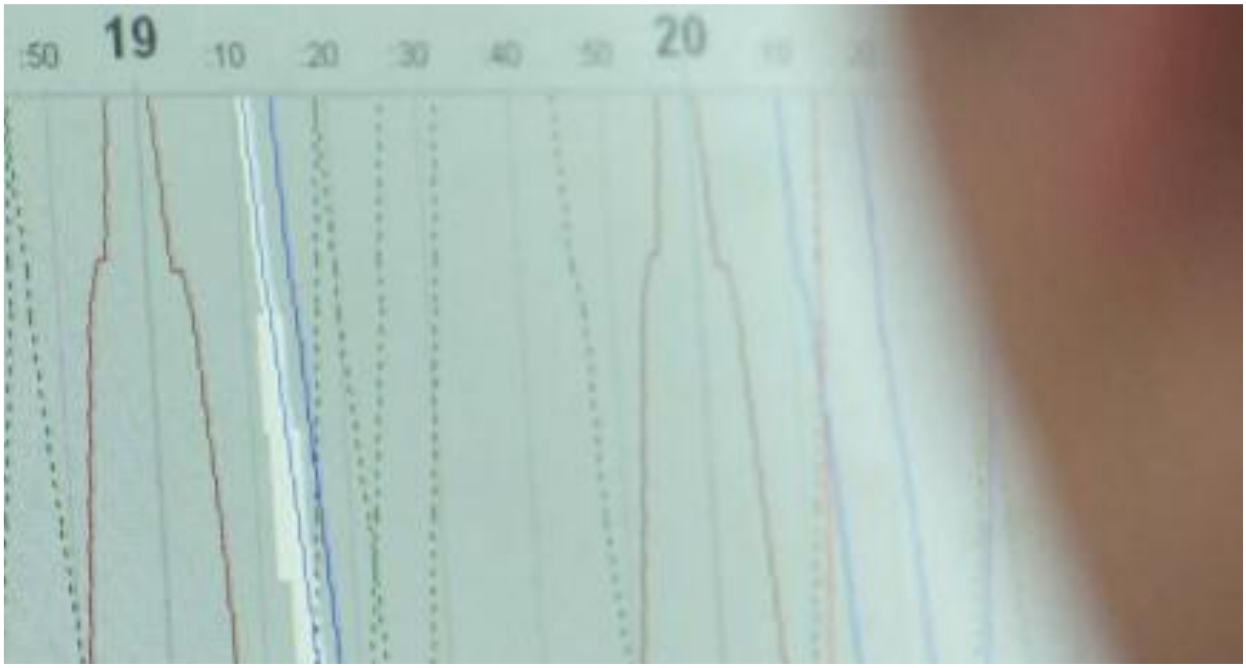
4.2 Corridor OSS

The Corridor One-Stop Shop (OSS) on Rail Freight Corridor Atlantic is at the disposal of applicants in order to coordinate the process of allocation of capacity, facilitate the provision of basic information on traffic management and facilitate the provision of information on the use of the freight corridor.

Rail Freight Corridor Atlantic has established a Representative OSS, in which ADIF acts on behalf of the IMs. The Atlantic C-OSS is placed in Madrid and is supported by a coordinating IT-tool (Path Coordination System).

Contact data:

Address	*Félix BARTOLOME & Olvido MERELO* *D.G. DE CIRCULACIÓN Y GESTIÓN DE CAPACIDAD* *Subdirección de Servicios de Circulación y Calidad* *C/ Agustín de Foxá, 56. Edificio 22. Estación de Chamartín.* *28036 Madrid* *SPAIN*
Phone	*(+34) 917 744 774*
Email	*OSS@atlantic-corridor.eu*



The main functions of the one-stop shop of Rail Freight Corridor Atlantic will be the following:

- Provide information on:
- Access to the infrastructures of the Corridor
- The conditions of access to the terminals of the Corridor
- The procedures of allocation of capacity on the Corridor
- Information on charging schemes in place on the sections of the Corridor
- Information for access to the reference guide of each IM concerned for the Corridor
- The procedures of management of traffic of IM of the Corridor, including procedures in case of disturbances
- Manages and monitors the construction of prearranged train paths in collaboration with the IM of the Corridor
- Allocate the capacity of the prearranged paths and reserve capacity
- Establish a record of the demands of capacity on the corridor

- Establish and maintain processes of communication with IM and the terminals of the Corridor
- Publish the programme of the works that might limit the available capacity of the freight Corridor
- Ensure the monitoring of the use of the allocated prearranged train paths

In this sense, the experts of the one-stop shop of Rail Freight Corridor Atlantic have drawn up the catalogue 2017 of prearranged international train paths. Its summary is presented in Annex 5.H Summary of the PaPs offer 2021 for freight on Rail Freight Corridor "Atlantic" of this Implementation Plan.

A detailed description of the construction of prearranged paths and the allocation of international capacity will be included in the Corridor Information Document part 4. A summary of these processes is described below:

4.2.1 Construction, delivery and publication of PaPs:

With the following inputs:

- Results of the Transport Market Study (TMS)
- Previous timetables information as request for PaPs, other international requests, etc.
- Capacity restrictions due to IMs' own requirements (works, commuter's peak hours, etc).
- Framework agreements between IM and RU.
- Other kinds of traffic (as passenger traffic, national traffic, etc.)

The involved IM coordinated by the C-OSS will construct the prearranged paths for the Corridor catalogue.

Each IM is responsible for the PaPs production in its country. The C-OSS will support and monitor the production and the coordination in the borders of the PaPs.

C-OSS will also support the coordination of the PaPs in the connecting points with other RFCs (North-Sea - Mediterranean and Mediterranean).

The publication of PaPs will be done by the C-OSS via PCS in X-11.

4.2.2 Prearranged paths application phase:

Between X-11 and X-8 the PaPs are published and available so that Applicants can submit applications for the annual timetable.

C-OSS tasks in this phase will be to:

- Keep a register of PaPs requested by applicants
- Display PaPs available for Rail Freight Corridor Atlantic
- Receive the paths request for Rail Freight Corridor Atlantic

4.2.3 Allocation phase for the annual timetable:

4.2.3.1 Pre-booking phase by C-OSS.

The tasks of the C-OSS in this phase are described below:

- The C-OSS shall keep a register of all activities performed by the C-OSS concerning the allocation of infrastructure capacity, and keep it available for Regulatory Bodies, Ministries and Applicants.

- The C-OSS shall ensure the update of the register and manage access to it for the above-mentioned parties. The content of the register will only be communicated to these interested parties on request.

The C-OSS will decide on the allocation of PaPs requests and communicate the result to the Applicant through PCS.

In case of conflicting PaPs requests, the Corridor OSS shall apply the Rail Freight Corridor Atlantic priority rules defined in the Framework for Capacity Allocation attached in Annex 5.B.

The C-OSS will forward the application to the competent IM if the Applicant which did not obtain the PaP requested does not accept the alternative PaPs or no other PaPs fit with the request.

4.2.3.2 Construction phase

C-OSS will prepare answers to and from IM, C-OSS of others corridors and Applicants according to the path requests placed on time (X-8), including both feeder and outflow paths as well as sections of PaPs and tailor made solutions requested to IM.

The concerned IM will deliver to the C-OSS their results concerning feeder / outflow path, tailor made paths construction and possible PaPs adaptations for fitting. Then the C-OSS will communicate the draft offer to the Applicants.

4.2.3.3 Observations from Applicants

Applicants will check the draft offer and make their remarks or justified objections. Then Applicants will forward their final decision to the C-OSS.

4.2.3.4 Post processing and final allocation for annual Timetable

The C-OSS takes the final allocation decision and is responsible for bringing the final offer and allocation of PaPs to the Applicant, based on the following information given by IM:

- Fulfil answer to the request
- Partial offer agreed with customer
- Different offer agreed with customer
- No offer
- Information on access to terminals.

In case of complaints regarding the allocation of PaPs (e.g. due to a decision based on the priority rules for allocation), the Applicants may address the respective regulatory body.

4.2.4 Application and Allocation phase for late path requests:

According to the PaPs remaining after the allocation of the PaPs at X-7.5, the C-OSS will receive and allocate late path requests (requests placed between X-7.5 and X-2). – depending on whether and which un-booked PAP-sections and/or availability of capacity slots, the Management Board and the IMs decided to keep available for exclusive C-OSS Management.

The C-OSS is responsible for their allocation based on the RNE process for late path requests management following the principle “first come - first served”.

If the late path request cannot match with PaPs offer, if there is no other/suitable alternative PaP or if a flexible approach is needed, the C-OSS forwards the request to the competent IM. The involved IM will deliver their results to the C-OSS; in the end the C-OSS will communicate the final offer to the Applicant.

Answers to late path requests will be offered after the final answers for path requests submitted before the 2nd Monday in April (X-4). The last possible date for submitting path offers to applicants for late path requests is one month before the start of the next Timetable (X-1).

4.2.5 Application and Allocation phase for ad-hoc path request:

According to Article 14.5 of the Regulation and taking into account the PaPs allocated at X-4, the existing traffic and IMs specific situation, the MB will define a reserve capacity based on prearranged paths and/or capacity slots in order to satisfy the ad-hoc path requests placed by the Applicants between X-2 until X+12 for international freight trains on the Corridor.

The reserve capacity will be displayed at X-2 in PCS and protected from any modification by the IMs.

In this phase (X-2 – X+12), the C-OSS takes the allocation decision for reserve capacity requests according to the rule “first come – first served”.

In case of applications including feeder/outflow paths, tailor made solutions and/or terminal slots, the C-OSS will forward the request to the concerned national IMs and ensure a consistent path construction between the feeder and the Corridor-related path section.

The C-OSS will not answer to any request of PaPs in reserve capacity placed 30 days before the running day. Requests with shorter time limit should be addressed to the national IM directly.

4.2.6 Evaluation phase

The C-OSS will provide some inputs for evaluating the Corridor’s performance regarding the use of PaPs and their allocation. It will serve also as inputs for the revision of the pre-arranged path offer for the next available annual timetable and for the report to be published in accordance with Art. 19 (2) in Regulation 913/2010.

4.3 Capacity Allocation Principles

The framework for capacity allocation of Rail Freight Corridor Atlantic was defined by the Executive Board. This document is presented in the RFC website here: https://www.atlantic-corridor.eu/media/1340/cid-2021_framework-for-capacity-allocation-signed-in-2019.pdf.

The Corridor Information Document describes in detail the procedures of allocation of capacity in accordance with the abovementioned framework.

The EEIG Atlantic Corridor will review this document annually with the Executive Board in order to obtain the best potential of the freight corridor.

In what concerns the subject Capacity Allocation Principles referred to in Article 9 (1.e) and 14 in Regulation 913/2010, further information about it may be found in Chapter 4.3 of Section 4 - Procedures for Capacity, Traffic and Train Performance Management of the CID TT 2023 to which this Implementation Plan is Annexed to, as well as, here in Annex 5.B.

4.4 Applicants

The C-OSS takes into account non-railway undertakings among applicants.

According to Article 15 of the Regulation, an “applicant” can be:

- every railway undertaking or
- every international grouping of railway undertakings or
- other persons or legal entities, shippers, freight forwarders and combined transport operators.

To use the prearranged paths awarded, all applicants are required to provide to the IMs and the C-OSS the name of the railway(s) undertaking(s) which will hold the traction at least 30 days before the train running.

The RU designated to perform traction will execute all contracts with individual IM as necessary according to the regulations of each of the affected networks.

For allocating capacity of a prearranged path by the C-OSS, it will not be necessary to know the railway undertaking that provides traction. However, the failure of communication of this information to the IM and the C-OSS within the prescribed period will be a reason for the removal of the capacity allocated

In what concerns the subject Applicants referred to in Article 9 (1.e) and 15 in Regulation 913/2010, further information about it may be found in Chapter 4.3.2 of Section 4 - Procedures for Capacity, Traffic and Train Performance Management of the CID TT 2023 to which this Implementation Plan is Annexed to.

4.5 Traffic Management

Traffic monitoring will be based on transparent and non-discriminatory principles, bearing in mind that the primordial purpose of the Rail Freight Corridor Atlantic is ensuring punctuality in accordance with the allocated capacity.

The IM of Rail Freight Corridor Atlantic might use, when they find it appropriate, the following criteria for traffic regulation, if they don't contradict national priority rules:

- Preference of trains which obtained a capacity over those which did not reserve a capacity.
- Preference of trains circulating in their paths over those which circulate with a delay, aimed at minimising the increase of delays.
- Preference in case of disturbance of the rail traffic due to technical problems, accidents or other incidents. In this case, necessary measures will be adopted in order to restore a normal situation as soon as possible.

The IM of Rail Freight Corridor Atlantic will review this procedure annually in order to obtain the best potential of rail freight corridor.

4.6 Traffic Management in Event of Disturbance

In case of disturbances, IMs work together with the RUs concerned and neighbouring IMs in order to limit the impact as far as possible and to reduce the overall recovery time of the network. For total traffic disruptions longer than 3 days with a high impact on international traffic, the Atlantic Corridor international contingency management (ICM) plan applies as described in Anne 4.A

The main purpose of this procedure is to define appropriate forms and means of communication between the different actors (fundamentally IM and users) who may be affected by an alteration of circulation conditions in Rail Freight Corridor Atlantic.

The IM of Rail Freight Corridor Atlantic may draw up a contingency plan which defines alternative procedures to usual operations aimed at creating an overall action plan which will enable the coordination and resolution of contingencies which disrupt the normal development of rail traffic.

In the event of an emergency, and when found absolutely necessary, due to a temporary interruption of service of the infrastructure, the IM of Rail Freight Corridor Atlantic may, without prior notice, suppress, deviate or modify the train paths during the period necessary to the normal restoration of the system and perform urgently the necessary repairs, as well as inform as soon as possible RU and authorised applicants on the consequences. In this case, neither the authorised applicants nor RU may demand a compensation or indemnity which be dealt with the infrastructures managers according to the rules applied in each country.

The IM of Rail Freight Corridor Atlantic may require of RU and their personnel that they use the human and technical means most suitable to restore traffic within a reasonable period of time. In any case, both IM of Rail Freight Corridor Atlantic and RU and authorised applicants will act with joint coordination and collaboration, in order to ensure service in the most efficient manner.

Whenever a disturbance in rail traffic due to a technical problem, an accident or other incident takes place, the IMs and RUs of Rail Freight Corridor Atlantic must adopt all necessary measures to restore normal operation.

The IM on whose network the incident takes place will inform as soon as possible via TIS or TCCCom the IMs of the country towards which the train(s) affected is(are) headed, its cause, as well as the expected delay of the train path(s) programmed. When appropriate, the IM who receives the information will transmit it through the same means to the third IM.

With the support of messages delivered by TIS or TCCCom, the IM on whose network the incident takes place will also provide as soon as possible the said information to the RU(s) which operate the affected train(s), as well as the destination terminal(s) of the affected train(s) or to other terminals that might have been equally affected.

The C-OSS of Rail Freight Corridor Atlantic will be involved in all communications performed between IMs, in order that it can daily summarise the received information regarding the disturbance of traffic recorded and inform its customers about it.

Each of the players concerned (RU, authorised applicants and terminal managers) will provide an email address to the IMs in order to be able to receive these messages.

At least the following disturbances will be communicated between the IM of the Rail Freight Corridor Atlantic and RU affected:

- disturbances with an important impact on rail traffic.
- the cut-off of traffic, including a prevision of resumption.
- the important restriction of capacity, including a prevision of its duration.

In addition, precise information via TIS must be provided for every train circulating with a delay higher than 60 min in a PaP.

The infrastructure managers of Rail Freight Corridor Atlantic will review this procedure annually in order to obtain the best potential of freight corridor.

In what concerns the subject Traffic Management in Event of Disturbance referred to in Article 9 (1.e) and 17 and in Regulation 913/2010, further information about it may be found in Chapter 4.5.3 of the Section 4 - Procedures for Capacity, Traffic and Train Performance Management of the CID TT 2023 to which this Implementation Plan is Annexed to, as well as, in the International Contingency Management Handbook from RNE and its application to the RFC Atlantic (download here on the RFC website: https://www.atlantic-corridor.eu/media/1129/rfc-atlantic-icm-re-routing-options-processes.pdf.

4.7 Quality evaluation

In order to monitor the proper implementation of the Rail Freight Corridor Atlantic and the performance of key activities on the Corridor – comparison between the aims drawn up and the real operational figures – the EEIG Atlantic Corridor will regularly publish a report of the performances of the corridor. An annual report will also be provided with the main results and guidelines https://www.atlantic-corridor.eu/library/public-documents/?cat=1250 .

The EEIG Atlantic Corridor will publish annually the results of a satisfaction survey carried out to the main customers of the Rail Freight Corridor Atlantic, providing a detailed image of the satisfactions of the corridor's users in quantitative and qualitative terms (download here on the website: https://www.atlantic-corridor.eu/library/public-documents/?cat=1247).

All of these documents are public and will thus be published on the website Library of EEIG Atlantic Corridor: https://www.atlantic-corridor.eu/library/public-documents/. The interested parties will be encouraged to provide their opinion on the content of these documents and their analysis may be addressed in a new report.

The EEIG Atlantic Corridor works in close collaboration with the organizations of other rail freight corridors in order to promote the harmonization of the performance report with the satisfaction survey. In addition to this action, the EEIG Atlantic Corridor will review annually its processes in order to achieve the best potential of the Rail Freight Corridor Atlantic.

