EUROPEAN REGULATION 913/2010

Rail Freight Corridor “Atlantic”

CORRIDOR INFORMATION DOCUMENT

Implementation Plan of the CID

Timetabling year 2022

Co-financed by the European Union
Connecting Europe Facility

ATLANTIC
CORRIDOR

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Version control

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0.1	CID task force	Simplification and reviewing of the text in line with the proposed simplified common structure and implementation guide	17 July 2020

Version control

Version	Chapter changed	Changes compared to the previously published version	X marks which part in the chapter concerned has been changed	
10.12.2020	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.

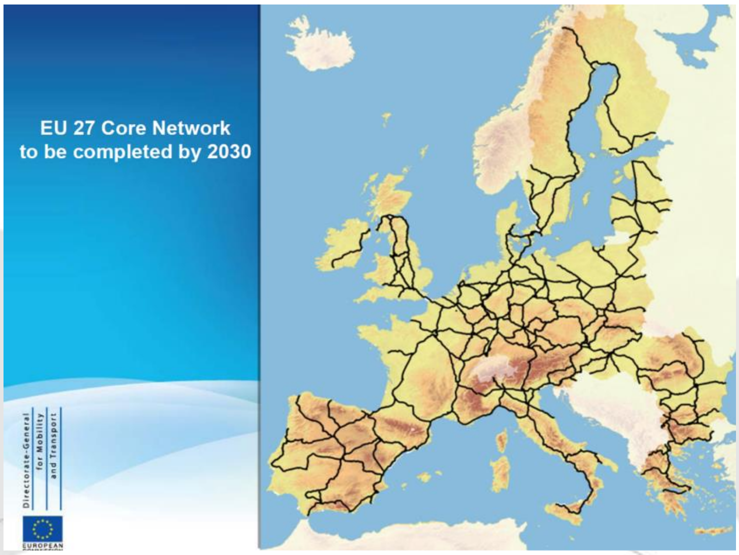
1 Introduction

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.

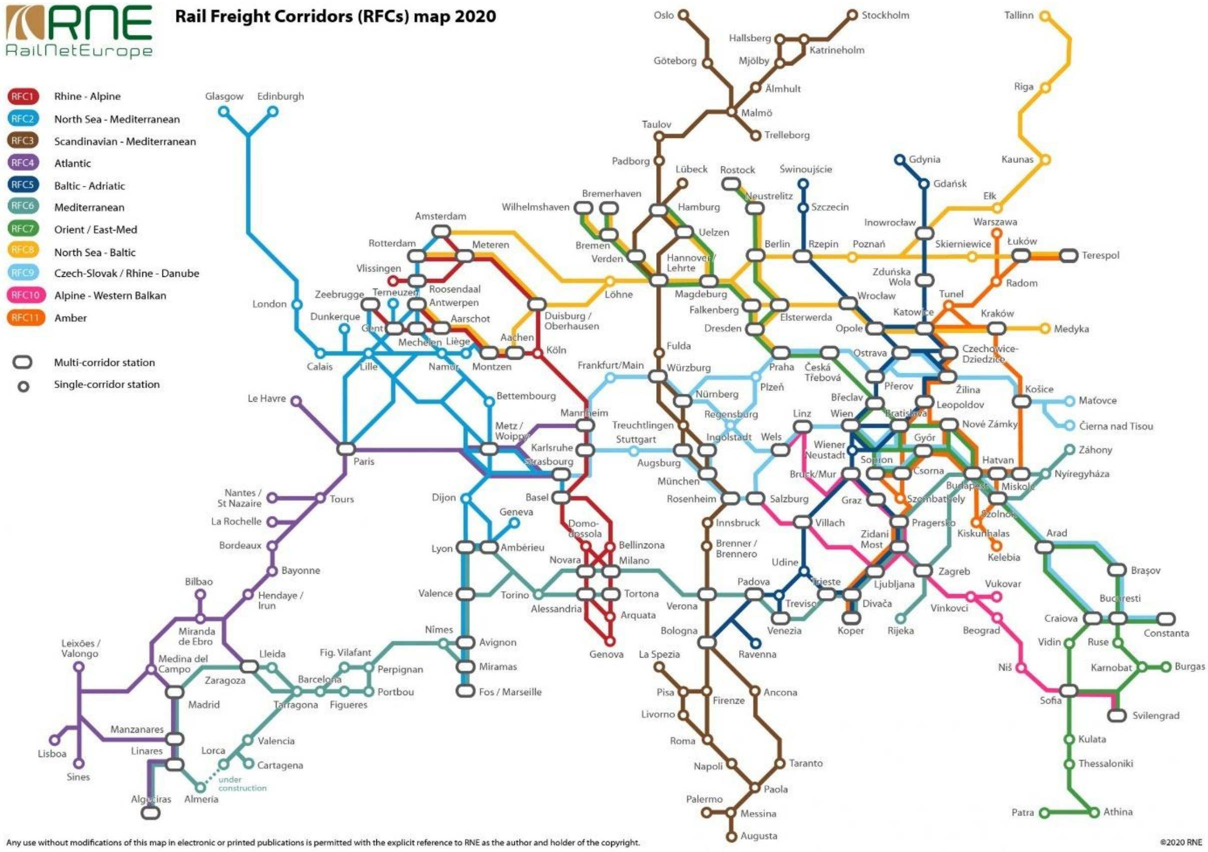


The implementation of international rail freight corridors forming a European rail network for competitive freight should be conducted in a manner consistent with the trans-European Transport Network (TEN-T) and/or the European Railway Traffic Management System (ERTMS) corridors.

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 General de Planificación Estratégica y Proyectos 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 2022 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.