4.7.1 Performance Monitoring report

The EEIG Atlantic Corridor will regularly publish a report of performance monitoring of the Rail Freight Corridor Atlantic which will present detailed analysis of several key indicators of the 2 strategic purposes considered as significant for the accomplishment of the purposes of the Corridor, particularly the following indicators:

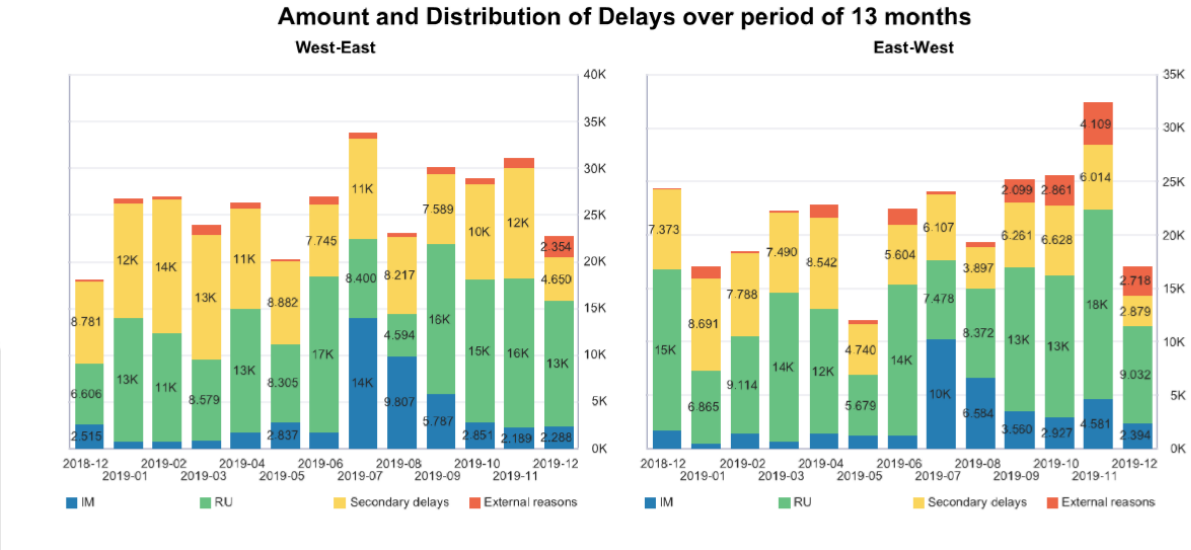
Indicators	
i.	Annual number of prearranged freight paths (p)
ii.	Volume of offered capacity (km×days): - at X-11 - at X-2
iii.	Volume of requested capacity (km×days): - between X-11 and X-8 - between X-8 and X-2 (late paths requests) - between X-2 and X+12 (ad hoc paths requests)
iv.	Volume of requests (number of requests): - between X-11 and X-8 - between X-8 and X-2 (late paths requests) - between X-2 and X+12 (ad hoc paths requests)
v.	Number of paths allocated by the one-stop shop: - paths allocated for the annual service - paths allocated upon late request - paths allocated upon ad hoc paths requests
vi.	Volume of pre-booked capacity by the one-stop shop (km×days): - paths allocated for the annual service - paths allocated upon late request - paths allocated upon ad hoc paths requests
vii.	Number of conflicts (Number of requests submitted to the C-OSS which are in conflict with at least one other request)
viii.	Total traffic volume (number of freight trains crossing a border)

Indicators	
ix.	C-OSS share (Relation between the capacity allocated by the C-OSS and the total traffic volume)
x.	Punctuality at different points of measure (on the origin and destination of trains at best, as well as on border crossing)
xi.	Average speed of trains [km/h], excluding freight transhipment time at the border between France and Spain.
xii.	Annual number of paths reserved and not used [n]
xiii.	Response time in days to the paths on demand [d]

Other indicators might be included in the Performance Monitoring Report of the Rail Freight Corridor Atlantic, depending on the analysis of requests expressed by RU or other parties.

These performance indicators will show the Rail Freight Corridor Atlantic as a whole. Nonetheless, specific sections of the Corridor will be identified, and the indicators will be thus calculated.

The Performance Monitoring Report of the Rail Freight Corridor Atlantic should include the qualitative analysis for the situations in which the abnormal evolution of indicators would be proved.



The EEIG Atlantic Corridor should promote the compatibility of performances according to the different sectors of the Rail Freight Corridor Atlantic; the Performance Monitoring Report should include the results of the different sectors of the Corridor, including the main causes of delays and the apportionment of responsibilities between parties.

In order to comply demonstrate the RFC Atlantic's performance, the TPM WG of the RFC Atlantic prepares and publish monthly and yearly reports reflecting the RFC performance (download here: https://www.atlantic-corridor.eu/library/public-documents/?cat=1611)

4.7.2 Satisfaction surveys

According to article 19 of Regulation 913/2010 (“Quality of service on the freight corridor”), “the management board shall organise a satisfaction survey of the users of the freight corridor and shall publish the results of it once a year”.

Therefore, the EEIG Atlantic Corridor shall perform an annual survey in order to assess the satisfaction of the users of Rail Freight Corridor Atlantic, making the results of this survey public (download here: https://www.atlantic-corridor.eu/library/public-documents/?cat=1247).

This survey addresses the main and potential users of Rail Freight Corridor Atlantic, as defined in Article 15 of Regulation 913/2010, and assesses aspects such as:

- Network of lines and terminals for the Corridor (need to include more lines/terminals)
- Quality of the information issued by the Corridor
- Application of the procedures of the Corridor
- Procedures of demand of paths
- Management of traffic and punctuality, operation
- Complaint management
- Quality of the infrastructure (planning of maintenance, improvements performed)
- Quantity and quality of prearranged train paths
- Punctuality in the management of train paths

Taking into account the precedent perimeters, questions will be made, which format should enable responses simultaneously quantitative (with a range of values) and qualitative, including the possibility of presenting free text remarks.

A note shall be sent to the Advisory Groups of Railway Undertakings and Terminal Managers, explaining the objective of this initiative and some basic instructions for a better understanding and use.

Responses shall be analysed, seeking for each period of realisation of the survey the level of correlation of this analysis with its strategic and operational purposes, as well as, depending on the level of results, the possible improvements shall be identified.

Pursuant to this analysis, the EEIG Atlantic Corridor shall define the concrete action plans associated with the strategic purposes of the Rail Freight Corridor Atlantic, channelling towards the improvement of negative aspects identified by the users of the Corridor.

In general terms, one might say that action plans shall influence the improvement of competitiveness of rail freight transport on the Rail Freight Corridor Atlantic. Similarly, action plans defined shall ensure the continuous improvement and the achievement of all the purposes of the Rail Freight Corridor Atlantic.

4.8 Corridor Information Document: information provided

The Corridor Information Document (CID) is set up to provide all corridor-related information and to guide all applicants and other interested parties easily through the workings of the Corridor in line with Article 18 of the Regulation.

This CID applies the RNE CID Common Texts and Structure so that applicants can access similar documents for different corridors and in principle, as in the case of the national Network Statements (NS), find the same information in the same place in each one.

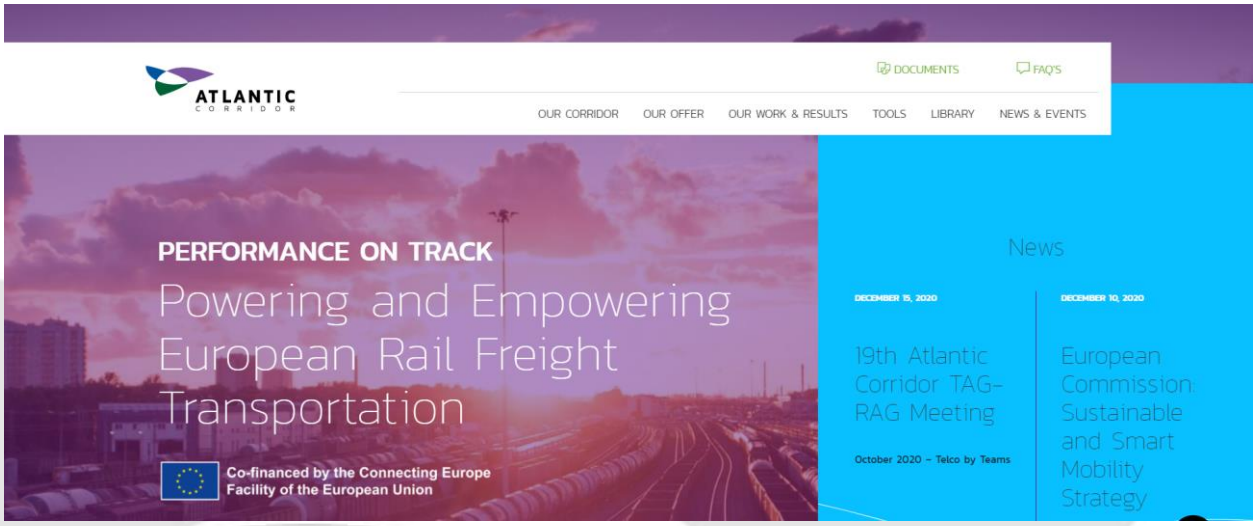
Considering the information required from Regulation EU 913/2010 and 1316/2013, the EEIG Atlantic Corridor offers to adopt the following agenda:

	Date	Document
1	May 2015	Transport market study of the Atlantic Corridor (report)
2	January 2016	Implementation Plan of the Atlantic Corridor (publication)
3	January 2016	Corridor Information Document 2017 (publication)
4	January 2017	Corridor Information Document 2018 (publication)
5	May 2017	Update of the transport market study (report)
6	November 2017	Update of the Implementation Plan
7	2018 and following	Same process 3 and 4 as in previous years

Besides the abovementioned dates, all documents will be updated by the EEIG Atlantic Corridor wherever necessary, particularly considering the need to ensure a full coherence with the network statement of each IM involved in Rail Freight Corridor Atlantic.

Although the Corridor Information Document is the primary source of information, the website of EEIG Atlantic Corridor (www.atlantic-corridor.eu) will include other additional information inherent to the important possibilities of this communication instrument, such as:

- projects and studies developed by the RFC Atlantic;
- results of surveys and AG meetings;
- TPM monthly reports; and
- any other related news.



The EEIG Atlantic Corridor will also be capable of providing upon demand more detailed information or any other clarification https://www.atlantic-corridor.eu/our-offer/one-stop-shop/.

5. Objectives and performance of the corridor

The general purpose of the EEIG Atlantic Corridor is the significant increase of competitiveness of the rail services of the Rail Freight Corridor Atlantic against the other means of transport. This

means having a broad understanding and a control of critical factors, particularly regarding traffic capacity and management, functions clearly attributed to the EEIG Atlantic Corridor.

The general purpose is to multiply by 3.7 the volume of rail freight which will cross the borders of Rail Freight Corridor Atlantic in the next 20 years. According to the results of the Traffic Market Study, it is anticipated a growth from 7 million tons in 2010 to 26 million tons in 2030.

The EEIG Atlantic Corridor has defined 2 strategic objectives that underline the overview for Rail Freight Corridor Atlantic in terms of production of transport on the rail freight corridor.

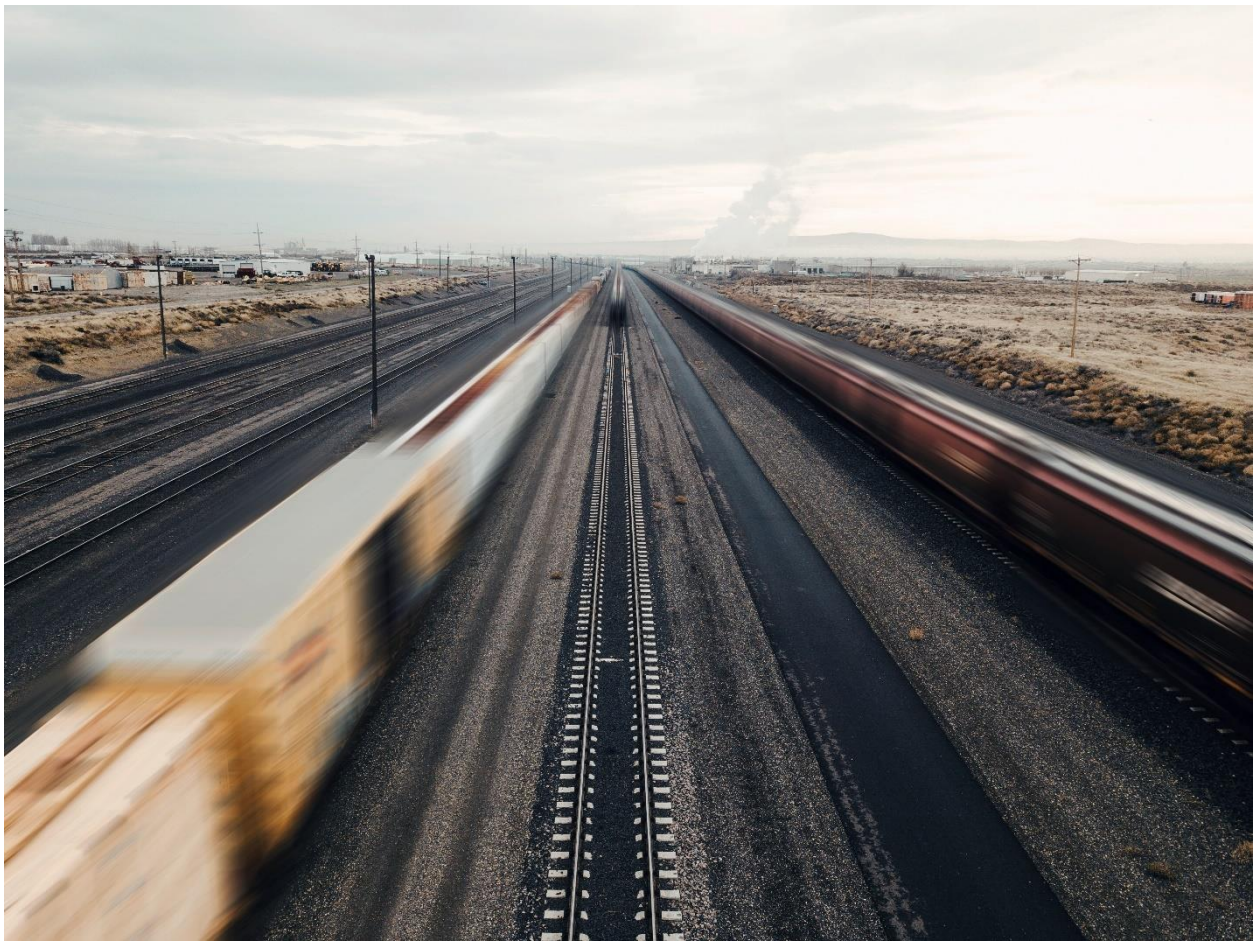
Strategic Objectives	**2020**	**2025**
a) Number of international prearranged freight paths using the corridor (n.) • Method: Number of international prearranged paths and/or TTR slots crossing one or two borders available at X-11. • Purpose: Provide a basic production indicator for Rail Freight Corridor Atlantic	50	+25%
b) Average speed of prearranged paths [km/h], excluding freight transhipment time at the border between France and Spain • Method: AvSpeed = Sum (PaP Length) / Sum (PaP Journey time) • AvSpeed = Average speed of the PaPs • PaPLenght = Complete length of each PaP • PaP Journey time = Journey time of each PaP • Purpose: Provide a basic production indicator for Rail Freight Corridor Atlantic. The PaP were selected as being the most significant commercial product of Rail Freight Corridor Atlantic.	55 km/h	+15%

Two horizons were chosen: 2020 as the reference year of Rail freight Corridor Atlantic and 2025 as a planned key date for the implementation of new sections of high-speed lines on Rail Freight Corridor Atlantic which will release more capacity for freight traffic on the existing line

The accomplishment of these purposes is partially depending on global economic conditions, as well as on concrete actions performed by the EEIG Atlantic Corridor and IM of Rail Freight Corridor Atlantic. The choice of the 2 abovementioned indicators is aimed at providing a simple and efficient reading of the performance of the Rail Freight Corridor Atlantic which depends, in fact, on several factors. These several factors will be controlled by the EEIG Atlantic Corridor but will not correspond to the purposes published in the Implementation Plan.

With the implementation of performance monitoring and traffic management, the EEIG Atlantic Corridor will strive for the control of the vital aspects of service quality and guide efficiently its actions for a significant improvement of competitiveness of international rail freight.

6. Investment Plan



6.1 Capacity Management Plan

The Implementation Plan defined by the EEIG Atlantic Corridor is aimed at improving the efficiency and management of the capacity of freight trains which can circulate on Rail Freight Corridor Atlantic through the investment programme of each country, described in the preceding paragraph, and according to the main purpose for which they are intended. These investments can be grouped as follows:

- uniformity of length of track with UIC gauge and possibility of circulation for trains with 750 m
- suppression of bottlenecks
- creation and/or extension of Terminals
- improvement of the efficiency of the transport system.

6.1.1 Uniformity of the length of track with UIC gauge and possibility of circulation for trains with 750 m

Spain and Portugal presently have the major section of tracks of their networks with an Iberian gauge (1,668 mm); within the framework of the Investment Plan of Rail Freight Corridor Atlantic defined over different periods, several projects will enable the unification of the track gauge on the whole Corridor by converting the Iberian gauge into an UIC gauge (1,435 mm) in these two countries.

In conjunction with these works of uniformity of the track length, necessary investments for the circulation of trains with a maximum length of 750 m will be included.

This uniformity will be carried out gradually and in a coordinated manner between each country, establishing as far as practicable itineraries functionally complete and adapted to the financial resources of each country.

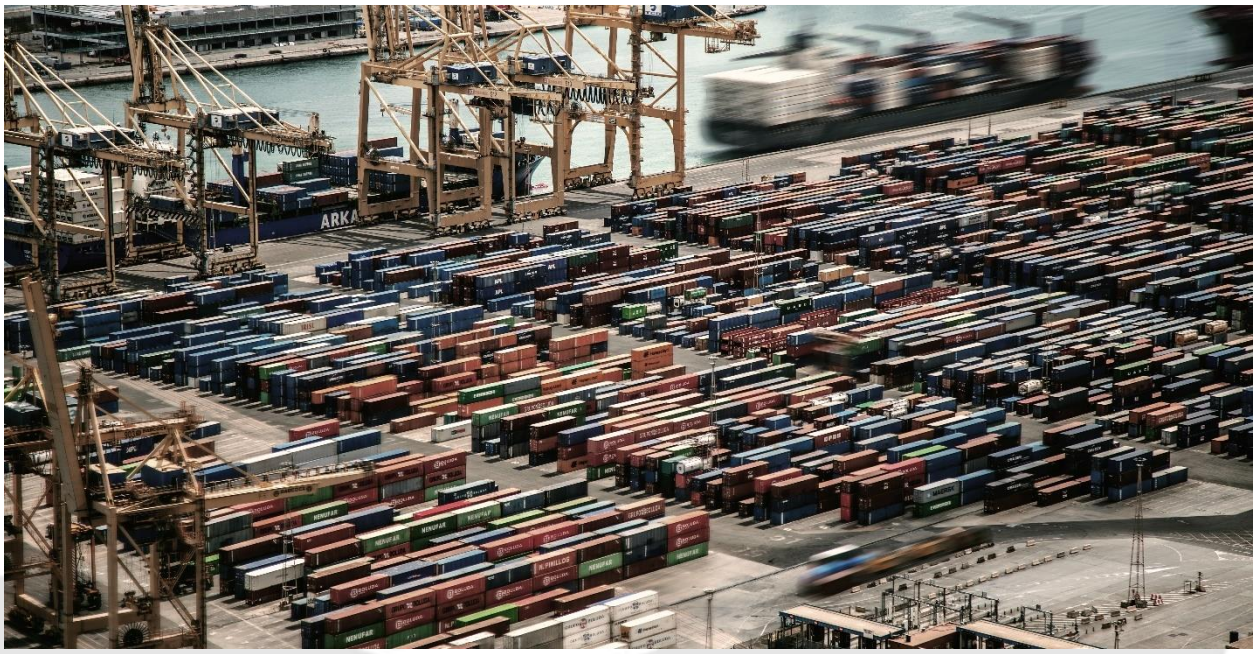
6.1.2 Suppression of bottlenecks

In addition to prior investments which will enable in some cases the resolution of bottlenecks by increasing the overall capacity of the Rail Freight Corridor Atlantic with the construction and entry into service of new lines for mixed or high-speed traffic (and consequently the liberation of the capacity for freight traffic on the conventional network), other investments are planned, aimed mainly at removing the current or future bottlenecks on the Corridor.

These investments are mainly planned at the level of the major railway junctions of the corridor, namely: Lisbon, Madrid, the border between Spain and France, Bordeaux and Paris.

6.1.3 Creation and/or improvement of Terminals

These investments are aimed at the sectors that create and receive major rail flows, through the development of new Terminals and the adaptation or improvement of existing Terminals.



In addition to conventional freight traffic and combined transport, Terminals may also offer new international rail services of the rolling motorway over long-distance routes type.

New rail freight services expected at short term and medium term on the Atlantic Corridor will be operated with the construction of new terminals and/or reorganisation of existing terminals; some improvements are also forecasted by the development of a new variable axle gauge for freight wagon and the implementation of a variable axle gauge system in Irun at short term.

6.1.4 Improvement of the efficiency of the transport system

These investments include those regarding the improvement of the signalling system, as well as the improvement or development of electrification of the different sections depending on:

- the topography of the different sections of the Corridor,

- the length of journeys of freight trains (depending on speed and the maximum load of trains)
- the transport plan of RU (including the working time for train drivers).

6.2 List of Projects

NOTE OF CAUTION: The list of projects mentioned in the investment plan of the corridor is provided for informational purposes only. Several technical, political and financial factors may affect the implementation of these projects.

It is therefore possible that some operations will be delayed, or achievements could be challenged. Dates and costs presented may be modified according to the Core Network Corridor's Workplan published by the European Commission.

The major part of the projects described in the following pages has been selected in the Core Network Corridor Atlantic Work Plan established by the European Coordinator Carlo SECCHI; this work plan is regularly updated and published by DG MOVE (https://ec.europa.eu/transport/sites/transport/files/atlworkplanivweb.pdf).

6.2.1 Germany

Velocity upgrade and ETCS equipment of the existing line between Saarbrücken and Ludwigshafen:

This major project aims at reducing an important bottleneck on the rail section between the French-German border, Saarbrücken and Ludwigshafen as part of the east-west European railway axis from Paris to Budapest (continuing on RFC Rhine-Danube), via Eastern France and further to Southwest Germany.

Works will upgrade this rail section in order to enable travelling speed up to 200 km/h. They primarily constitute of track engineering tasks such as carrying out refined line alignment, improving the clearance of level crossings and widening of bridges.

At the same time, the track's wiring and control and communications technologies will be renewed - including equipment of the track with ETCS (European Train Control System). The installation of ETCS technology will take place along the entire rail section from the French-German border to Mannheim.

It is planned to implement ETCS from the French border to Ludwigshafen by the end of 2025, considering the Mannheim node will be equipped with ETCS at the latest at the same time.

6.2.2 France

SNCF Réseau manages, modernises and develops a network at the heart of Europe. Continuously evolving over more than 150 years, this network requires constant adjustments to respond to the needs of transport of passengers and freight.

Since 2008, SNCF Réseau is committed to a wide program of modernisation of the national rail network. It presently manages nearly 1500 construction sites per year on the whole territory.

Investments associated operations of maintenance, renewal and development with an overview of the network including:

- Major territorial projects across large basins of travel
- A Major Project of Modernization of the network on a national scale to improve its fluidity, reliability and performance.

The tables in Annex 5.F present the major projects on the French network concerning the Rail Freight Corridor Atlantic while the maps on Annex 5.G provide a schematic representation.

6.2.3 Spain

The strategic planning of transport infrastructures in Spain is reproduced in the Infrastructure, Transport and Housing Plan (PITVI 2012-2024), presented by the Ministerio de Fomento to the Spanish government in September 2012.

The PITVI establishes five major strategic goals as the new framework of planning of transport infrastructures:

- Improve the efficiency and competitiveness of the global transport system by optimising the use of existing capacities.
- Contribute to a balanced economic development, as an instrument for overcoming the crisis.
- Promote a sustainable mobility making its economic and social effects compatible with the environment.
- Reinforce territorial cohesion and the accessibility of all territories of the State through the transport system.
- Favour the functional inclusion of the transport system as a whole from an intermodal point of view.

The tables in Annex 5.F present the main projects included in the existing planning in Spain (PITVI), in direct relation to Rail Freight Corridor Atlantic and directed mainly towards the improvement of the competitiveness of rail freight transport, while the maps on Annex 5.G provide a schematic representation.

6.2.4 Portugal

The National Investment Program 2030 (PNI) presented in October 2020, defines the strategic investments that Portugal should launch in the next decade, being articulated with the strategic objectives defined for the national plan – Portugal 2030, for which it was possible to reach a broad social, economic and political consensus.

PROGRAMA NACIONAL DE INVESTIMENTOS 2030

The PNI2030 focuses on Mobility and Transport, key factors for the external competitiveness and internal cohesion of our country and on Climate Action / Environment and Energy, areas intrinsically linked to mobility and the challenges of climate change, decarbonization and transition energy.

The tables in Annex 5.F present the major projects foreseen on Portuguese rail network concerning the Rail Freight Corridor Atlantic, while the maps on Annex 5.G provide a schematic representation.

6.3 Deployment Plan

Interoperability is defined by Directive 2008/57/EC, article 2, as **"the ability of a rail system to allow the safe and uninterrupted movement of trains which accomplish the required levels of performance for these lines**". This ability depends on all the regulatory, technical and operational conditions which must be met in order to satisfy the essential requirements. Essential requirements mean all the conditions set out in Annex III of Directive 2008/57/EC which must be met by the rail system, the subsystems, and the interoperability constituents, including interfaces".

It covers different areas, including safety, signalling system, track gauges, electric systems, etc., and is subject to the Technical Specifications for Interoperability (TSI) drawn up by the European Railway Agency (ERA), together with the stakeholders.

Due to the heterogeneity of the characteristics of infrastructures of Rail Freight Corridor Atlantic set out in Chapter 0 a plan of concerted actions between Member States and IM shall be defined regarding several aspects of the deployment of interoperable systems:

- the continuity of infrastructures from one country to the other, particularly in terms of the rail gauge, electrification of the existing network and signalling systems,
- the suppression of some bottlenecks which will ultimately lead to the increase in the available capacity for international freight traffic all day,
- the development of exploitation systems enabling information supplied in real time on the situation of international freight traffic, particularly on border points, and on the precise composition of international trains in real time (length, transported tonnage, dangerous materials transported, etc.)
- the adequacy between the optimal travel time depending on the sections, the international transport plan (including driving stages, with reinforcement even change of traction means) and investments to make as a priority (both on infrastructures and rolling stock)

The investment plans described in paragraph 6.2 and in Annex 5.F are a good illustration of this variety of ongoing projects, projects aimed at improving interoperability on Rail Freight Corridor Atlantic, particularly:

- coming on stream of sections of a new line with a UIC gauge fit for freight traffic in Spain, Portugal and France in the short and medium term,
- the gradual adaptation to the UIC gauge of the main existing axles in Spain and Portugal in the short and medium term,
- the electrification of existing lines connecting Spain to Portugal in the medium and long term,
- the gradual entry into service of new high-speed lines in France enabling the liberation of capacity for freight traffic on the existing line in the short and medium term,
- the performance of operations of decongestion of certain railway junctions and/or increase of capacity, particularly in the border point of Hendaye/Irun
- on a timeframe further in the future, perspectives of deployment of an interoperable signalling system of the ERTMS type, according to the National Deployment Plan of each country of the corridor
- The maps in Annex 5.G show the characteristics of rail infrastructures of the Rail Freight Corridor Atlantic after the performance of envisaged investment projects in the short and medium term.

Annex 5.A Rail Freight Corridor "Atlantic" / Corridor Information Document 2023 – Section 1, 2, 3 and 4

Mentioned in 1 and 4.8

See document available here on the Atlantic Corridor website: https://www.atlantic-corridor.eu/library/public-documents/?cat=1249 and in the Network and Corridor Information (NCI) portal

Access to the NCI portal is free of charge and without user registration. For accessing the application, as well as for further information, use the following link: http://nci.rne.eu/.

Annex 5.B Framework for Capacity Allocation

Mentioned in 4.2 and 6.1

See document available here on the Atlantic Corridor website:

https://www.atlantic-corridor.eu/media/1340/cid-2021_framework-for-capacity-allocation-signed-in-2019.pdf

Annex 5.C International Contingency Management (ICM)

Mentioned in 4.6

See documents available here on the Atlantic Corridor website:

- RFC Atlantic ICM Re-routing options processes

  https://www.atlantic-corridor.eu/media/1129/rfc-atlantic-icm-re-routing-options-processes.pdf

- RNE International Contingency Management Handbook

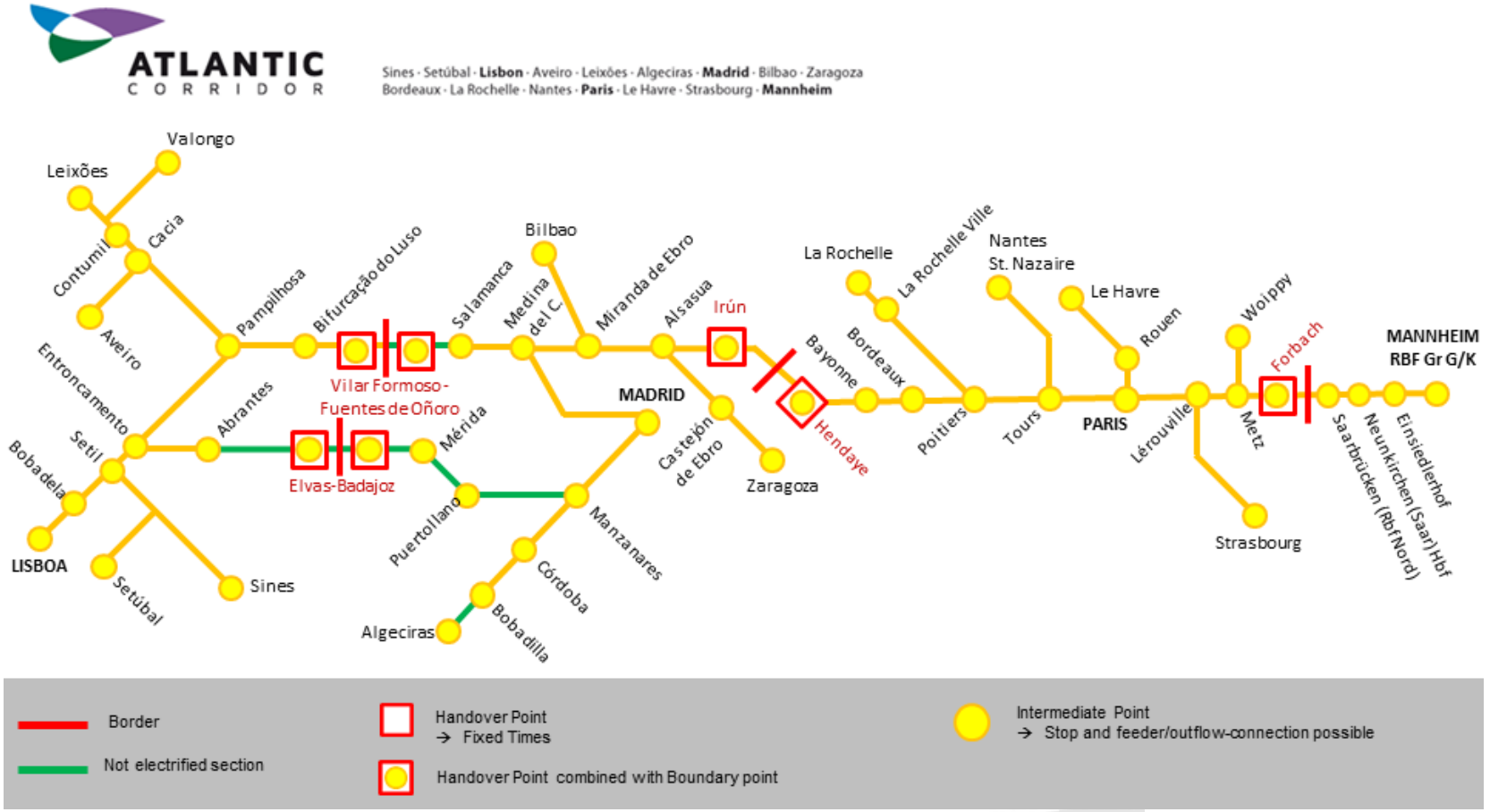
  https://www.atlantic-corridor.eu/media/1130/rne_international_contingency_management_handbook_final_v15.pdf

Annex 5.D Key Parameters of Corridor Lines (Maps and Tables)

Mentioned in 2, 2.1, 2.2 and 2.3

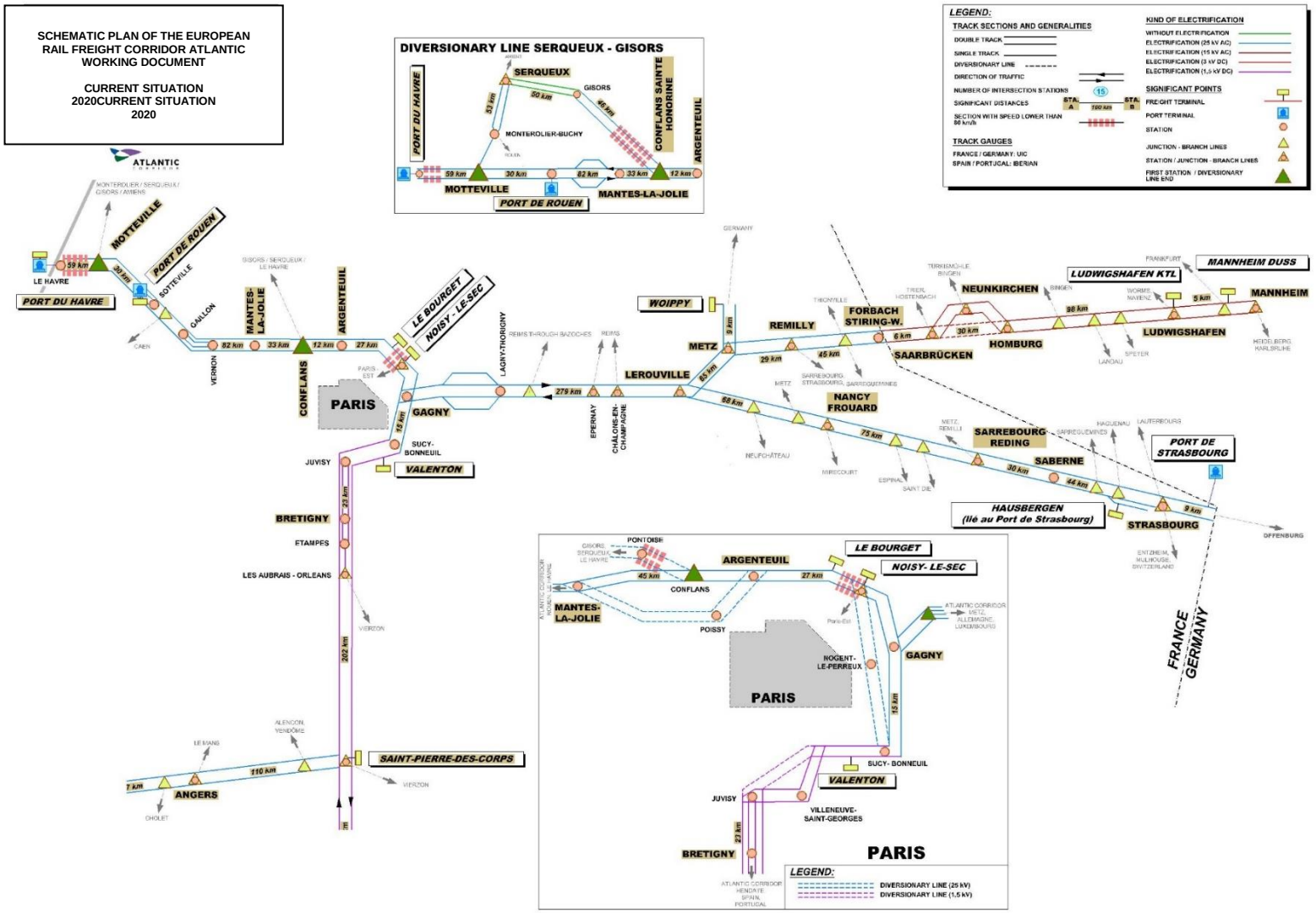
Annex 5.D.1 Ports and Terminals

Mentioned in 2.2



Annex 5.D.2 Maps of the existing infrastructures on Rail Freight Corridor Atlantic

Map 1/5 Mentioned in 2.1 abd 2.2

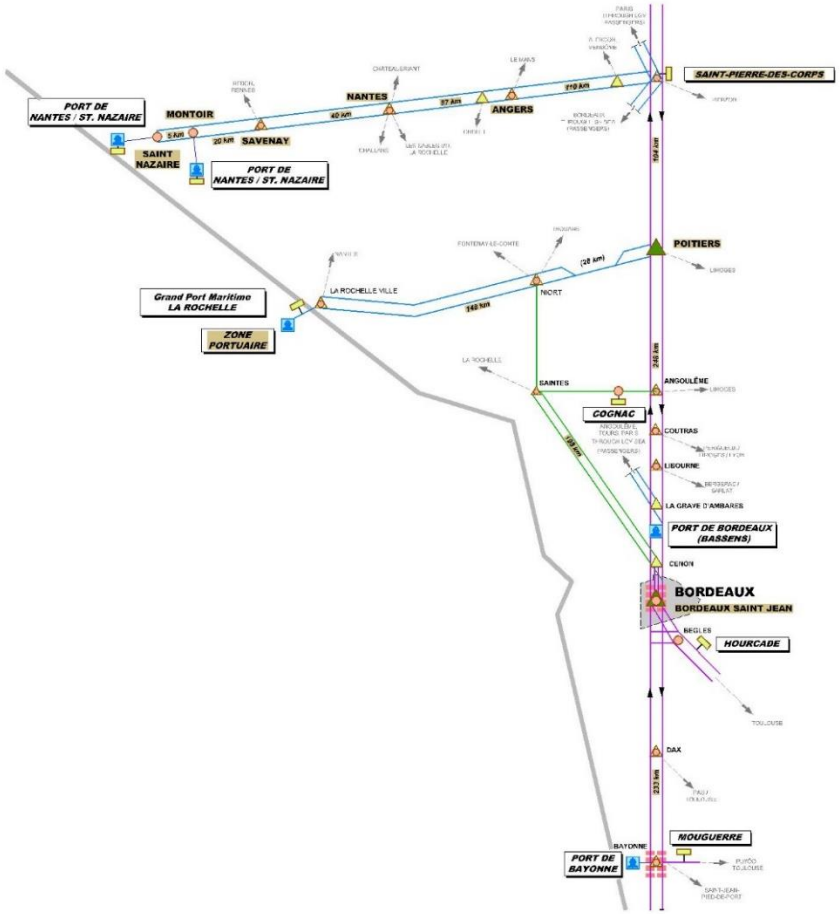


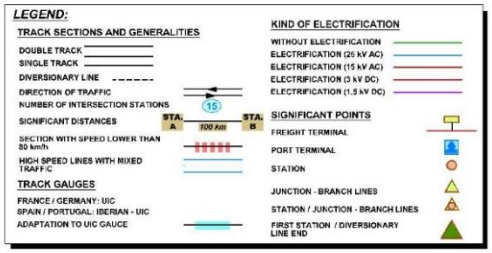
Map 2.5

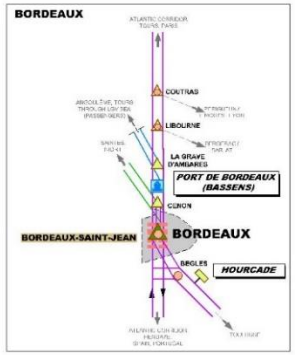
SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC
WORKING DOCUMENT