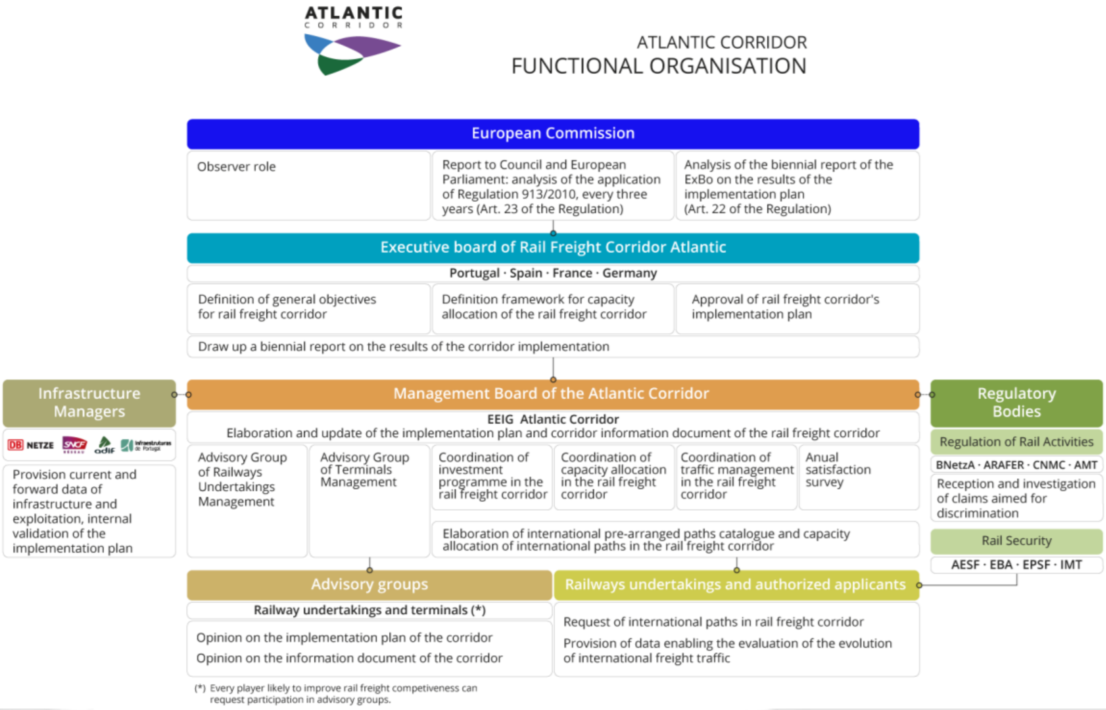
2.4 Rail Freight Corridor Governance

A detailled descriptio of the RFC atlantic Organization can be found in Section 1, chapter 1.4 of the CID TT 2022 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.

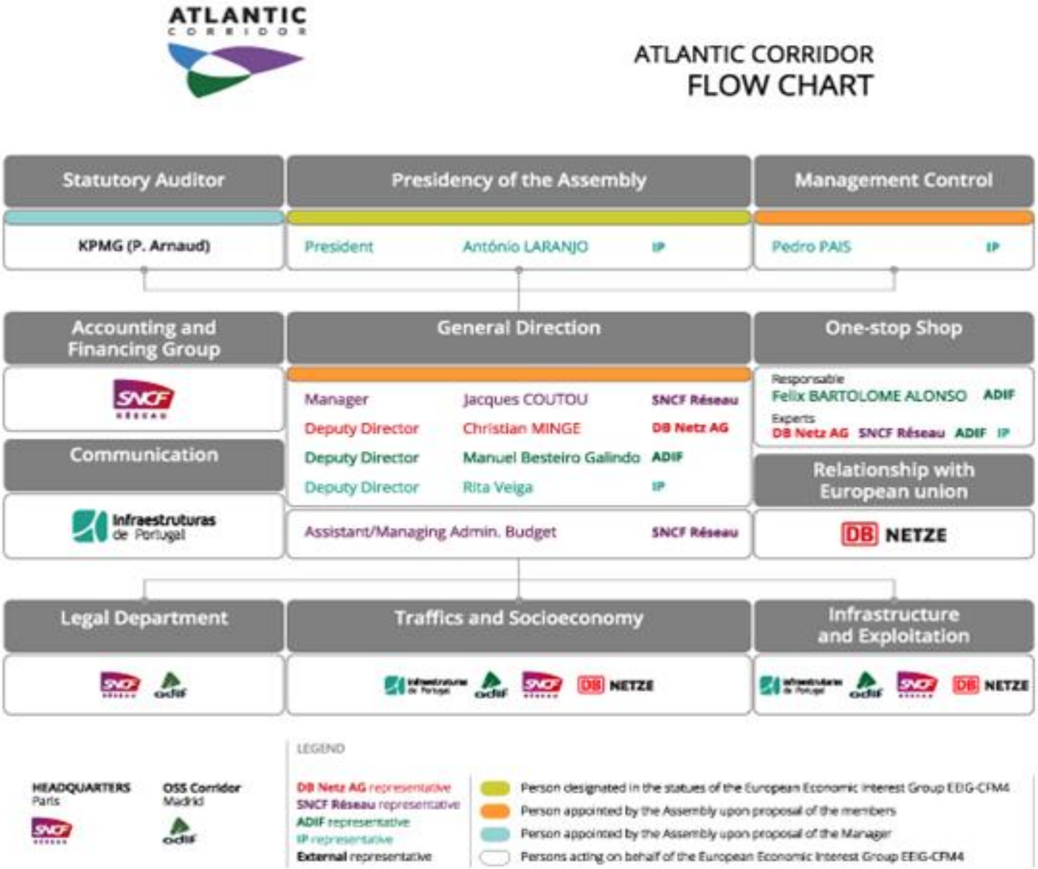
The Members of the Atlantic Corridor ExBo are as follows:

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

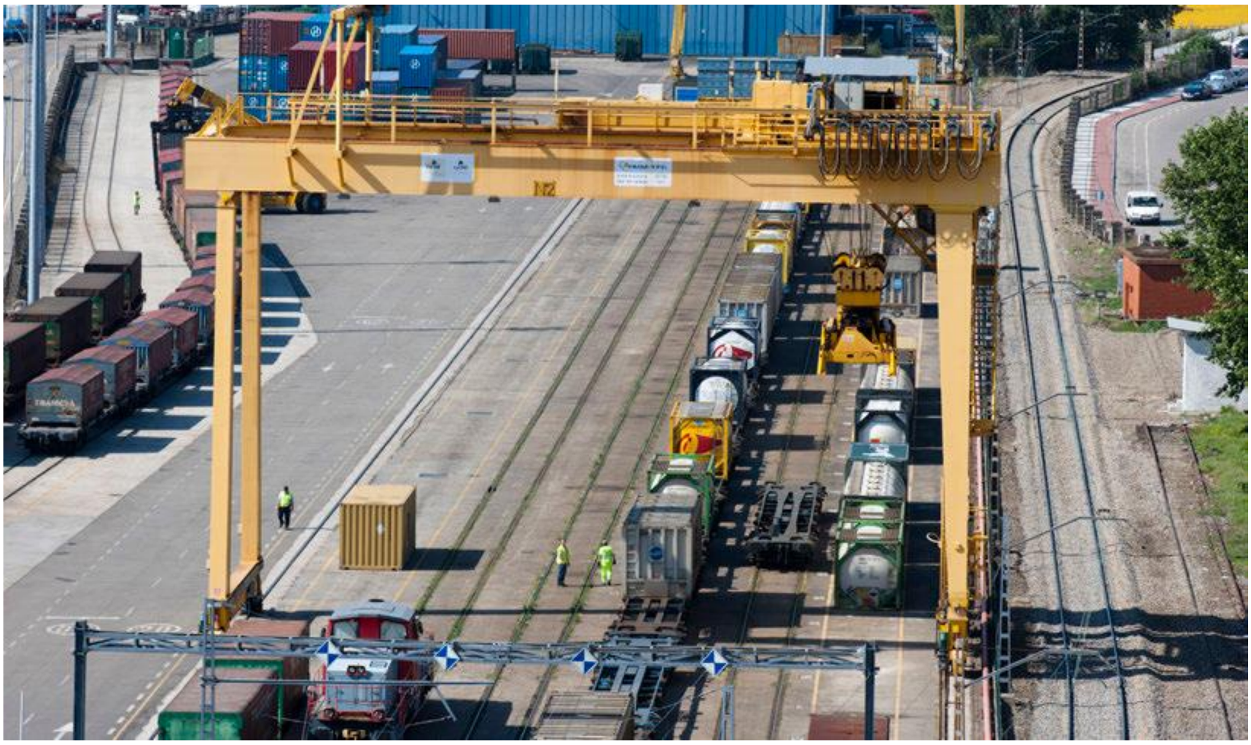
In terms of Infrastructure Managers, a Management Board of Rail Freight Corridor Atlantic has been implemented; it takes the legal form of a new EEIG designated “European Economic Interest Grouping for Rail Freight Corridor Atlantic” or “EEIG Atlantic Corridor” established on 28th of April 2015 between 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
Statutory Auditor
KPMG (P. Arnaud)
Presidency of the Assembly
President António LARANJO IP
Management Control
Pedro PAIS IP
Accounting and Financing Group
Communication
Infraestruturas de Portugal
General Direction
Manager Jacques COUTOU SNCF Réseau
Deputy Director Christian MINGE DB Netz AG
Deputy Director Manuel Besteiro Galindo ADIF
Deputy Director Rita Veiga IP
Assistant/Managing Admin. Budget SNCF Réseau
One-stop Shop
Responsable
Felix BARTOLOME ALONSO ADIF
Experts
DB Netz AG SNCF Réseau ADIF IP
Relationship with European union
DB NETZE
Legal Department
Traffics and Socioeconomy
DB NETZE
Infrastructure and Exploitation
DB NETZE
LEGEND
HEADQUARTERS
Paris
OSS Corridor
Madrid
DB Netz AG representative
SNCF Réseau representative
ADIF representative
IP representative
External representative
Person designated in the statues of the European Economic Interest Group EEIG-CFM4
Person appointed by the Assembly upon proposal of the members
Person appointed by the Assembly upon proposal of the Manager
Persons acting on behalf of the European Economic Interest Group EEIG-CFM4

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 2022 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 Rail Freight Corridor extends across four countries. From Lisbon, and the major ports of the Portuguese west coast, it continues throughout the western and central regions of Spain, including Madrid, heads north and crosses the Pyrenees going up the Atlantic coast to Paris where it separates into two branches, one heads westwards along the Seine down to the English Channel, and the other heads east joining Rail Freight Corridor North Sea – Mediterranean in Metz. From Lérouville and Metz, the Atlantic Rail Freight Corridor is connecting respectively

Strasbourg and Mannheim. In Mannheim the Atlantic Rail Freight Corridor connects with the Rhine-Alpine Rail Freight Corridor

The present Traffic and Market Research Update for the Atlantic Corridor builds upon the first market study carried out in 2012 for Rail Freight Corridor No. 4. It shares with it all the information related to the base year of forecasts (2010), namely in terms of freight flows OD matrices, and the determinants (attributes and factors) influencing the choice of transport mode (price, time, reliability ...), based on an extensive set of stated preference surveys conducted with the actors of freight transport (shippers or freight forwarders).

First, an update on the Economic and Territorial frameworks was 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. A particular attention has now been given to Germany, due to its inclusion in the Corridor.

On the basis of these analyses and taking into account the latest long-term projections for trade partners' GDPs, available from internationally recognized sources, all econometric models were updated to deliver an updated foresight on global freight travel demand in the short, medium and long-term (respectively 2020, 2030 and 2050).