CURRENT SITUATION
2020CURRENT SITUATION
2020

ATLANTIC





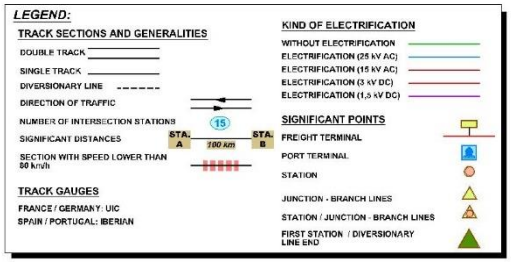


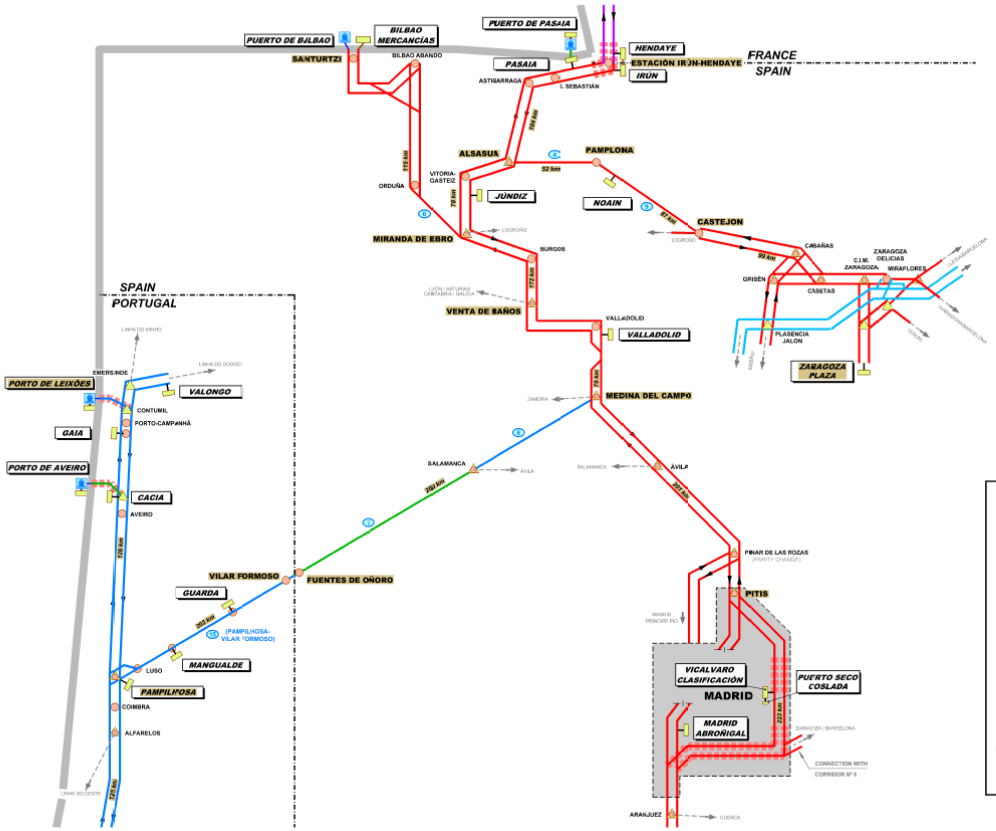
Map 3/5

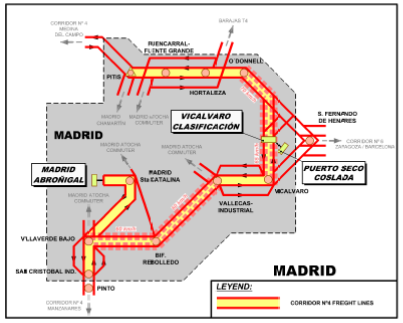
SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC
WORKING DOCUMENT

CURRENT SITUATION
2020CURRENT SITUATION
2020

ATLANTIC CORRIDOR





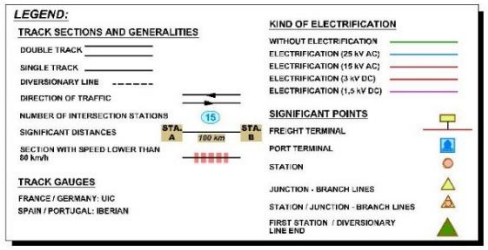


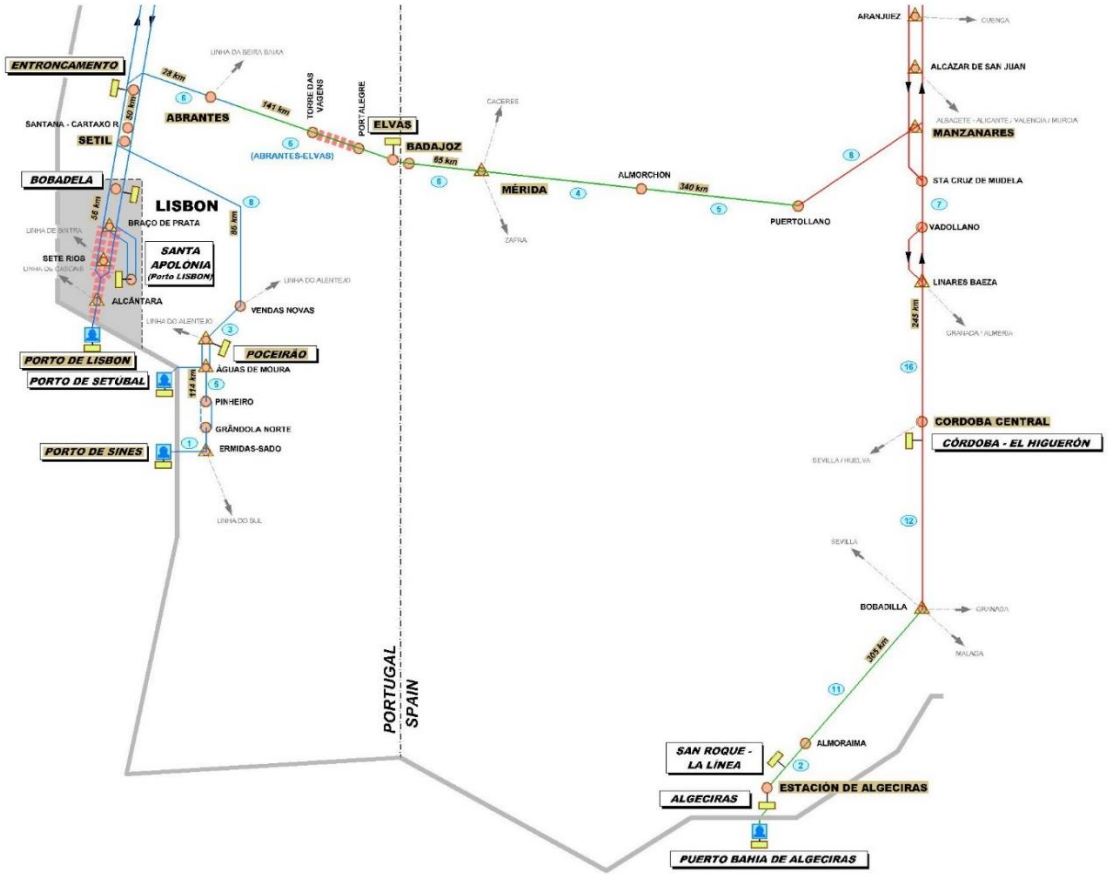
Map 4/5

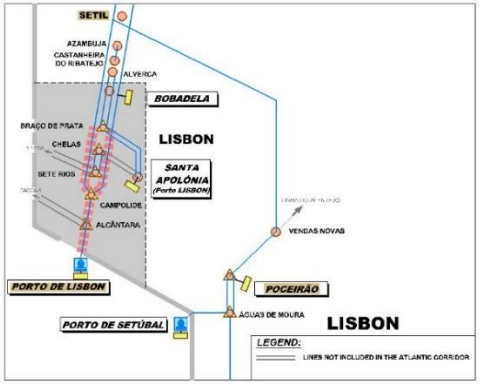
SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC
WORKING DOCUMENT

CURRENT SITUATION
2020CURRENT SITUATION
2020

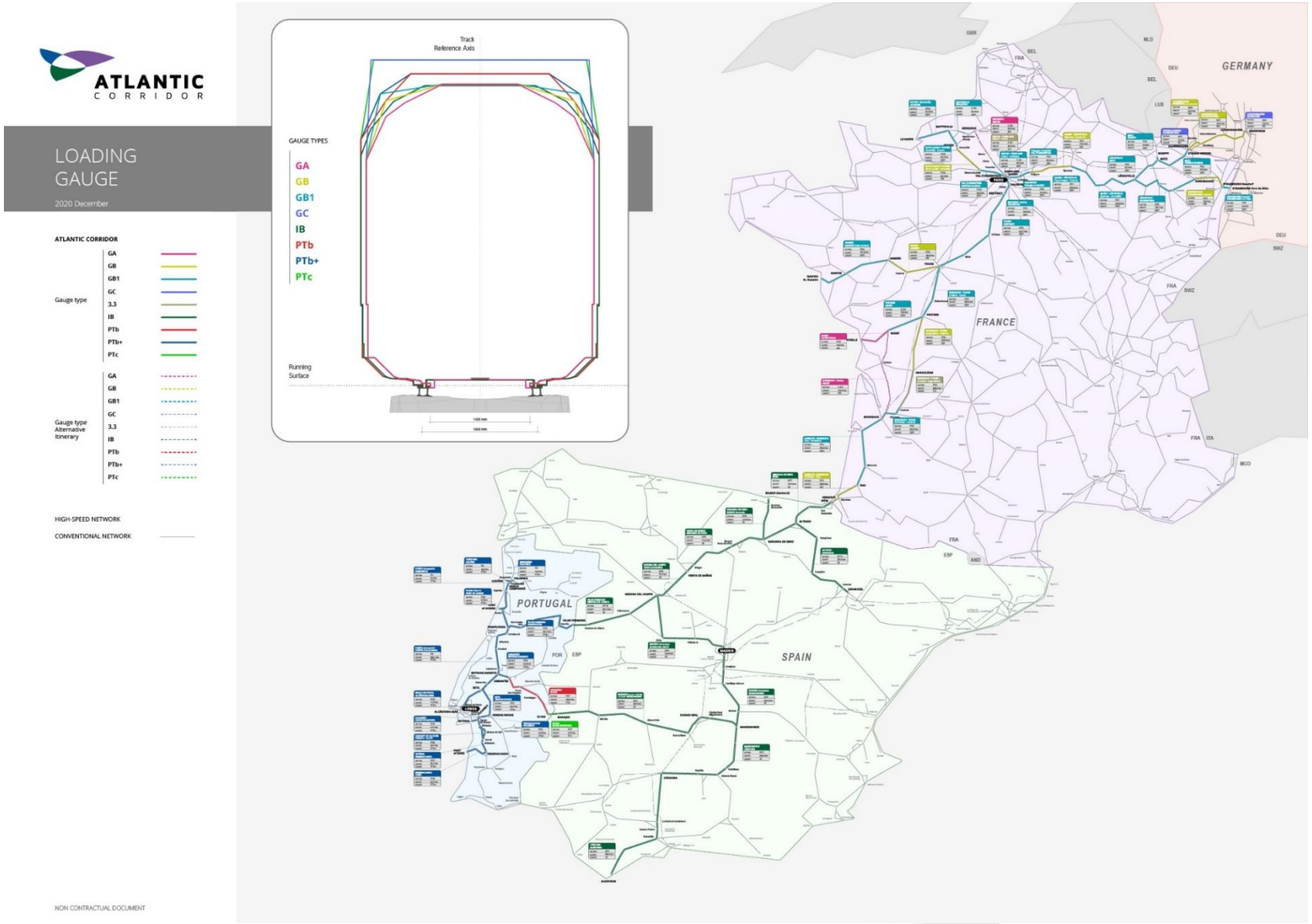
ATLANTIC







Map 5/5


ATLANTIC CORRIDOR
LOADING GAUGE
2020 December
ATLANTIC CORRIDOR
Gauge type
GA
GB
GB1
GC
3.3
IB
PTb
PTb+
PTc
Gauge type Alternative itinerary
GA
GB
GB1
GC
3.3
IB
PTb
PTb+
PTc
HIGH-SPEED NETWORK
CONVENTIONAL NETWORK
NON CONTRACTUAL DOCUMENT
Track Reference Axis
GAUGE TYPES
GA
GB
GB1
GC
IB
PTb
PTb+
PTc
Running Surface
GERMANY
FRANCE
PORTUGAL
SPAIN

Annex 5.D.3 Detailed characteristics of existing infrastructures on Rail Freight Corridor Atlantic

Mentioned in 2.1

GERMANY

RAIL FREIGHT CORRIDOR ATLANTIC / EXISTING INFRASTRUCTURE IN GERMANY 2020-2022

LINE	SECTION			INSFRASTRUCTURE						
	POINT 1	POINT 2	LINE NUMBER	NUMBER OF TRACKS	ELECTRIFICATION	LENGHT (Km)	MAX AXEL LOAD (TN)	TRACK GAUGE (mm)	LINE GRADIENT - PAIR DIR. (‰)	LINE GRADIENT - ODD DIR. (‰)
GE1 - Stiring Wendel (french border)-Mannheim	Stiring-Wendel (Frontière)	Saarbrücken	3231	2 (circulati on à droite)	15 000 V.	5,5	22,5	1435	15-20	15-20
138,8 km	Saarbrücken	Homburg	3250	2 (circulati on à droite)	15 000 V.	31,1	22,5	1435	5-15	5-15
	Homburg	Ludwigshafen	3280	2 (circulati on à droite)	15 000 V.	96,8	22,5	1435	0 - 20	0 - 20
	Ludwigshafen	Mannheim	3401	2 (circulati on à droite)	15 000 V.	5,4	22,5	1435	0 - 25	0 - 25
GE3 - Strasbourg Port du Rhin (French border) to Offenburg	Strasbourg Port-du-Rhin (frontière)	Appenweier	4260	2 (circulati on à droite)	15 000 V.	13,5	22,5	1435	0-10	0 - 10
21,1 km	Appenweier	Offenburg	4280	1 / 2 (circulati on à droite)	15 000 V.	7,6	22,5	1435	5-10	5-10
Itinéraire alternatif Saarbrucken - Hombourg via Neunkirchen										
GE2 - Saarbrucken - Hombourg via Neunkirchen	Saarbrücken	Neunkirchen	3511	2 (circulati on à droite)	15 000 V.	21,3	22,5	1435	5 - 25	5 - 25
34,9 Km	Neunkirchen	Homburg	3282	2 (circulati on à droite)	15 000 V.	13,6	22,5	1435	0 - 10	0 - 10

LINE	AUTOMATIC TRAIN PROTECTION SYSTEM (ATP)					CANTONMENT MODE												
	NO ATP	PZB (DE)	KVB (FR)	ASFA (SP)	EBICAB (700) (P)	MAXIMUM LOAD (Loc. 186 Electrica 5600 kw) (Ton) (GE)	TELEPHONE CANTONMENT (FR)	MANUAL BOCK (FR)	BAL (FR)	BAPR (FR)	BLA (SP)	BA (SP)	BAB (SP)	BEM (SP)	BT (SP/P)	BA with BO (P)	BA without BO (P)	OTHER OPERATIONAL TYPE
GE1 - Stiring Wendel (french border)-Mannheim		X				X												
138,8 km		X				X												
		X				X												
		X				X												
GE3 - Strasbourg Port du Rhin (French border) to Offenburg		X				X												
21,1 km		X				X												
Itinéraire alternatif Saarbrucken - Hombourg via Neunkirchen																		
GE2 - Saarbrucken - Hombourg via Neunkirchen		X				X												
34,9 Km		X				X												

LINE	COMMUNICATION WITH TRAIN								PERFORMANCE															
	RADIO SOL-TRAIN WITH DATA TRANSFERENCE (FR)	RADIO SOL-TRAIN WITHOUT DATA TRANSFERENCE WITH IDENTIFICATION (FR)	RADIO SOL-TRAIN WITH DATA TRANSFERENCE (FR)	TREN-TIERRA (SP)	RADIO SOLO-TRAIN TTT CP_N (P)	GSM-R	GSM-FU	AUCUNE	MAXIMUM SPEED (km/h)	MAXIMUM LOAD (Loc. 186 Electrica 5600 kw) (Ton) (GE)	MAXIMUM LOAD PAIR DIR. (Loc. 27000 midi Electrica 4200 kw)(Ton) (FR)	MAXIMUM LOAD ODD DIR. (Loc. 27000 midi Electrica 4200 kw)(Ton) (FR)	MAXIMUM LOAD PAIR DIR. (Loc. 75000 Diesel 2000 kw) (Ton) (FR)	MAXIMUM LOAD ODD DIR. (Loc. 75000 Diesel 2000 kw) (Ton) (FR)	MAXIMUM LOAD (Loc. 253 Electrica 5200 kw) (Ton) (SP) PAIR DIR.	MAXIMUM LOAD (Loc. 253 Electrica 5200 kw) (Ton) (SP) ODD DIR.	MAXIMUM LOAD (Loc. 333.3 Diesel 2460 kw) (Ton) (SP) PAIR DIR.	MAXIMUM LOAD (Loc. 333.3 Diesel 2460 kw) (Ton) (SP) ODD DIR.	MAXIMUM TBR TRAIN - VA (Loc. 4000 Diesel 3200 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VD (Loc. 4000 Diesel 3200 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VA (Loc. 4700 Electrica 4600 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VD (Loc. 4700 Electrica 4600 kw) (Ton) (P)	MAXIMUM TRAIN LENGHT (m)	KIMATIC GAUGE
GE1 - Stiring Wendel (french border)-Mannheim						X			120	2000													750*	G2
138,8 km						X			100 - 160	2400													750*	G2
						X			160	2000													750*	DE3
						X			100 - 160	1500-2000													740*	DE3
GE3 - Strasbourg Port du Rhin (French border) to Offenburg						X			120 - 160	2400													740*	G2
21,1 km						X			250	2400													740*	DE3
Itinéraire alternatif Saarbrucken - Hombourg via Neunkirchen																								
GE2 - Saarbrucken - Hombourg via Neunkirchen						X			100 - 120	1500-2000													740*	G2
34,9 Km						X			120	2400													740*	G2

FRANCE

RAIL FREIGHT CORRIDOR ATLANTIC / EXISTING INFRASTRUCTURE IN FRANCE 2020-2022

LINE	SECTION			INSFRASTRUCTURE							AUTOMATIC TRAIN PROTECTION SYSTEM (ATP)					CANTONMENT MODE													COMMUNICATION WITH TRAIN								PERFORMANCE															
	POINT 1	POINT 2	LINE NUMBER	NUMBER OF TRACKS	ELECTRIFICATION	LENGHT (Km)	MAX AXEL LOAD (TN)	TRACK GAUGE (mm)	LINE GRADIENT - PAIR DIR. (‰)	LINE GRADIENT - ODD DIR. (‰)	NO ATP	PZB (DE)	KVB (FR)	ASFA (SP)	EBICAB (700) (P)	MAXIMUM LOAD (Loc. 186 Electrica 5600 kw) (Ton) (GE)	TELEPHONE CANTONMENT (FR)	MANUAL BOCK (FR)	BAL (FR)	BAPR (FR)	BLA (SP)	BA (SP)	BAB (SP)	BEM (SP)	BT (SP/P)	BA with BO (P)	BA without BO (P)	OTHER OPERATIONAL TYPE	RADIO SOL-TRAIN WITH DATA TRANSFERENCE (FR)	RADIO SOL-TRAIN WITHOUT DATA TRANSFERENCE WITH IDENTIFICATION (FR)	RADIO SOL-TRAIN WITH DATA TRANSFERENCE (FR)	TREN-TIERRA (SP)	RADIO SOLO-TRAIN TTT CP_N (P)	GSM-R	GSM-FU	AUCUNE	MAXIMUM SPEED (km/h)	MAXIMUM LOAD (Loc. 186 Electrica 5600 kw) (Ton) (GE)	MAXIMUM LOAD PAIR DIR. (Loc. 27000 midi Electrica 4200 kw)(Ton) (FR)	MAXIMUM LOAD ODD DIR. (Loc. 27000 midi Electrica 4200 kw)(Ton) (FR)	MAXIMUM LOAD PAIR DIR. (Loc. 75000 Diesel 2000 kw) (Ton) (FR)	MAXIMUM LOAD ODD DIR. (Loc. 75000 Diesel 2000 kw) (Ton) (FR)	MAXIMUM LOAD (Loc. 253 Electrica 5200 kw) (Ton) (SP) PAIR DIR.	MAXIMUM LOAD (Loc. 253 Electrica 5200 kw) (Ton) (SP) ODD DIR.	MAXIMUM LOAD (Loc. 333.3 Diesel 2460 kw) (Ton) (SP) PAIR DIR.	MAXIMUM LOAD (Loc. 333.3 Diesel 2460 kw) (Ton) (SP) ODD DIR.	MAXIMUM TBR TRAIN - VA (Loc. 4000 Diesel 3200 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VD (Loc. 4000 Diesel 3200 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VA (Loc. 4700 Electrica 4600 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VD (Loc. 4700 Electrica 4600 kw) (Ton) (P)	MAXIMUM TRAIN LENGHT (m)	KIMATIC GAUGE
PS1 - Hendaye - Bordeaux	Hendaye	Bayonne	655	2	1500 V	35,2	22,5	1435	12	10			X						X												X						80		1310	1310	870	870									750	GB
232,8 km	Bayonne	Dax	655	2	1500 V	50,1	22,5	1435	6	6			X						X												X						120		2210	2210	1750	1750									750	GB1
	Dax	Bordeaux	655	2	1500 V	147,5	22,5	1435	6	6			X						X												X						120		2130	2130	1660	1660									750	GB1
PS2 - Bordeaux - Tours	Bordeaux	Libourne	570	2	1500 V	36,8	22,5	1435	9	5			X						X												X						120		2000	2000	1960 (ME100)	1960 (ME100)									750	GB
350,8 km	Libourne	Angoulême	570	2	1500 V	97,7	22,5	1435	6	6			X						X												X						120		2275	2275	2220 (ME100)	2220 (ME100)									750	GB
	Angoulême	Poitiers	570	2	1500 V	112,8	22,5	1435	5	5			X						X												X						120		2275	2275	2220 (ME100)	2220 (ME100)									750	GB
	Poitiers	Tours (Saint-Pierre-des-Corps)	570	2	1500 V	103,5	22,5	1435	6	5			X						X												X						120		2275	2275	2220 (ME100)	2220 (ME100)									750	GB1
PS3 - Poitiers - La Rochelle	Saint-Benoît	Lusignan	538	2	25 000 V.	21,7	22,5	1435	9	8			X							X															X		100		2400	2400	1410	1410									750	GB1
(GPM de la Rochelle)	Lusignan	Saint-Maixent	538	1	25 000 V.	28,3	22,5	1435	8	9			X							X															X		100		2400	2400	1410	1410									750	GB1
148,3 km	Saint-Maixent	Niort	538	2	25 000 V.	23,5	22,5	1435	8	9			X							X															X		80		2400	2400	1410	1410									750	GB1
	Niort	La Rochelle-Ville	538	2	25 000 V.	67,2	22,5	1435	9	9			X							X															X		100		2400	2400	1910	1910									750	GA
	La Rochelle-Ville	La Rochelle-Pallice	539	1	25 000 V.	7,6	22,5	1435	12	10	X						X																			X	40		1600	1600	1200	1200									750	GA
PS4 - Tours SPDC - Nantes St Nazaire	Saint-Pierre-des-Corps	Angers	515	2	25 000 V.	109,9	22,5	1435	4	4			X						X	X										X							120		3400 (ME100)	3400 (ME100)	2480 (ME100)	2480 (ME100)									680	GB
(GPM de Nantes St Nazaire)	Angers	Nantes	515	2	25 000 V.	87,4	22,5	1435	6	5			X						X											X							120		2680	2680	2160	2160									750	GB1
260,9 km	Nantes	Saint-Nazaire	515	2	25 000 V.	63,6	22,5	1435	8	5			X						X											X							120		2680	2680	2160	2160									750	GB1
PS5 - Tours - Brétigny	Tours (Saint-Pierre-des-Corps)	Orléans (Les Aubrais)	570	2	1500 V	114,1	22,5	1435	5	5			X						X												X						120		1840	1840	2160	2480									750	GB1
201,7 km	Orléans (Les Aubrais)	Etampes	570	3	1500 V	63,1	22,5	1435	5	8			X						X										X		X						120		2120	2120	2480	2480									750	GB1
	Etampes	Brétigny	570	4	1500 V	24,5	22,5	1435	5	8			X						X										X		X						120		2550	2550	2220	2220									750	GB1
PS6 - Brétigny - Valenton	Brétigny	Juvisy	570	4	1500 V	12,3	22,5	1435	8	8			X						X										X								120		3020	2130	2480 (ME100)	1630 (ME100)									750	GB1
22,9 km	Juvisy	Villeneuve-Saint-Georges	745	4	1500 V	6,7	22,5	1435	5	8			X						X												X						70		2410	2410	1910	1910									750	GB1
	Villeneuve-Saint-Georges	Valenton	830	4	1500 V	3,9	22,5	1435	5	8			X						X												X						70		2410	2410	1910	1910									750	GB1
PS7 - Valenton - Triangle de Gagny	Valenton	Sucy-Bonneuil	990	2	1500 V	3,1	20,0	1435	6	6			X						X												X						80		2180	2410	2060	1850									750	GB1
15,4 km	Sucy-Bonneuil	Triangle de Gagny	957	2	25000 V	12,3	22,5	1435	6	6			X						X												X						90		2180	2410	2060	1850									750	GB1
PO1 - Triangle de Gagny - Val d'Argenteuil	Triangle de Gagny	Bobigny	957	2	25000 V	9,0	22,5	1435	10	11			X						X												X						60		2180	2410	2060	1850									750	GB1
26,6 km	Bobigny	Val d'Argenteuil	990	2	25000 V	17,6	22,5	1435	10	10			X						X												X						60		2480	2240	1450	1410									750	GB1
PO2 - Val d'Argenteuil - Mantes la Jolie	Val d'Argenteuil	Conflans Ste Honorine	334	2	25000 V	11,9	22,5	1435	7	7			X						X											X							120		2680	2000	2160	1410									750	GB1
44,6 km	Conflans Ste Honorine	Mantes La Jolie	334	2	25000 V	32,7	22,5	1435	7	7			X						X											X							120		2680	2000	2160	1410									750	GB1
PO3 - Mantes-la-Jolie - Rouen	Mantes-la-Jolie	Vernon	340	2	25000 V	22,6	22,5	1435	5	5			X						X												X						120		2700	2700	2160	2160									750	GB1
82,2 km	Vernon	Gaillon-Aubevoye	340	4	25000 V	13,3	22,5	1435	5	5			X						X												X						120		2700	2700	2160	2160									750	GB1
	Gaillon-Aubevoye	Oissel	340	2	25000 V	32,6	22,5	1435	5	5			X						X												X						120		2700	2700	2160	2160									750	GB1
	Oissel	Rouen	340	4	25000 V	13,7	22,5	1435	13	10			X						X												X						110		2700	2700	2160	2160									750	GB1
PO4 - Rouen - Le Havre 88,4 km	Rouen	Le Havre	340	2	25000 V	88,4	22,5	1435	13	11			X						X												X						120		2410	2410	1910	1910									750	GB1
PE1 - Triangle de Gagny - Lérouville	Triangle de Gagny	Ligne Paris-Strasbourg (Le Raincy)	957	2	25000 V	4,9	22,5	1435	6	8			X						X												X						120		2815	3170	2160	2650									750	GB1
278,9 km	Le Raincy	Lagny-Thorigny	70	4	25000 V	14,5	22,5	1435	5	5			X						X															X			120		2815	3170	2160	2650									750	GB1
	Lagny-Thorigny	Epernay	70	2	25000 V	114,0	22,5	1435	5	5			X						X															X			120		2815	3170	2160	2650									750	GB
	Epernay	Chalons-en-Champagne	70	2	25000 V	28,9	22,5	1435	5	5			X						X															X			120		3810	3860	3275	3850									750	GB1
	Chalons-en-Champagne	Blesme-Haussignemont	70	2	25000 V	44,9	22,5	1435	8	8			X						X															X			120		2680	2800	2160	2480									750	GB1
	Blesme-Haussignemont	Lerouville	70	2	25000 V	71,6	22,5	1435	8	8			X						X															X			120		2680	2800	2160	2480									750	GB1
PE2 - Lérouville - Metz 65 km	Lerouville	Metz	89	2	25000 V	65,0	22,5	1435	8	8			X						X												X			X			120		2700	2400	2225	1960									750	GB1
PE3 - Metz - Stiring Wendel 73,6 km	Metz	Stiring-Wendel (Frontière)	140 172	2 (circulation à droite)	25 000 V.	73,6	22,5	1435	8	8			X						X															X			120		2625	2625	2050	2050									710	GB1
PE4 - Metz - Woippy 8,6 km	Metz	Woippy	180	2	25000 V	8,6	22,5	1435	6	5			X						X												X						100		2400	3020	1890	2480									750	GB1
PE5 - Lérouville - Strasbourg Port du Rhin (frontière)	Lérouville	Sarrebourg	70	2 (circulation partiellement à droite)	25 000 V.	143,1	22,5	1435	6	6			X						X															X			120		2680	2680	2160	2160									730	GB1
221,8 km	Sarrebourg	Strasbourg - Neudorf	70 138	2 / 3 (circulation à droite)	25 000 V.	73,9	22,5	1435	5	8			X						X															X			120		2185	3015	3285	2450									750	GB
	Strasbourg - Neudorf	Strasbourg Port-du-Rhin (frontière)	142	2 (circulation à droite)	25 000 V.	4,8	22,5	1435	6	6			X					X																X			80		2680	3015	2135	2450									750	GB1

SPAIN

RAIL FREIGHT CORRIDOR ATLANTIC / EXISTING INFRASTRUCTURE IN SPAIN 2020-2022

LINE	SECTION		INSFRASTRUCTURE								AUTOMATIC TRAIN PROTECTION SYSTEM (ATP)					CANTONMENT MODE													COMMUNICATION WITH TRAIN								PERFORMANCE															
	POINT 1	POINT 2	LINE NUMBER	NUMBER OF TRACKS	ELECTRIFICATION	LENGHT (Km)	MAX AXEL LOAD (TN)	TRACK GAUGE (mm)	LINE GRADIENT - PAIR DIR. (‰)	LINE GRADIENT - ODD DIR. (‰)	NO ATP	PZB (DE)	KVB (FR)	ASFA (SP)	EBICAB (700) (P)	MAXIMUM LOAD (Loc. 186 Electrica 5600 kw) (Ton) (GE)	TELEPHONE CANTONMENT (FR)	MANUAL BOCK (FR)	BAL (FR)	BAPR (FR)	BLA (SP)	BA (SP)	BAB (SP)	BEM (SP)	BT (SP/P)	BA with BO (P)	BA without BO (P)	OTHER OPERATIONAL TYPE	RADIO SOL-TRAIN WITH DATA TRANSFERENCE (FR)	RADIO SOL-TRAIN WITHOUT DATA TRANSFERENCE WITH IDENTIFICATION (FR)	RADIO SOL-TRAIN WITH DATA TRANSFERENCE (FR)	TREN-TIERRA (SP)	RADIO SOLO-TRAIN TTT CP_N (P)	GSM-R	GSM-FU	AUCUNE	MAXIMUM SPEED (km/h)	MAXIMUM LOAD (Loc. 186 Electrica 5600 kw) (Ton) (GE)	MAXIMUM LOAD PAIR DIR. (Loc. 27000 midi Electrica 4200 kw)(Ton) (FR)	MAXIMUM LOAD ODD DIR. (Loc. 27000 midi Electrica 4200 kw)(Ton) (FR)	MAXIMUM LOAD PAIR DIR. (Loc. 75000 Diesel 2000 kw) (Ton) (FR)	MAXIMUM LOAD ODD DIR. (Loc. 75000 Diesel 2000 kw) (Ton) (FR)	MAXIMUM LOAD (Loc. 253 Electrica 5200 kw) (Ton) (SP) PAIR DIR.	MAXIMUM LOAD (Loc. 253 Electrica 5200 kw) (Ton) (SP) ODD DIR.	MAXIMUM LOAD (Loc. 333.3 Diesel 2460 kw) (Ton) (SP) PAIR DIR.	MAXIMUM LOAD (Loc. 333.3 Diesel 2460 kw) (Ton) (SP) ODD DIR.	MAXIMUM TBR TRAIN - VA (Loc. 4000 Diesel 3200 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VD (Loc. 4000 Diesel 3200 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VA (Loc. 4700 Electrica 4600 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VD (Loc. 4700 Electrica 4600 kw) (Ton) (P)	MAXIMUM TRAIN LENGHT (m)	KIMATIC GAUGE
	Algeciras	Gaucín	420	1	-	57,0	22,5	1668	22	23															X												120						890	860	960	960					550	IB
	Gaucín	Ronda	420	1	-	48,8	22,5	1668	3	23				X								X										X					125						2500	860	2500	960					550	IB
SP1. Algeciras - Córdoba	Ronda	Bobadilla	420	1	-	70,4	22,5	1668	24	18															X												140						830	1080	920	1210					550	IB
	Bobadilla	Fuente de Piedra	430	1	3000 V	11,2	22,5	1668	12	10				X								X										X					155						1530	1730	1730	1950					550	IB
	Fuente de Piedra	Valchillón	430	1	3000 V	104,6	22,5	1668	17	17				X										X								X					110						1130	1130	1280	1280					600	IB
Length (km):	Valchillón	Córdoba-El Higuerón	430	1	3000 V	9,5	22,5	1668	7	8				X								X										X					140						1980	2130	2390	2220					600	IB
305,3	Córdoba- El Higuerón	Córdoba Central	430	1	3000 V	3,8	22,5	1668	8	4				X								X										X					60						1980	2500	2220	2500					600	IB
	Córdoba Central	Alcolea	400	1	3000 V	10,1	22,5	1668	7	10				X								X										X					120						2130	1730	2390	1950					600	IB
SP2. Córdoba - Manzanares	Alcolea	Espeluy	400	1	3000 V	91,0	22,5	1668	11	12				X								X										X					125						1620	1530	1830	1730					600	IB
	Espeluy	Linares Baeza	400	1	3000 V	26,2	22,5	1668	5	13				X								X										X					135						2500	1450	2500	1620					600	IB
	Linares Baeza	Vadollano	400	2	3000 V	8,5	22,5	1668	7	14				X								X	X									X					160						2130	1370	2390	1520					600	IB
Length (km):	Vadollano	Santa Cruz de Mudela	400	1	3000 V	67,1	22,5	1668	13	16				X								X										X					105						1450	1180	1620	1340					600	IB
244,6	Santa Cruz de Mudela	Manzanares	400	2	3000 V	41,7	22,5	1668	7	4				X								X	X									X					160						2130	2500	2390	2500					600	IB
	Manzanares	Alcázar de San Juan	400	2	3000 V	49,2	22,5	1668	6	5				X								X	X									X					160						2310	2500	2500	2500					600	IB
	Alcázar de San Juan	Villacañas	300	2	3000 V	27,9	22,5	1668	6	7				X								X										X					160						2310	2130	2500	2390					750	IB
	Villacañas	Castillejo-Añover	300	2	3000 V	56,0	22,5	1668	10	7				X								X	X									X					160						1730	2130	1950	2390					750	IB
	Castillejo-Añover	Aranjuez	300	2	3000 V	14,5	22,5	1668	6	5				X								X										X					160						2310	2500	2500	2500					550	IB
SP3. Manzanares - Madrid (Hortaleza)	Aranjuez	San Cristobal Industrial	300	2	3000 V	38,1	22,5	1668	9	11				X								X										X					160						1840	1620	2080	1830					550	IB
	San Cristobal Industrial	Villaverde Bajo	300	4	3000 V	2,9	22,5	1668	9	11				X								X	X									X					140						1840	1620	2080	1830					550	IB
	Villaverde Bajo	Vallecas-Industrial	942	2	3000 V	7,2	22,5	1668	16	2				X								X	X									X					60						1180	2500	1340	2500					550	IB
	Vallecas-Industrial	Vicálvaro	942	4	3000 V	4,2	22,5	1668	11	5				X								X										X					120						1620	2500	1830	2500					550	IB
Length (km):	Vicálvaro	O'Donnell	930	2	3000 V	6,0	22,5	1668	3	14				X								X										X					65						2500	1370	2500	1520					550	IB
213,2	O'Donnell	Hortaleza	200	2	3000 V	7,2	22,5	1668	0	13				X								X	X									X					120						2500	1450	2500	1620					550	IB
	Hortaleza	Pitis	902	2	3000 V	9,7	22,5	1668	16	14				X								X	X									X					115						1180	1370	1340	1520					550	IB
	Pitis	Pinar de Las Rozas	100	2	3000 V	14,9	22,5	1668	16	18				X								X	X									X					160						1180	1080	1340	1210					550	IB
SP4. Madrid (Hortaleza) - Medina del Campo	Pinar de Las Rozas	Villalba de Guadarrama	100	2	3000 V	17,4	22,5	1668	0	16				X								X	X									X					135						2500	1180	2500	1340					550	IB
	Villalba de Guadarrama	El Escorial	100	2	3000 V	12,4	22,5	1668	2	15				X								X	X									X					150						2500	1240	2500	1410					550	IB
	El Escorial	Sta Mª de La Alameda	100	2	3000 V	21,5	22,5	1668	6	17				X								X	X									X					135						2310	1130	2500	1280					550	IB
Length (km):	Sta Mª de La Alameda	Ávila	100	2	3000 V	48,9	22,5	1668	17	17				X								X	X									X					120						1130	1130	1280	1280					550	IB
210,4	Ávila	Medina del Campo	100	2	3000 V	85,6	22,5	1668	10	5				X								X										X					155						1730	2500	1950	2500					550	IB
SP5. Medina del Campo - Venta de Baños	Medina del Campo	El Pinar Sur	100	2	3000 V	33,2	22,5	1668	9	10				X								X	X									X					155						1840	1730	2080	1950					550	IB
	El Pinar Sur	El Pinar Norte	100	1	3000 V	3,5	22,5	1668	5	5				X								X										X					100						2500	2500	2500	2500					550	IB
Length (km):	El Pinar Norte	Valladolid Campo Grande	100	2	3000 V	5,5	22,5	1668	5	5				X								X	X									X					160						2500	2500	2500	2500					550	IB
78,9	Valladolid Campo Grande	Venta de Baños	100	2	3000 V	36,7	22,5	1668	3	5				X								X	X									X					160						2500	2500	2500	2500					550	IB
SP6. Venta de Baños - Miranda de Ebro	Venta de Baños	Burgos Rosa de Lima	100	2	3000 V	88,2	22,5	1668	2	15				X								X	X									X					160						2500	1240	2500	1410					550	IB
172,4	Burgos Rosa de Lima	Miranda de Ebro	100	2	3000 V	84,2	22,5	1668	12	15				X								X	X									X					155						1530	1240	1730	1410					550	IB
	Miranda de Ebro	Vitoria	100	2	3000 V	33,5	22,5	1668	11	10				X								X	X									X					155						1620	1730	1830	1950					550	IB
SP7. Miranda de Ebro - Irún	Vitoria	Alsasua	100	2	3000 V	43,1	22,5	1668	10	9				X								X	X									X					160						1730	1840	1950	2080					550	IB
	Alsasua	Brínkola	100	2	3000 V	21,7	22,5	1668	0	13				X								X	X									X					100						2500	1450	2500	1620					550	IB
	Brínkola	Tolosa	100	2	3000 V	39,7	22,5	1668	18	0				X								X	X									X					110						1080	2500	1210	2500					550	IB
Length (km):	Tolosa	San Sebastián	100	2	3000 V	26,6	22,5	1668	12	2				X								X	X									X					150						1530	2500	1730	2500					550	IB
181,5	San Sebastián	Irún	100	2	3000 V	16,9	22,5	1668	13	12				X								X										X					115						1450	1530	1620	1730					550	IB
	Miranda de Ebro	Orduña	700	1	3000 V	62,9	22,5	1668	18	12				X								X										X					140						1080	1530	1210	1730					500	IB
SP8. Miranda de Ebro - Bilbao (Santurtzi)	Orduña	Aguja Enlace	700	2	3000 V	39,1	22,5	1668	14	0				X								X	X									X					85						1370	2500	1520	2500					500	IB
	Aguja Enlace	Bifurcación La Casilla	720	1	3000 V	2,0	22,5	1668	10	9				X								X										X					65						1730	1840	1950	2080					500	IB
114,8 km	Bifurcación La Casilla	Desertu-Barakaldo	720	2	3000 V	5,5	22,5	1668	12	13				X								X	X									X					80						1530	1450	1730	1620					500	IB
	Desertu-Barakaldo	Santurtzi	720	2	3000 V	5,3	22,5	1668	13	11				X								X	X									X					90						1450	1620	1620	1830					500	IB
SP11. Alsasua - Zaragoza	Alsasua	Pamplona	710	1	3000 V	51,9	22,5	1668	16	16				X								X										X					140						1180	1180							550	IB
237,9 km	Pamplona	Castejón de Ebro	710	1	3000 V	87,3	22,5	1668	17	17				X								X										X					140						1130	1130							550	IB
	Castejón de Ebro	Casetas	700	2	3000 V	78,3	22,5	1668	10	10				X									X									X					160						1730	1730							575	IB
	Casetas	CIM Zaragoza Plaza	200-216-218	2	3000 V	20,4	22,5	1668	< 10	< 10				X									X									X					140						1730	1730							700-800	IB
	Frontera (Badajoz)	Badajoz	520	1	-	5,3	22,5	1668	< 10	< 10															X												120						> 1730	> 1730	> 1.950	> 1.950					460	IB
SP9. Badajoz(frontera) - Mérida - Ciudad Real - Manzanares	Badajoz	Aljucén	520	1	-	53,2	22,5	1668	10	7				X								X										X					200						1730	2130	1950	2390					460	IB
	Aljucén	Mérida	520	1	-	6,1	22,5	1668	1	9				X								X										X					90						2500	1840	2500	2080					460	IB
405,3 km	Mérida	Villanueva de la Serna	520	1	-	58,9	22,5	1668	11	11				X							X											X					160						1620	1620	1830	1830					460	IB
	Villanueva de la Serna	Almorchón	520	1	-	62,4	22,5	1668	15	16				X											X												160						1240	1180	1410	1340					460	IB
	Almorchón	Caracollera	520	1	-	84,2	22,5	1668	17	14				X											X												90						1130	1370	1280	1520					460	IB
	Caracollera	Puertollano	520	1	-	33,8	22,5	1668	14	16				X							X																140						1370	1180	1520	1340					460	IB
	Puertollano	Cañada de Calatrava	520	1	3000 V	23,3	22,5	1668	12	9				X							X											X					140						1530	1840	1730	2080					515	IB
	Cañada de Calatrava	Bifurcación Poblete	520	1	3000 V	14,2	22,5	1668	13	12				X								X										X					140						1450	1530	1620	1730					515	IB
	Bifurcación Poblete	Ciudad Real-Miguelturra	520	1	3000 V	1,9	22,5	1668	5	5				X								X															50						2500	2500	2500	2500					460	IB
	Ciudad Real-Miguelturra	Manzanares	522	1	3000 V	62,0	22,5	1668	5	5				X								X										X					140						2500	2500	2500	2500					460	IB
SP10. Vilar Formoso - Medina del Campo	Vilar Formoso	Fuentes de Oñoro	120	1	25000 V	1,2	22,5	1668	14	17															X												90						1370	1130	1520	1280					600	IB
	Fuentes de Oñoro	Salamanca	120	1	25000 V	123,3	22,5	1668	17	18				X							X											X					140						1130	1080	1280	1210					600	IB
201,1	Salamanca	Medina del Campo	120	1	25000 V	76,6	22,5	1668	11	10				X							X											X					155						1620	1730	1830	1950					600	IB