From the supply side, the transport infrastructure projects provided for different horizons were reviewed and analyzed to take into account their impact on traffic projections. Particular attention is now given to the German rail freight infrastructure in what concerns capacity, transhipment facilities, tracks (loading profiles, axle loads, train lengths and weights, etc), and infrastructure development plans. This exercise is topped with an overview of the most important terminals along the Corridor connections between Saarbrücken-Mannheim and Strasbourg-Kehl.

Germany's inclusion in the Corridor imposed a revision of the zoning system and of the catchment areas definition (in what concerns the nature of traffic flows in the corridor - Internal, Exchange, or Transit).

This update deals with new extensions to terminals and seaports (La Rochelle, Nantes/St Nazaire, Valongo), as well as with new connections to Rail Freight Corridors Mediterranean, in Zaragoza and Rail Freight Corridor Rhine-Danube Mannheim/Strasbourg, which are subject to particular in-depth analyses in the study documentation, showing the benefits that can be expected from the 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 Rail Freight Corridor Atlantic, i.e. port operators, railway undertakings, terminal operators, shipping companies, corridor managers, infrastructure managers and logistic operators. The interviews aimed at analysing the Corridor's strengths, opportunities, weaknesses, and threats, as well as the need for improvements along the corridor. As in the previous market study, we were again surprised by the stakeholder's consensus about the issues to be addressed for a successful implementation of rail services competitive with road transport.

Finally, revised 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). Based on these results, it was possible to produce a first estimate of the capacity allocation (pre-arranged train paths) that it would be necessary to put in place to ensure rail meets the expected demand. Traffic projections for rail highways, whose evolution responds to different dynamics from those considered in other segments of rail transport, have also been reviewed and updated, bringing forward an extended set of possible direct connections.

3.1.2 Diagnosis

3.1.2.1 Socio-economic background

All socioeconomic analyses and freight transport statistics delivered in the first study were now updated, highlighting whenever relevant the major differences between current datasets (2014) and those considered in 2011. The sources for the most recent figures are mainly Eurostat or the National Statistics Offices of the Corridor countries.[4] These analyses include all countries now formally connected by the corridor - Portugal, Spain, France and Germany.

	France	Germany	Portugal	Spain
Population [10^6 hab]	65.6	82.0	10.5	46.7
GDP [10^6 €]	2114	2809	171	1049
GDP per capita [€/hab]	32236	34248	16220	22449
Rail transport [10^9 t.km]	32.0	117.4	2.1	9.6
Rail modal share	15.2%	23.1%	6.1%	4.8%

Table 1 – Socioeconomic and transport indicators (2013) (contractor estimation)

The following two graphs depict rail transport development in recent years, in terms of freight flows, in millions of tonnes.Km traveled and rail modal share (%).

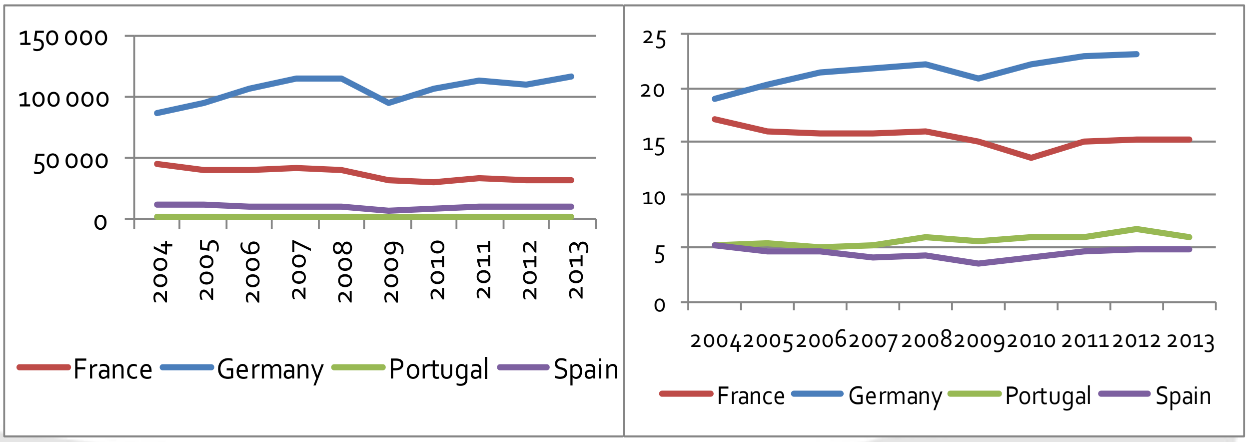


Figure 1 - Rail freight volumes [106 ton.km] and modal share [%] (contractor estimation)

A real gap exists in terms of the rail mode share on each side of the Pyrenees, with the Iberian rail showing a considerable lower market share than that of their European counterparts. Geography and technological issues certainly explain these discrepancies, as GDP differences alone cannot explain it. For instance, for each Euro of GDP throughput Germany achieves 42 t.km, against France's 15 t.km, while Portugal gets 12 t.km and Spain only 9 t.km.

The evolution of rail share in total inland modes is also particular for each country. Portugal and Spain had both a 5.3% market share in 2004, which climbed 15% in the Portuguese case, to 6.1%, while Spain's figures declined 9% to 4.8%, in 2013. Germany and France also show contrasting trends. Starting from a similar point in 2004, Germany witnessed a 20% increase in

[4] According to the Transport Market Study. Eurostat data and national statistics deviate from this data.

its rail modal share to 23%, in 2012, while France's rail share declined more than 10% to just over 15%. Due to reasons related to data harvesting from railway undertakings, these figures may overestimate the decline observed over the 2008-2010 period.

3.1.2.2 Potential global demand of transport

The origin-destination matrices of freight flows (at NUTS3 level for the countries directly concerned) for the base year (2010) were retrieved from the first market study. These are disaggregated by nature of cargo (13 categories considered) and mode of transport. The particular situation of cargos travelling by train down to the Pyrenees to be then loaded onto lorries to complete their routes at the Iberian Peninsula (and vice versa) - explained by the interoperability issues between France's and Spanish rail infrastructure - are specifically taken into account under the denomination “Rail-Road” flows.

Finally, three different types of flows are distinguished by its trade partners, corresponding to the three distinct sources of information available for 2010:

- Portugal-Europe: these are all the flows between Portugal and its European partners (Spain included). These flows were established on the basis of the Observatório de Transporte Espana Portugal (OTEP) survey, a cross-border freight assessment conducted between Portugal and Spain, and on information provided by rail operators;
- Spain-Europe: these correspond to all the flows between Spain and its European partners, with the exception of Portugal. These flows were established on the basis of the Cross Alps Freight Transport (CAFT) survey;
- All other corridor flows: those between origin-destination pairs that use at least part of the corridor (above the Pyrenees). These flows were calculated using information from the cargo database Etis+, by the European Commission

Figure 2 - Flow segmentation by trade partners

The selection of relevant origin-destination pairs (and thus the overall zoning system) for the corridor was performed on the basis of a “select link” analysis of European traffic flows as described by Etis+ data. By modelling the path of goods flows, it was possible to isolate the flows performing part of their journey on the corridor.

The maps below represent some of the “select link” analyzes conducted as part of the detection of relevant origin-destination pairs. The red sections set the location where the flow information is gathered. Thus any flow of goods between an origin and a destination through these links has been added to the list of origin-destination pairs.