PORTUGAL:

RAIL FREIGHT CORRIDOR ATLANTIC / EXISTING INFRASTRUCTURE IN PORTUGAL 2020-2022

LINE	SECTION			INSFRASTRUCTURE							AUTOMATIC TRAIN PROTECTION SYSTEM (ATP)					CANTONMENT MODE													COMMUNICATION WITH TRAIN								PERFORMANCE																
	POINT 1	POINT 2	LINE NUMBER	NUMBER OF TRACKS	ELECTRIFICATION	LENGHT (Km)	MAX AXEL LOAD (TN)	TRACK GAUGE (mm)	LINE GRADIENT - PAIR DIR. (‰)	LINE GRADIENT - ODD DIR. (‰)	NO ATP	PZB (DE)	KVB (FR)	ASFA (SP)	EBICAB (700) (P)	MAXIMUM LOAD (Loc. 186 Electrica 5600 kw) (Ton) (GE)	TELEPHONE CANTONMENT (FR)	MANUAL BOCK (FR)	BAL (FR)	BAPR (FR)	BLA (SP)	BA (SP)	BAB (SP)	BEM (SP)	BT (SP/P)	BA with BO (P)	BA without BO (P)	OTHER OPERATIONAL TYPE	RADIO SOL-TRAIN WITH DATA TRANSFERENCE (FR)	RADIO SOL-TRAIN WITHOUT DATA TRANSFERENCE WITH IDENTIFICATION (FR)	RADIO SOL-TRAIN WITH DATA TRANSFERENCE (FR)	TREN-TIERRA (SP)	RADIO SOLO-TRAIN TTT CP_N (P)	GSM-R	GSM-FU	AUCUNE	MAXIMUM SPEED (km/h)	MAXIMUM LOAD (Loc. 186 Electrica 5600 kw) (Ton) (GE)	MAXIMUM LOAD PAIR DIR. (Loc. 27000 midi Electrica 4200 kw)(Ton) (FR)	MAXIMUM LOAD ODD DIR. (Loc. 27000 midi Electrica 4200 kw)(Ton) (FR)	MAXIMUM LOAD PAIR DIR. (Loc. 75000 Diesel 2000 kw) (Ton) (FR)	MAXIMUM LOAD ODD DIR. (Loc. 75000 Diesel 2000 kw) (Ton) (FR)	MAXIMUM LOAD (Loc. 253 Electrica 5200 kw) (Ton) (SP) PAIR DIR.	MAXIMUM LOAD (Loc. 253 Electrica 5200 kw) (Ton) (SP) ODD DIR.	MAXIMUM LOAD (Loc. 333.3 Diesel 2460 kw) (Ton) (SP) PAIR DIR.	MAXIMUM LOAD (Loc. 333.3 Diesel 2460 kw) (Ton) (SP) ODD DIR.	MAXIMUM TBR TRAIN - VA (Loc. 4000 Diesel 3200 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VD (Loc. 4000 Diesel 3200 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VA (Loc. 4700 Electrica 4600 kw) (Ton) (P)	MAXIMUM TBR TRAIN - VD (Loc. 4700 Electrica 4600 kw) (Ton) (P)	MAXIMUM TRAIN LENGHT (m)	KIMATIC GAUGE
P1 - Minho Line Porto Cam. - Ermesinde 8,4 km	Porto Campanhã	Contumil	1	6	25000 V	2,4	22,5	1668	0,0	15,5					X											X							X				120											1490	2120	1220	3000	520	CPb+
	Contumil	Ermesinde	1	2	25000 V	6,0	22,5	1668	15,5	15,5					X											X							X				140											1450	1350	1220	1220	520	CPb+
P5 - Leixões Line Contumil - Leixões 18,9 km	Contumil	Leixões	5	1	25000 V	18,9	22,5	1668	18,0	18,0					X											X							X				70											1310	1490	1310	1490	550	CPb+
P6 - Douro Line Emersinde - T.S. Martinho do Campo (Valongo) 10,9 km	Emersinde	Ter. S. Martinho do Campo (Valongo)	6	2	25000 V	10,9	22,5	1668	17,0	18,0					X											X							X				110											1240	1380	1100	1210	520	CPb+
P8 - North Line Lisboa Santa Apolónia - Porto Campanhã 336,1 km	Lisboa Santa Apolónia	Braço de Prata	8	2	25000 V	4,0	22,5	1668	2,0	11,0					X											X							X				160											1 940	1 450	1 600	1 480	550	CPb+
	Braço de Prata	Alverca	8	4	25000 V	17,8	22,5	1668	8,0	8,0					X											X							X				180											1 940	1 450	2 170	2 110	550	CPb+
	Alverca	Castanheira do Ribatejo	8	2	25000 V	12,4	22,5	1668	8,0	8,0					X											X							X				220											2 260	1 440	1 910	1 480	550	CPb+
	Castanheira do Ribatejo	Azambuja	8	3	25000 V	12,7	22,5	1668	8,0	8,0					X											X							X				190											2 260	1 440	1 910	1 480	550	CPb+
	Azambuja	Setil	8	2	25000 V	9,5	22,5	1668	8,0	8,0					X											X							X				190											2 260	1 440	1 910	1 480	550	CPb+
	Setil	Santana-Cartaxo R	8	2	25000 V	6,8	22,5	1668	9,0	10,0					X											X							X				190											2 060	2 200	1 700	1 780	550	CPb+
	Santana-Cartaxo R	Entroncamento	8	2	25000 V	43,1	22,5	1668	12,0	11,0					X											X							X				100											1 920	1 850	1 600	1 550	550	CPb+
	Entroncamento	Alfarelos	8	2	25000 V	92,0	22,5	1668	18,0	18,0					X											X							X				160											1 360	1 310	1 140	1 100	630	CPb+
	Alfarelos	Pampilhosa	8	2	25000 V	33,0	22,5	1668	11,0	15,0					X											X							X				140											1 530	1 780	1 310	1 650	630	CPb+
	Pampilhosa	Ovar	8	2	25000 V	58,4	22,5	1668	13,0	11,0					X											X							X				220											1 760	1 540	1 320	1 290	680	CPb+
	Ovar	Esmoriz	8	2	25000 V	11,1	22,5	1668	16,0	16,0					X											X							X				180											1 250	1 330	1 240	1 200	680	CPb+
	Esmoriz	Gaia	8	2	25000 V	31,5	22,5	1668	16,0	16,0					X											X							X				180											1 250	1 330	1 240	1 200	680	CPb+
	Gaia	Porto Campanhã	8	2	25000 V	3,8	22,5	1668	11,0	4,0					X											X							X				120											3 000	1 990	2 790	1 600	750	CPb+
P20 - Beira Alta Line Pampilhosa - Vilar Formoso (fronteira) 201,9 km	Pampilhosa	Bif. Pampilhosa	20	1	25000 V	0,7	22,5	1668	18,0	19,0					X											X							X				30											1 330	1 400	1 080	1 080	515	CPb+
	Bif. Pampilhosa	Bif. Luso	20	2	25000 V	7,3	22,5	1668	18,0	19,0					X											X							X				120											1 330	1 400	1 080	1 080	515	CPb+
	Bif. Luso	Santa Comba Dão	20	1	25000 V	27,1	22,5	1668	18,0	19,0					X											X							X				160											1 260	1 400	1 000	1 080	515	CPb+
	Santa Comba Dão	Mangualde	20	1	25000 V	43,0	22,5	1668	18,0	19,0					X											X							X				160											1 340	1 750	1 130	1 440	515	CPb+
	Mangualde	Pinhel	20	1	25000 V	58,8	22,5	1668	19,0	18,0					X											X							X				130											1 420	1 290	1 120	1 060	515	CPb+
	Pinhel	Noémi	20	1	25000 V	45,4	22,5	1668	19,0	18,0					X											X							X				160											1 270	1 420	1 060	1 150	515	CPb+
	Nóemi	Vilar Formoso (fronteira)	20	1	25000 V	19,5	22,5	1668	17,0	19,0					X											X							X				120											1 270	1 420	1 060	1 150	515	CPb+
P25 - Beira Baixa Line Entronc. - Guarda 28,6 km	Entroncamento	Abrantes	25	1	25000 V	28,6	22,5	1668	13,0	12,0					X											X							X				120											1910	1670	1540	1430	480	CPb+
	Abrantes	Guarda	25	1	25000 V	28,6	22,5	1668	20,0	22,0					X											X							X				120											1910	1670	1540	1430	450	CPb+
P27 - Leste Line Abr. - Elvas (fronteira) 140,7 km	Abrantes	Torre das Vargens	27	1	-	39,3	22,5	1668	17,0	17,0															X												130											1 180	1 180	-	-	400	CPb
	Torre das Vargens	Portalegre	27	1	-	42,3	22,5	1668	17,0	17,0															X												120											1 250	1 410	-	-	400	CPb
	Portalegre	Elvas	27	1	-	48,3	22,5	1668	17,0	17,0															X												130											1 380	1 240	-	-	400	CPb
	Elvas	(fronteira)	27	1	-	10,7	22,5	1668	16,0	14,0															X												130											1 380	1 240	-	-	400	CPc
P29 - Cintura Line Alcântara Mar - Braço de Prata 11,3 km	Alcântara Mar	Agulha 13	29	1	25000 V	2,4	22,5	1668	0,0	21,0					X											X							X				90											3 000	980	1 010	3 000	350	CPb+
	Agulha 13	Sete Rios	29	2	25000 V	2,4	22,5	1668	21,0	0,0					X											X							X				90											3 000	980	1 010	3 000	350	CPb+
	Sete Rios	Terminal Técnico Chelas	29	4	25000 V	3,7	22,5	1668	20,0	15,0					X											X							X				90											1 160	1 240	1 170	990	350	CPb+
	Terminal Técnico Chelas	Braço de Prata	29	2	25000 V	2,8	22,5	1668	18,0	15,0					X											X							X				90											1 160	1 240	1 170	990	350	CPb+
P33-Vendas Novas Line Bif. Setil-Vendas Novas - Vidigal Grândola Norte	Bif. do Setil-Vendas Novas	Vidigal	33	1	25000 V	64,7	22,5	1668	15,0	15,0					X											X							X				90											1420	1370	1220	1240	650	CPb+
P34 - Alentejo Line Poceirão - C. Bombel 21,3 km	Poceirão	PK Início Concordância Bombel	34	1	25000 V	21,3	22,5	1668	7,0	9,0					X											X							X				120											2230	2540	1800	2060	650	CPb+
P37 - South Line Set.-Mar - Ermi. Sado 99,0 km	Setúbal-Mar	Águas de Moura	37	1	25000 V	14,7	22,5	1668	11,0	14,0					X											X							X				120											1 500	1 950	1 300	1 620	550	CPb
	Bif. Águas de Moura Sul	Início Variante	37	1	25000 V	13,4	22,5	1668	8,0	10,0					X											X							X				200											1 940	2 370	1 660	1 920	600	CPb+
	Início Variante	Extremo Variante	37	1	25000 V	36,0	22,5	1668	15,0	15,0					X											X							X				100											1 580	1 400	1 280	1 100	600	CPb+
	Grandola Norte	Ermidas Sado	37	1	25000 V	34,9	22,5	1668	13,0	13,0					X											X							X				220											1 750	1 750	1 400	1 400	600	CPb+
P38 - Sines Line Ermidas Sado - Sines 50,7 km	Ermidas-Sado	Sines	38	1	25000 V	50,7	22,5	1668	21,0	19,0					X											X							X				120											1270	1190	1040	1040	750	CPb+
P46 - Poceirão Concordance Bif. Agualva - Bif. Águas de Moura Sul 5,1 km	Bif. Agualva	Bif. Águas de Moura Norte	46	2	25000 V	2,3	22,5	1668	9,0	0,0					X											X							X				200											2 090	1 640	1 680	1 300	600	CPb+
	Bif. Águas de Moura Norte	Bif. Águas de Moura Sul	46	1	25000 V	2,8	22,5	1668	9,0	0,0					X											X							X				200											2090	1640	1680	1300	600	CPb+
P53 - Agualva Concordance Poceirão - Bif. Agualva 2 km	Poceirão	Bif. Agualva	53	1	25000 V	2,0	22,5	1668	4,0	10,0					X											X							X				80											1940	2370	1660	1920	600	CPb+
P54 - Águas de Moura Concordance Águas de Moura - Bif. Águas de Moura Norte 3,7 km	Águas de Moura	Bif. Águas de Moura Norte	54	1	25000 V	3,7	22,5	1668	0,0	10,0					X											X							X				100											1640	2090	1300	1680	600	CPb+
P55 - Bombel Concordance PK Início Conco. Bombel - Vidigal 3,4 km	PK Início Concordância Bombel	Vidigal	55	1	25000 V	3,5	22,5	1668	9,0	3,0					X											X							X				80											2230	1600	1800	1220	600	CPb+
P68 - Alcacer Variant Pinheiro - Grândola Norte 28,8 km	Início Variante	Extremo Variante	68	2	25000 V	28,8	22,5	1668	13,0	13,0					X											X							X				220											1790	1790	1430	1430	700	CPb+
P69 - North of Setil Concordance Bif. Norte Setil - Bif. Setil-Vendas Novas 1 km	Bif. Norte do Setil	Bif. Setil-Vendas Novas	69	1	25000 V	1,0	22,5	1668	15,0	15,0					X											X							X				45											1470	1370	1330	1220	600	CPb+
P90 - Branch Line of the Port of Aveiro Plataforma de Cacia - Porto de Aveiro 8,8 km	Plataforma de Cacia	Porto de Aveiro	90	1	25000 V	8,8	22,5	1668	9,0	13,0					X											X							X				60											2240	1760	1820	1420	500	CPb+

Annex 5.E Market Analysis Study

Mentioned in 3

See documentation available on the Atlantic Corridor website:

Traffic Market Study:

https://www.atlantic-corridor.eu/media/1391/rfc-atlantic-synthesis-tms-2015-en.pdf

Feasibility Study about ERTMS deployment on the French-German Cross-Border Section Woippy – Mannheim

https://www.atlantic-corridor.eu/media/1131/rfc-atlantic_ertms-study_woippy-mannheim_website.pdf

Assessment impact of the infrastructure constraints on Railway Undertakings

https://www.atlantic-corridor.eu/media/1132/7202-76-atlantic-corridor_rn010-deliverable-6-synthesis.pdf

Assessment optimization of Capacity Management and Operational Coordination

https://www.atlantic-corridor.eu/media/1136/20160802_rfc4_final-report-synthesis-vf-1.pdf

Impact of Atlantic Ports' development on International Rail Freight Traffic

https://www.atlantic-corridor.eu/media/1133/20160401_cfm4_summary-note_v20.pdf

Feasibility of Rolling Motorway Service at short, medium and long term on the Atlantic Corridor

https://www.atlantic-corridor.eu/media/1134/v-3-at-romo-synthesis.pdf

Implementation of 750 m length trains on the Iberian Peninsula

https://www.atlantic-corridor.eu/media/1135/implementation_750m_length_train_-_synthesis.pdf

Annex 5.F List of Projects

Mentioned in 6.2

GERMANY

Not applicable.