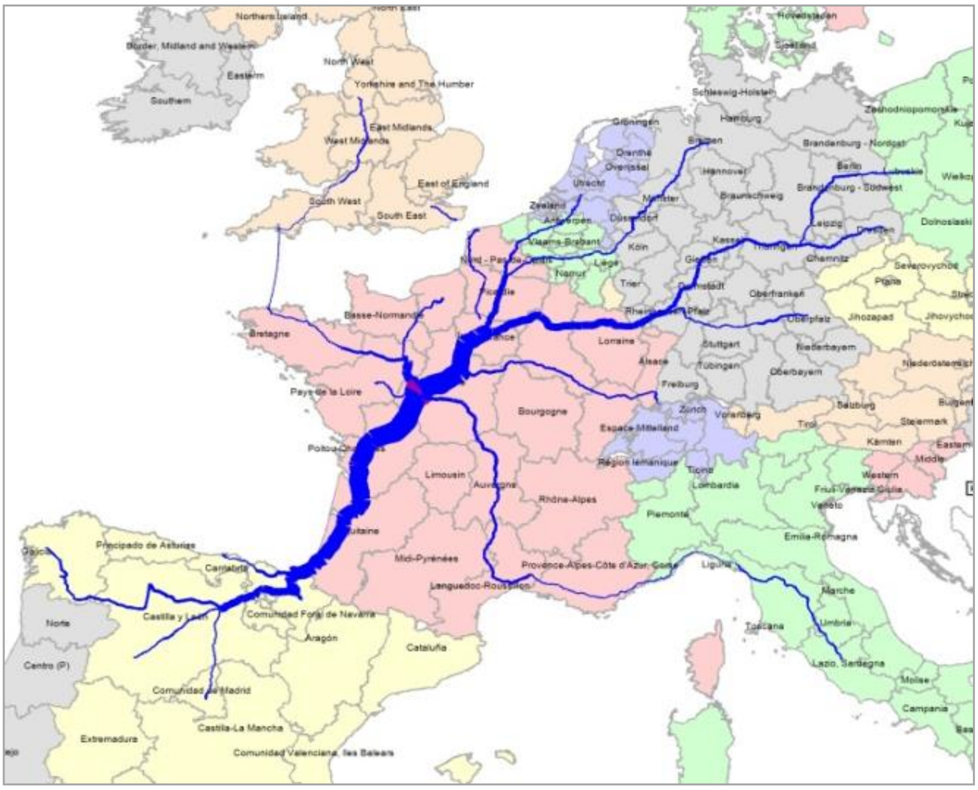


Figure 3.1 - Road flows in the south of Tours

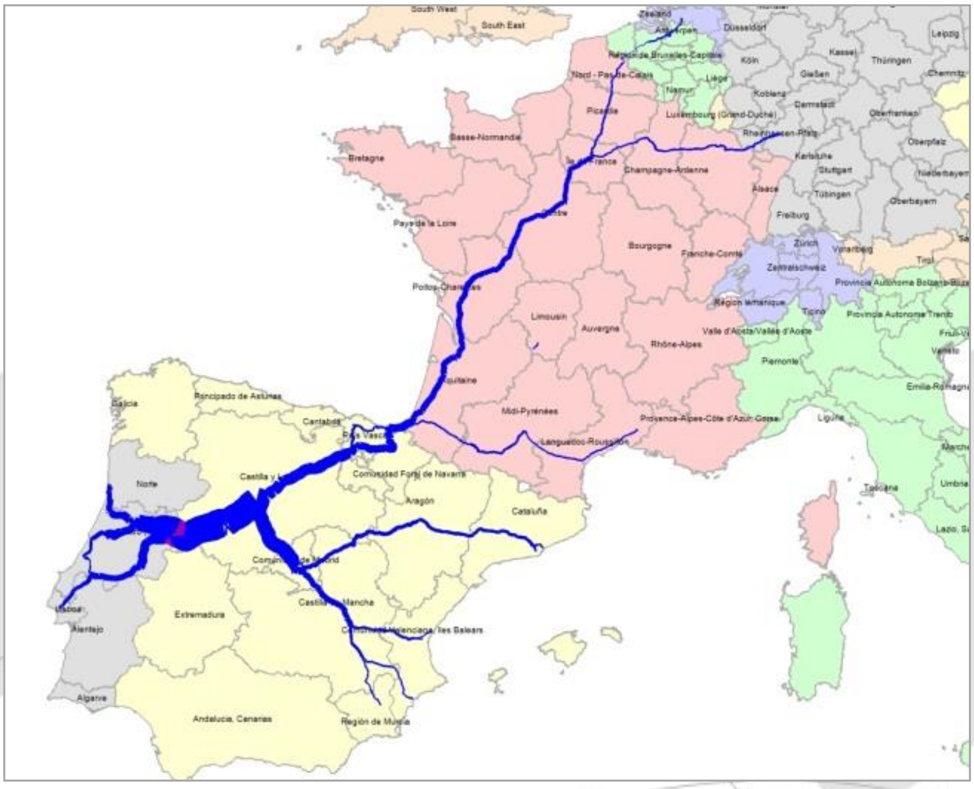


Figure 3.2 Road flows on the Portuguese-Spanish border

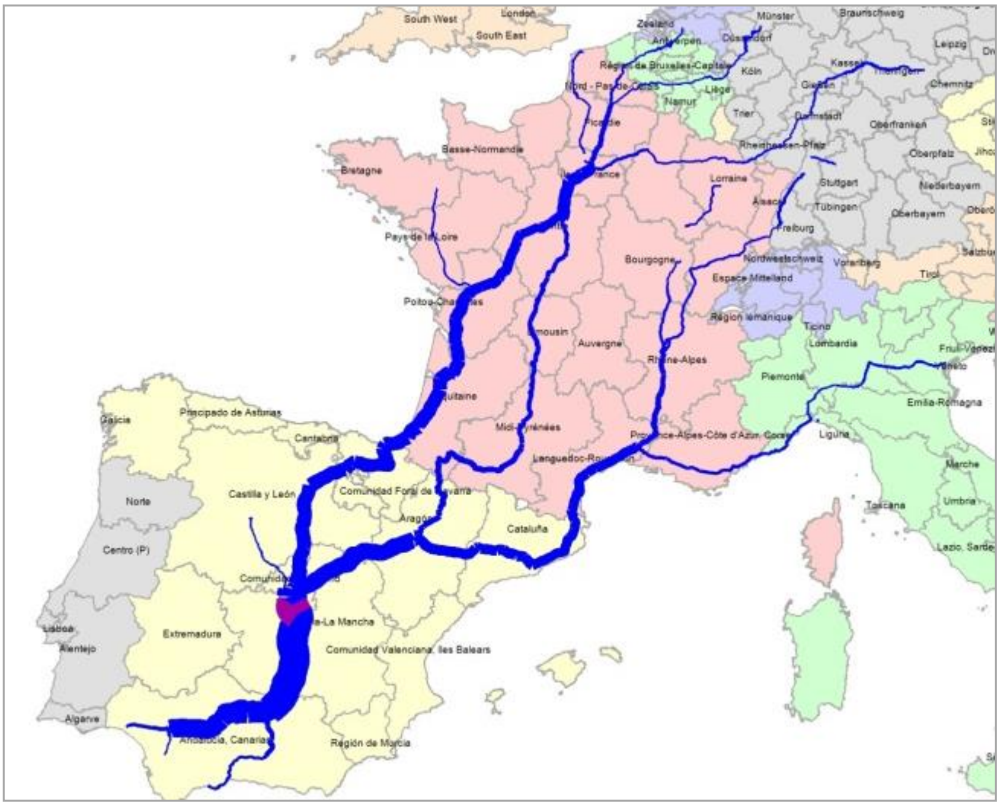


Figure 3.3 Road flows in the south of Madrid

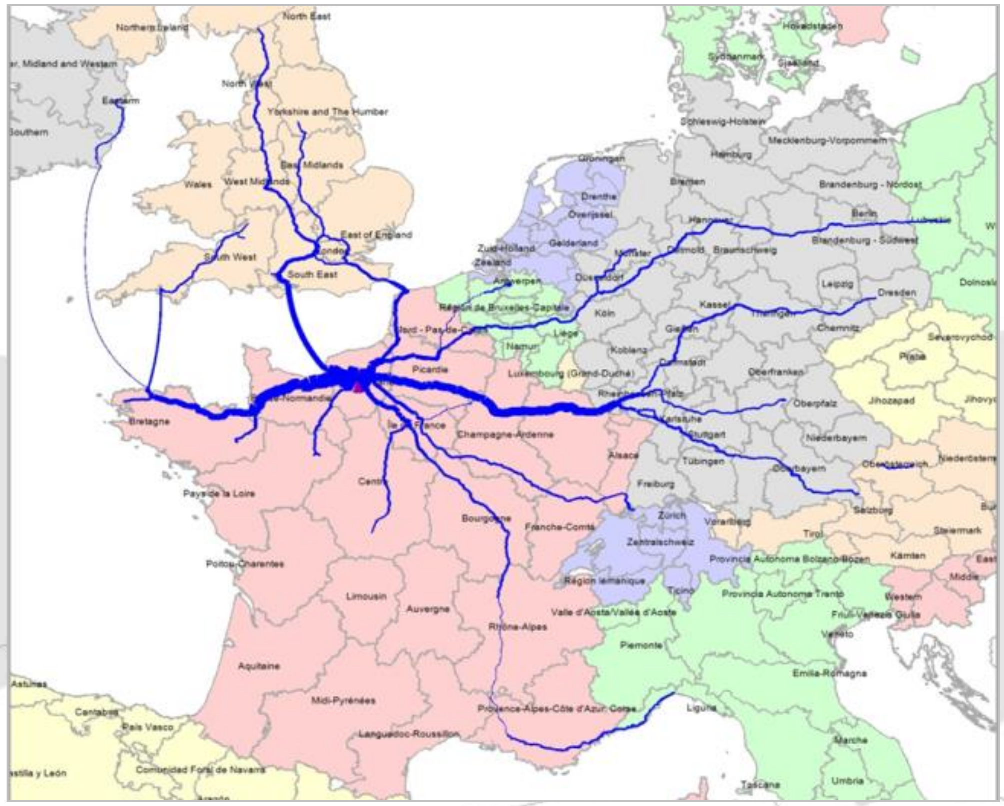


Figure 3.4 Road flows in the east of Rouen

Below is a summary of all flows considered for the established of 2010 demand matrices.