FRANCE

ERTMS and GSM R deployment

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
41				X	Déploiement programme CCR	Paris-Metz-Woippy/Forbach	X				X		
42				X	Déploiement programme CCR	Paris-Le Havre		X			X		
43				X	Déploiement programme CCR	Paris-Hendaye			X		X		
44				X	Déploiement ERTMS	Paris-Metz-Woippy/Forbach			X		X		
45				X	Déploiement ERTMS	Paris-Le Havre			X		X		
46				X	Déploiement ERTMS	Paris-Hendaye			X		X		

Paris-Le Havre section

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
18	X		X	X	Refonte plan de voie de Mantes-la-Jolie (EOLE)	PO2 Argenteuil-Mantes	X				X		
19				X	Création d'IPCS ou banalisation de Val d'Argenteuil à Conflans Ste Honorine	PO2 Argenteuil-Mantes		X			X		
20	X	X	X	X	Ligne Nouvelle Paris Normandie	PO2 Argenteuil-Mantes		X	X			X	
21	X	X	X	X	Programme de renouvellement de la ligne Paris-Le Havre	PO3 Mantes-Rouen - Le Havre	X	X			X		
22	X	X	X	X	Reconfiguration gare de Vernon	PO3 Mantes-Rouen - Le Havre		X		X			
24				X	Création IPCS Motteville - Le Havre	PO3 Mantes-Rouen - Le Havre	X				X		

Paris – Metz/Woippy – German border section + Lerouville – Strasbourg section

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
25	X	X	X	X	Contournement fret Ile de France				X		X		
26				X	Création IPCS de Meaux à Château-Thierry	PE1 Gagny-Lérouville		X			X		
27				X	Création IPCS de Dormans à Epernay	PE1 Gagny-Lérouville		X		X			
28	X		X	X	Refonte du plan de voies en gare de Lagny (prolongement EOLE)	PE1 Gagny-Lérouville		X		X			
29	X				Programme de renouvellement ligne Paris-Strasbourg	PE1 Gagny-Lérouville	X				X		
30	X		X	X	Suppression du goulet d'étranglement de Metz Nord	PE2 Lérouville - Metz	X			X			
31	X	X	X		Amélioration de la capacité du nœud de Metz	EC3 Lérouville - Forbach		X			X		
32	X				Programme de RVB de la ligne classique Paris-Strasbourg	EC4 Lérouville - Strasbourg	X				X		
33	X		X	X	Amélioration de la capacité du nœud de Nancy	EC4 Lérouville - Strasbourg	X			X			
34		X			Dégagement gabarit AF tunnels entre Sarrebourg et Saverne	EC4 Lérouville - Strasbourg	X	X			X		
35	X			X	Aménagements liés à la mise en œuvre du Service Express Métropolitain de Strasbourg	EC4 Lérouville - Strasbourg			X		X		

Paris – Hendaye section

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
1	X		X	X	Réaménagement complexe ferroviaire Hendaye/Irun	PS1 Hendaye Bordeaux	X			X			
2	X				Renouvellement de la voie entre Hendaye et Bordeaux	PS1 Hendaye Bordeaux	X	X			X		
3			X		Remplacement de la caténaire Midi entre Bayonne et Bordeaux	PS1 Hendaye Bordeaux		X	X		X		
4				X	Redécoupage du BAL en sortie sud de Bordeaux	PS1 Hendaye Bordeaux	X			X			
5				X	Création d'IPCS de Gazinet à Morcenx	PS1 Hendaye Bordeaux		X	X		X		
6	X		X	X	Création garages fret 750 m à Labouheyre et Laluque	PS1 Hendaye Bordeaux	X	X		X			
7		X			Mise au gabarit tunnels section Dax-Hendaye	PS1 Hendaye Bordeaux		X		X			
8	X	X	X	X	GPSO (lignes nouvelles Bx-Tlse & Bx-Espagne) - 1ère phase	PS1 Hendaye Bordeaux			X			X	
9	X	X	X	X	GPSO (lignes nouvelles Bx-Tlse & Bx-Espagne) - 2ème phase	PS1 Hendaye Bordeaux			X			X	
10	X		X	X	Refonte plan de voie zone sud gare de Bordeaux Saint Jean	PS1 Hendaye Bordeaux			X	X			
11	X	X	X	X	Aménagements liés à la mise en œuvre du Service Express Métropolitain de Bordeaux (création de nouvelles haltes voyageur, renforcement IFTE, garages fret, etc.)	PS1 Hendaye Bordeaux	X	X			X		
12			X		Renforcement IFTE Sud Aquitaine (Saint-Paul-Lès-Dax)	PS1 Hendaye Bordeaux		X		X			
13	X		X	X	Adaptation bifurcation de Bayonne-Mousserolles	PS1 Hendaye Bordeaux			X	X			
14	X	X			Mise au gabarit AF tunnels entre Bordeaux et Poitiers	PS2 Bordeaux Tours		X			X		
15				X	Régénération du BAL entre Brétigny et Les Aubrais	PS3 Tours Brétigny	X				X		

Tours SPDC – Nantes St Nazaire + Poitier-La Rochelle sections

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
38	X	X	X	X	Aménagement capacitaire ligne Poitiers-La Rochelle	EC1 Poitiers - La Rochelle	X	X			X		
39	X			X	Renouvellement d'appareils de voie en gare de Nantes	EC2 Tours - Nantes Saint Nazaire	X			X			
40				X	Déploiement ERTMS section Sablé - Angers - Nantes St Nazaire	EC2 Tours - Nantes Saint Nazaire			X		X		

Diversionary Lines Serqueux-Gisors & Niort-Saintes-Bordeaux

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
36				X	Redécoupage du bloc entre Boissy l'Aillery et Gisors	Gisors Serqueux		X		X			
37	X	X		X	Mise au gabarit tunnel de Jérusalem et aménagements de capacité (AFAT)	Poitiers Niort Saintes BX		X		X			

SPAIN

Irún/Hendaya (French border) - Madrid section

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term (around 2025)	Medium term (around 2030)	Long term (beyond 2030)	< 50 M€	From 50 to 500 M€	> 500 M€	
1	D	D	R	D	Línea Alta Velocidad Y Vasca (tráfico mixto). Entrada en ciudades con estación actual y operaciones de integración urbana. Incluye actuaciones en Jundiz y adaptacion UIC entre Astigarraga y Irun	Madrid - Irún/Hendaya		X				X	
2	D	D	D	D	Línea Alta Velocidad Y Vasca (tráfico mixto). Seccion Astigarraga-Lezo y conexion con Francia	Madrid - Irún/Hendaya		X	X		X		
3	D		R	D	Adaptación UIC Tramo Burgos – Vitoria BAB	Madrid - Irún/Hendaya		X			X		
4	R	D	R	R	Adecuación infraestructura Burgos - Vitoria (túneles)	Madrid - Irún/Hendaya		X			X		
5	D		D	D	Adaptación UIC Tramo Vitoria - Alsasua	Madrid - Irún/Hendaya		X			X		
6	D		D	D	Doble vía Pinar de Antequera	Madrid - Irún/Hendaya	Already in service			X			
7	D	D	D	D	Línea Alta Velocidad tramo Valladolid – Burgos (tráfico mixto)	Madrid - Irún/Hendaya	X					X	
8	D		D	D	Variante de Valladolid (mercancías) (2 IB+acceso norte UIC al complejo=10 km)	Madrid - Irún/Hendaya	X				X		
9	D	D	D	D	Nuevo Complejo de mercancías Valladolid	Madrid - Irún/Hendaya	X			X			
10	D	D	D	D	Puerto Seco de Bilbao en Pancorbo	Madrid - Irún/Hendaya	Already in service			X			
11	D		R	D	Alsasua - Astigarraga adaptación UIC	Madrid - Irún/Hendaya		X			X		
12	D		R	D	Medina del Campo – Valladolid – Burgos adaptación UIC	Madrid - Irún/Hendaya		X			X		
13	D	D	D	D	Línea Alta Velocidad tramo Burgos – Vitoria (viajeros exclusivos)	Madrid - Irún/Hendaya		X				X	
14	D		D	D	1.- Pitis - Villalba - Escorial (cercanías)	Madrid - Irún/Hendaya		X			X		
15	D		R	D	2.- Escorial - Ávila (actualmente B.A.B + ENCE)	Madrid - Irún/Hendaya		X			X		
16	D		R	D	3.- Ávila - Medina del Campo (actualmente B.A.)	Madrid - Irún/Hendaya		X			X		

Miranda de Ebro – Puerto de Bilbao section

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
27	D		R	D	Adaptación UIC Tramo acceso Puerto de Bilbao-Y Vasca	Miranda de Ebro - Bilbao		X		X			

Alsasua – Pamplona – Zaragoza section

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
36	D		R	D	Tramo Zaragoza-Castejón 3er hilo (78 km)	Zaragoza-Alsasua		X			X		
37	D	D	D	D	Tramo Castejón-Pamplona. Nueva línea AV tráfico mixto/convenio (78 km)	Zaragoza-Alsasua		X				X	
38	D	D	D	D	Variante de Pamplona. Nueva estación y conexión factoría Volkswagen (13 km)	Zaragoza-Alsasua		X			X		
39	D		R	D	Pamplona-Alsasua-Vitoria 3er hilo (85 km)	Zaragoza-Alsasua		X			X		

Medina del Campo - Fuentes de Oñoro (Portuguese border) section

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
30	D		R	D	Fuentes de Oñoro – Medina del Campo adaptación UIC	Medina del Campo - Fuentes de Oñoro		X			X		

Madrid-Algeciras section

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
18	D		D	D	Complejo de Aranjuez (sistema de concesión)	Madrid - Algeciras	X			X			
19	D		R	D	San Cristobal - Villaverde bajo - Pitis vía mercancías	Madrid - Algeciras		X			X		
20	D		R	R	Incorporación a UIC terminales de Vicálvaro y Abroñigal	Madrid - Algeciras		X		X			
21	D		D	D	1.- Algeciras - Bobadilla - incluye nueva electrificación	Madrid - Algeciras		X			X		
22	D		R	D	2.- Bobadilla - Córdoba - Linares	Madrid - Algeciras		X			X		
23	D		R	D	3.- Linares - Vadollano	Madrid - Algeciras		X		X			
24	D		R	D	4. - Vadollano - Santa Cruz de Mudela	Madrid - Algeciras		X		X			
25	D		R	D	5.- Santa Cruz de Mudela - Aranjuez	Madrid - Algeciras		X			X		
26	D		D	D	6.- Aranjuez - San Cristobal - Villaverde bajo	Madrid - Algeciras		X			X		

Manzanares - Badajoz/Elvas (Portuguese border) section

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
31	D	D		D	Línea Alta Velocidad Plasencia-Cáceres-Badajoz (1er tramo)	Manzanares - Badajoz	X				X		
32	D	D	D	D	Línea Alta Velocidad Extremadura Plasencia-Navalmoral-Pantoja (2º tramo)	Badajoz - Cáceres - Madrid		X				X	
33	D	D	D	D	Enlace línea Alta Velocidad Madrid – Extremadura con vía de mercancías Madrid	Badajoz - Cáceres - Madrid		X				X	

ERTMS deployment

ID	Typology				Identification - description - location	Corridor section	Entry into service			Valuation (M€$_{2013}$)			Impact of works on corridor traffic
	Track	Structures	Electrification	Signalling			Short term	Medium term	Long term	< 50 M€	From 50 to 500 M€	> 500 M€	
34				D	Implantación ERTMS corredor 4 tramo vía doble	Todo el Corredor		X				X	
35				D	Implantación ERTMS corredor 4 tramo vía única	Todo el Corredor		X			X		

PORTUGAL

Oporto area

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
1	D	D	D	D	Track quadruplication (Ermesinde and Contumil)	P1 Oporto (Campanhã) - Ermesinde			X		X			
2	D				Upgrading of existing terminal, new terminal and increase train length (Leixões Port)	P5 Contumil - Leixões			X		X			

Oporto – Pampilhosa – Entroncamento - Lisboa section

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
3	D	D		D	Modernization (Válega-Porto)	P8 Oporto (Campanhã) - Lisbon (Sta. Apolónia)	on-going	X				X		
4	D	D		D	Modernization (Santana-Cartaxo-Entrocamento)	P8 Oporto (Campanhã) - Lisbon (Sta. Apolónia)	on-going	X			X			
5	D	D	D	D	Track triplication (Alverca-Castanheira do Ribatejo)	P8 Oporto (Campanhã) - Lisbon (Sta. Apolónia)			X		X			
6	D		D	D	Connection to Lisbon North logistic platform (Alverca-Castanheira do Ribatejo)	P8 Oporto (Campanhã) - Lisbon (Sta. Apolónia)			X		X			

Vilar Formoso/Fuentes de Oñoro (Spanish border) - Pampilhosa section

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
7	D		D	D	Construction of the transition between Beira Alta and North lines (Pampilhosa)	P20 Vilar Formoso - Pampilhosa	on-going	X			X			
8	D		D	D	Railway stations Layout (increasing of train lenghts)	P20 Vilar Formoso - Pampilhosa	on-going	X			X			
9	D	D	D	D	Profile optimization (grades reduction)	P20 Vilar Formoso - Pampilhosa				X		X		
10	D	D	D	D	Implementation of UIC gauge	P20 Vilar Formoso - Pampilhosa				X			X	

Elvas/Badajoz (Spanish border) - Entroncamento section

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
11	D	D	D	D	Modernization (Entroncamento-Abrantes)	P25 Abrantes - Entroncamento			X		X			
12	D				Modernization (Assumar-Arronche; Torre das Vargens-Crato)	P27 Elvas - Abrantes				X	X			
13	D				Layouts adjustments (Torre das Vargens - Portalegre)	P27 Elvas - Abrantes			X		X			

Lisboa Area

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
14	D	D	D	D	Track quadruplication (Areeiro - Braço de Prata)	P29 Braço de Prata Alcântara			X			X		
15	D	D	D	D	Construction of fly under on Nó de Alcântara (Alcântara Mar - Campolide)	P29 Braço de Prata Alcântara			X			X		

Lisbon – Sines section

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
16	D			D	Full track renovation and layouts adjustments (Setil - Vendas Novas)	P33 Setil – Vendas Novas		X			X			
17	D			D	Full track renovation and layouts adjustments (Poceirão - Bombel)	P34 Vendas Novas - Poceirão			X		X			
18	D	D	D	D	Improving Connection (Sines - Grandola Norte)	P38 Ermidas do Sado - Sines			X			X		
20	D			D	New layouts to Ermidas and C. Caveira stations (Grandola - Ermidas do Sado)	P37 Setúbal – Ermidas do Sado		X			X			
21	D		D	D	Increasing and upgrading connections to Setúbal Port (Setúbal - Praias do Sado)	P37 Setúbal – Ermidas do Sado		X			X			

Abrantes – Guarda section

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
22		D			Reinforcement of structures (Mouriscas - Covilhã)	P25 Abrantes - Guarda				X	X			

Vendas Novas – Elvas (Spanish border) section

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
24	D	D	D	D	Modernization (Évora - Évora Norte)	P39 Elvas - Évora - Casa Branca	on-going	X			X			
25	D	D	D	D	New line construction (Évora - Caia)	P39 Elvas - Évora - Casa Branca	on-going	X					X	
26	D	D	D	D	UIC gauge adaptaion (Vendas Novas - Casa Branca)	P34 Casa Branca - Vendas Novas - Poceirão				X		X		
27	D	D	D	D	UIC gauge adaptaion (Casa Branca - Évora)	P39 Elvas - Évora - Casa Branca				X	X			
28	D	D	D	D	UIC gauge adaptaion (Évora - Évora Norte)	P39 Elvas - Évora - Casa Branca			X	X	X			
29	D	D	D	D	UIC gauge adaptaion (Évora Norte - Caia)	P39 Elvas - Évora - Casa Branca			X	X		X		

Poceirão - Lisbon section

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
30	D		D	D	Connection to Poceirão logistic platform (P.Novo - Poceirão)	P34 Barreiro - Poceirão				X	X				
31	D		D	D	Connection to the new Lisbon port terminal on the south bank of Tagus river	P34 Barreiro - Poceirão				X	X				