Mode		Portugal-Europe (inc. Es)	*Just Portugal-Spain*	Spain - Europe (exc. Pt)	Other Corridor flows	Total
Road		39 758	*30 162*	78 254	44 918	**162 931**
Rail	Rail-Rail	793	*793*	1 570	6 762	**10 692**
	Combined	-	-	1 567		
	Rail-Road	29	-	1 899	-	**1 928**
Fluvial		-	-	-	2 307	**2 307**
Marit.		20 002	*4 717*	71 034	29 833	**120 869**
Total		**60 582**	***35 673***	**154 323**	**83 821**	**298 726**

Table 2 – 2010 relevant freight flows, by mode and trade partners [Kt]

Portugal is accountable for a fifth of the flows considered in the matrices, while Spain answers for almost two thirds. Nearly 30% of all flows on the corridor axis run in its northern part, never crossing the Pyrenees. One should note this table encompasses all freight flows going through the Pyrenees, including those shared with the Mediterranean corridor.

When possible, due to data availability, rail flows were distinguished between conventional flows (or Rail-Rail) and combined transport streams.

This last one, based on the use of standard containers that can be easily transferred between modes, has been experiencing a continuous and solid growth that is expected to continue over the next decades.

Flows between Countries

The next table provides an OD matrix of all 2010 European freight flows relevant to the corridor, by country of origin and destination.

	Belgium	Switzerland	Germany	Spain	France	Ireland	Italy	Luxemb.	Netherlands	Portugal	UK
Belgium	-	316	804	4 578	7 045	-	271	-	-	1 035	145
Switzerland	40	-	-	245	1 166	-	-	-	-	48	-
Germany	886	-	-	8 021	11 806	-	-	-	-	1 267	679
Spain	3 567	488	8 370	-	23 188	474	11 669	59	4 978	20 513	6 135
France	3 973	4 453	9 227	26 347	-	292	5 549	3 848	2 289	3 475	2 769
Ireland	-	-	-	407	170	-	333	-	-	309	-
Italy	171	-	-	11 078	5 853	271	-	-	-	1 033	820
Luxemb.	-	-	-	144	1 917	-	-	-	-	12	-
Netherland	-	-	-	5 682	3 490	-	-	-	-	2 127	-
Portugal	808	152	1 449	15 159	2 129	355	935	33	1 867	-	1 301
UK	205	-	899	6 194	2 855	-	550	-	-	2 129	-

Table 3 – OD matrix of 2010 relevant freight flows, by country [Kt]

One must bear in mind when reading this table that, apart from Iberian flows, only flows with at least a part of their journey on the corridor were considered. Thus, it is natural that those countries involved in the corridor show the highest tonnage flows, followed by those countries nearer to corridor countries, particularly Italy and the Benelux countries. The selection of the potential ODs using the corridor was carried out at this stage of the study, on such a broad basis in order to keep all relevant traffics in our exercise. When the analyses pinpointed an OD flow not relevant for the corridor, it would cease to be taken into account.

3.1.3 Scenarios and projections

3.1.3.1 Projection of global demand

To project future traffic on the corridor, two different methods are used:

- For flows relating to Spain and Portugal, a series of econometric models were developed based on trade evolution over the last decades, for each country pair and each kind of cargo (13 categories considered). These models were based on the evolution of the GDP of Spain and Portugal, as well as those of their trading partners.
- For other origin-destination pairs, anticipated changes in flows are computed on the basis of the GDP share of each country, and on the elasticities of import and exports volumes to its GDP. These elasticities were calculated in the Transport World Report 2012/2013 of ProgTrans.

As it has been said, regardless of the method used, the GDP growth projections are at the core of these exercises. The econometric models developed for the first market study of the Rail Freight Corridor n°4 considered the European Commission's 2012 Ageing Report's "Potential" scenario series for GDP projections.

For this update, the following assumptions on GDP growth for all countries considered are given by:

- The actual GDP evolutions between 2010 and 2013;
- The latest European Commission Economic short term forecasts – "Spring 2014", for 2014 and 2015;
- From 2016 up to 2030, update the previously used forecast (Ageing Report 2012) with the differences arising between Prognos' projections for GDP (World Transport Report 2014 and World Transport Report 2011), and
- From then on, use the average between the previous growth figures (Ageing Report 2012) and Prognos' latest projections for GDP (World Transport Report 2014).

The following table sums up the variations of GDP forecasts between the original study and this update. As it can been noticed, the new forecasts are higher for Germany, Spain (except for 2020) and Portugal. On the other hand, the forecasts are significantly lower for France and for a few other EU countries (United Kingdom, Poland and Netherlands).

Country	2020	2030	2050
Germany	**3,2%**	**7,2%**	**9,9%**
Belgium	-3,5%	0,7%	2,7%
Spain	**-0,9%**	**2,4%**	**3,7%**
France	**-4,7%**	**-3,8%**	**-2,2%**
United Kingdom	-2,8%	-6,2%	-6,4%
Italy	3,5%	6,3%	4,3%
Luxembourg	-2,1%	-2,1%	-2,1%
Netherlands	-3,5%	-0,5%	-1,2%
Poland	-8,3%	-3,0%	2,7%
Portugal	**2,0%**	**5,8%**	**6,0%**

Table 4 – Variations of GDP forecasts for both studies

The following table illustrates the results of freight flows up to 2030, directly applying the assumptions on GDP growth presented above on the base year 2010 demand matrices (e.g., without taking into account future modal competitiveness evolution and its impact on modal choice, or any other issue).