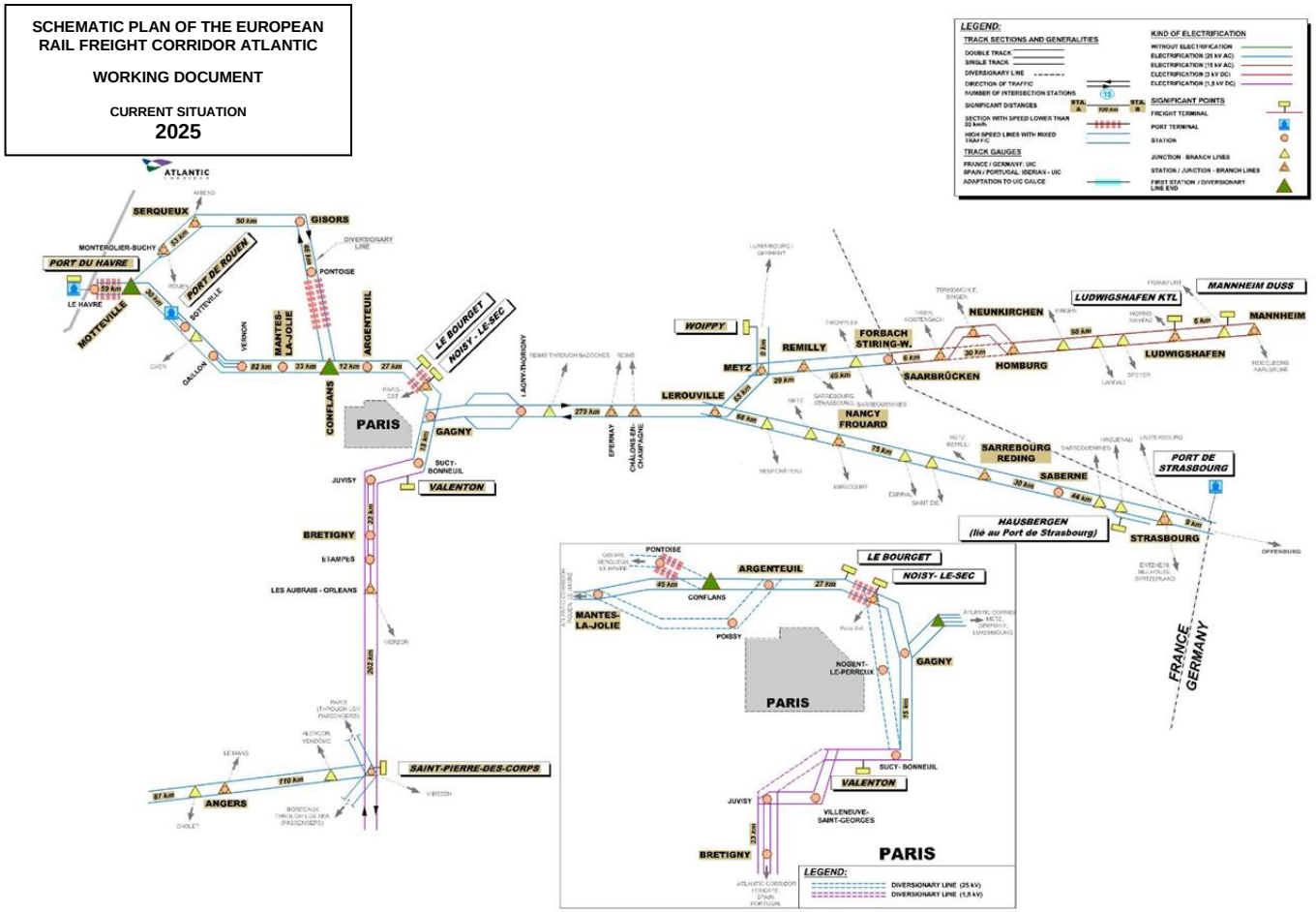
ERTMS-ETCS Facilities

ID	Typology				Identification, location and description	Corridor section	Project status	Entry into service			Valuation (M€$_{2013}$)			Impact of the works in the corridor
	Track	Structures	Electrification	Signaling				Short term	Medium term	Long term	<50 M€	50 M€ a 500 M€	> 500 M€	
32				D	Installation of ERTMS-ETCS + GSM-R (Sines - Caia)	P39 Elvas - Évora - Casa Branca P34 Casa Branca - Vendas Novas - Poceirão P46 Poceirão – Águas de Moura P37 Setúbal – Ermidas do Sado P38 Ermidas do Sado - Sines			X			X		
33				D	Installation of ERTMS-ETCS + GSM-R (Lisboa - Oporto)	P8 Oporto (Campanhã) – Lisbon (Sta. Apolónia)			X			X		
34				D	Installation of ERTMS-ETCS + GSM-R (Aveiro - Vilar Formoso)	P20 Vilar Formoso - Pampilhosa P90 Feeder line of the Port of Aveiro			X	X		X		
35				D	Installation of ERTMS-ETCS + GSM-R (Lisboa - Poceirão)	P34 Poceirão - Pinhal Novo P37 Pinhal Novo - Lisboa			X	X		X		
36				D	Installation of ERTMS-ETCS + GSM-R (Entroncamento- Caia)	P27 Elvas - Abrantes P25 Abrantes - Entroncamento			X	X		X		

Annex 5.G Deployment Plan (4 Maps)

Mentioned in 6.2 and 6.3

Map 1/4



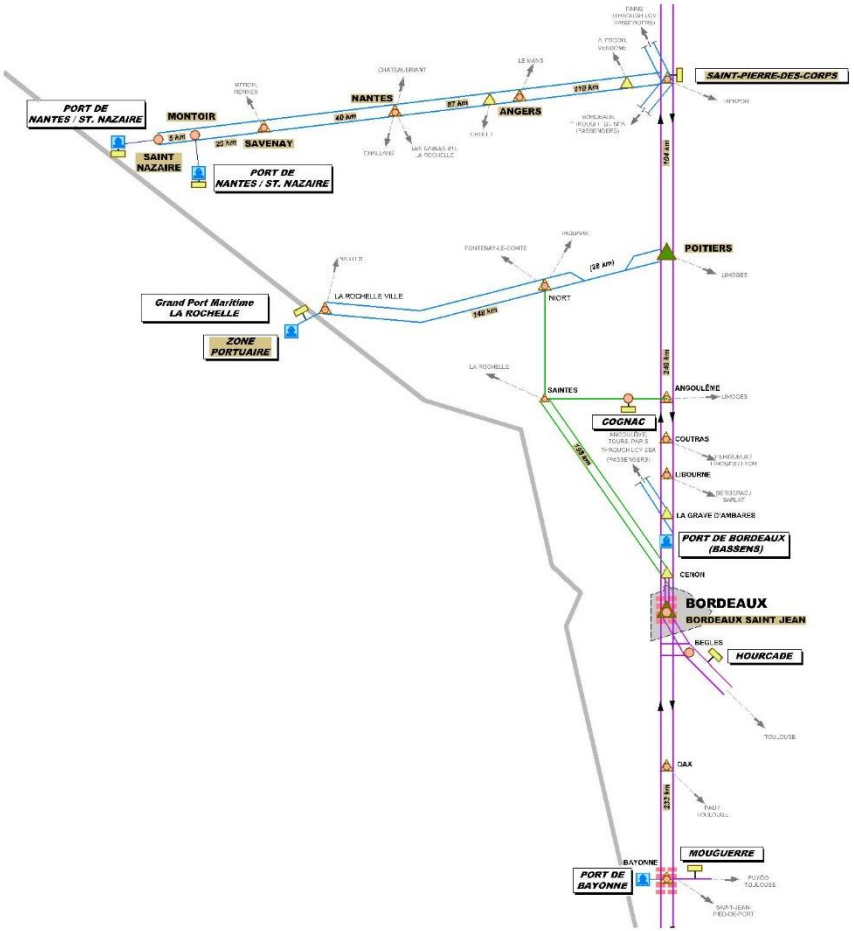
Map 2/4

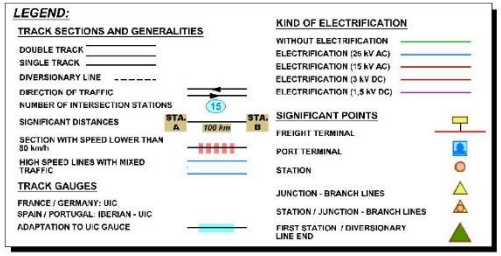
SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC

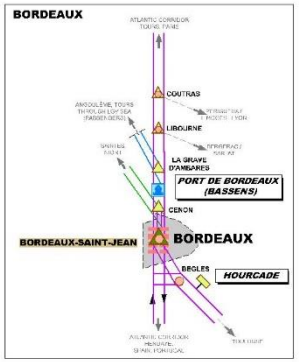
WORKING DOCUMENT

CURRENT SITUATION
2025

ATLANTIC CORRIDOR







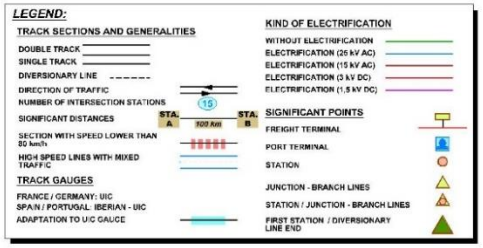
Map 3/4

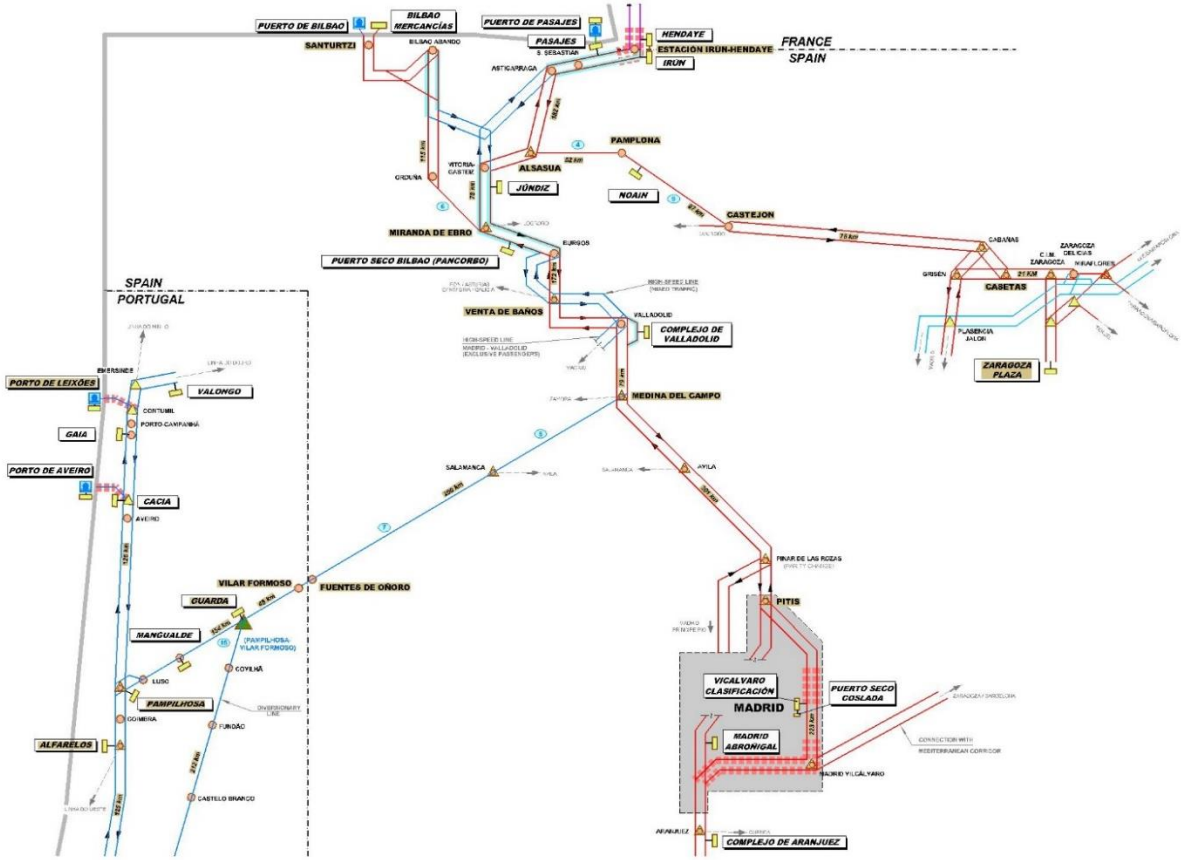
SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC

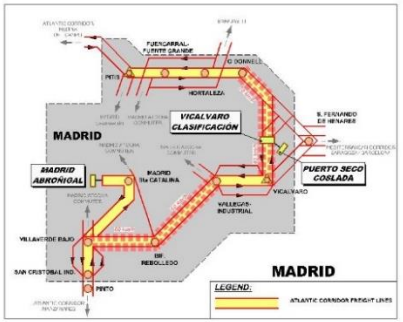
WORKING DOCUMENT

CURRENT SITUATION
2025

ATLANTIC CORRIDOR







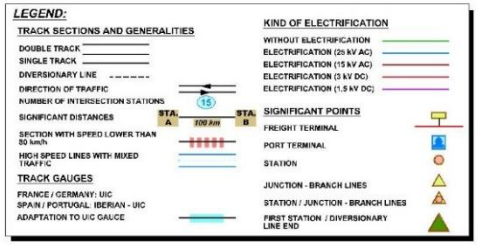
Map 4/4

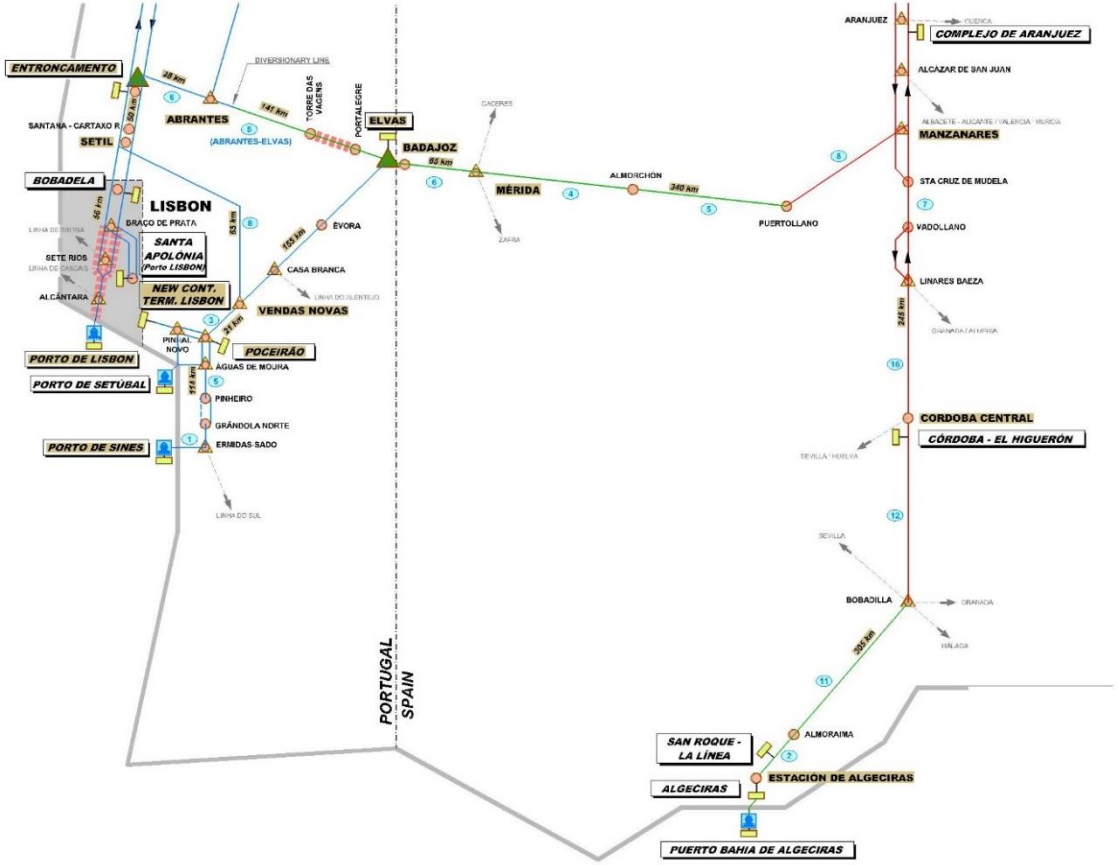
SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC

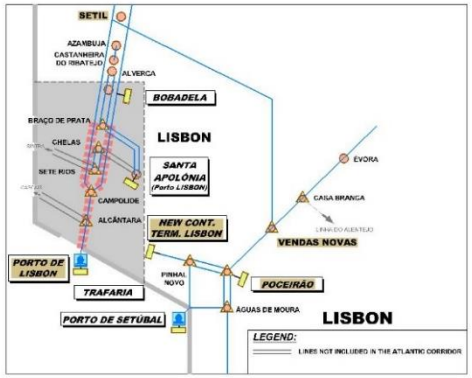
WORKING DOCUMENT

CURRENT SITUATION
2025

ATLANTIC

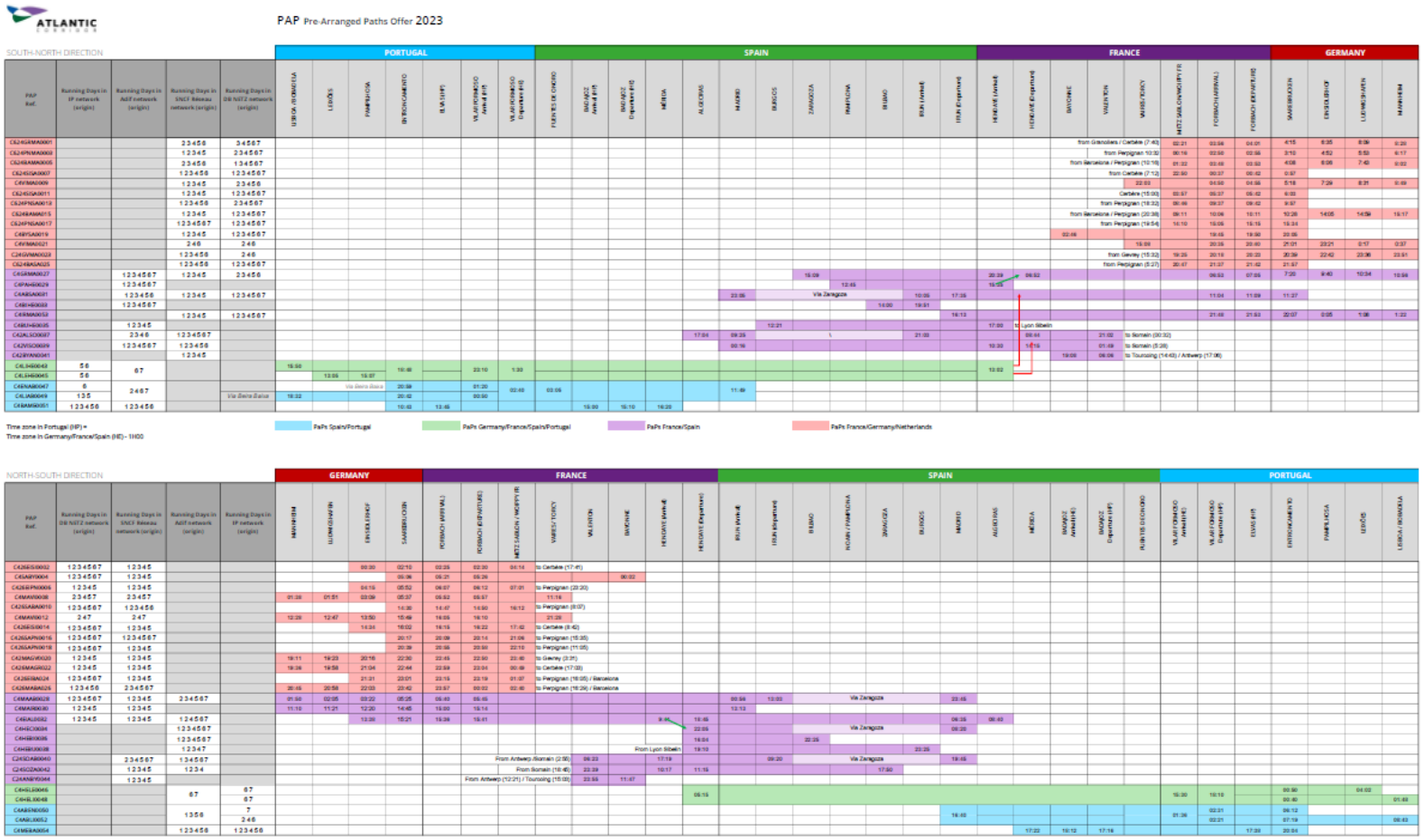






Annex 5.H Summary of the PaPs offer 2023 for freight on Rail Freight Corridor “Atlantic”

Mentioned in 4.2



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