Mode		Portugal-Europe (inc. Es)	*Just Portugal-Spain*	Spain - Europe (exc. Pt)	Other Corridor flows	Total
Road		61 772	*48 701*	128 130	80 284	**270 186**
Rail	Rail-Rail	1 267	*1 267*	2 970	13 871	**20 756**
	Combined	-	-	2 649		
	Rail-Road	35	-	2 933	-	**2 969**
Fluvial		-	-	-	4 230	**4 230**
Marit.		27 656	*8 115*	115 810	48 227	**191 693**
Total		**90 730**	***58 082***	**252 492**	**146 612**	**489 833**

Table 5 – 2030 "Business as Usual" freight flows, by mode and trade partners [Kt]

In this scenario, the relations amongst different market segments are kept pretty much unchanged from 2010 figures, whether it be the weight of different modes in total traffic, the structure of different types of flow or even the cargo categories, not shown here.

3.1.3.2 Projection of the future transport offer

Two major subjects regarding future infrastructure supply are thoroughly addressed in this study: interoperability, particularly the gauge difference between (standard) European and Iberian rail networks, but also power supply and signaling/communication issues, and the future potential of rail motorway services in the corridor.

Rail motorways consist of a transport system in which heavy goods vehicles (HGV) are loaded (unaccompanied) onto suitable trains. Each train can move up to forty HGV over long distances, avoiding the multiple negative externalities inherent in road transport.

One of these rail motorways runs between Bettembourg (Luxembourg) and Perpignan, near the French-Spanish border, since 2007. Its extension to Barcelona is expected to be achieved by 2020. By that time, a similar service (Ecofret) will expectedly be running along the Atlantic corridor, offering a direct connection between Lille (Dourges), Bayonne (Tarnos) and Vitoria.

By 2030, these two lines may well offer several additional direct connections. This study adds a couple of new services to the set of potential direct connections established within the framework of the first study. So, in addition to Madrid-Lille, Vitoria-Paris, Madrid-Paris or Lisbon – Lille services, demand projections are now also provided to services linking Bettembourg, Mannheim or Oporto. These new services end up sharing the same market with the initially foreseen connections. Regarding the Mediterranean corridor, new rail motorway services are expected to connect Barcelona-Lyon, Valencia-Bettembourg, and Valencia-Lyon.

Indeed, the current situation imposes lengthy and costly transhipments on the French-Spanish border. The total migration from Iberian to standard UIC gauge is a complex issue, involving heavy investments and therefore requiring a long time if ever, to be fully implemented. However, the planned interventions regarding UIC gauge penetration on Iberian rail freight network will undoubtedly push a qualitative leap in terms of cross-border rail traffic in the Corridor.

These infrastructure projects shall be accomplished over the coming decades. For what concerns the Atlantic Corridor, the line from the French border down to Valladolid (covering about 70% of the total distance up to the Spanish-Portuguese border) should be UIC Gauge compatible by 2020 (down to Cartagena at the Mediterranean corridor).

3.1.3.3 Summary of future projects taken into account in the different study horizons

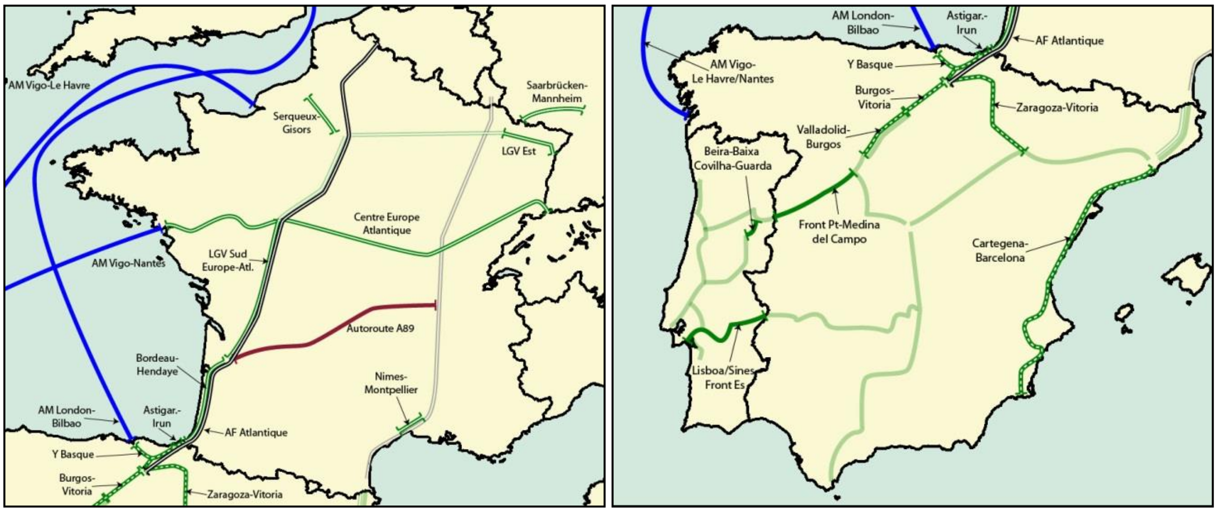
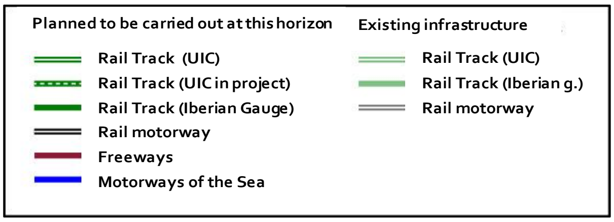


Figure 4 Projects of infrastructures planned to be performed in the short term (2020):



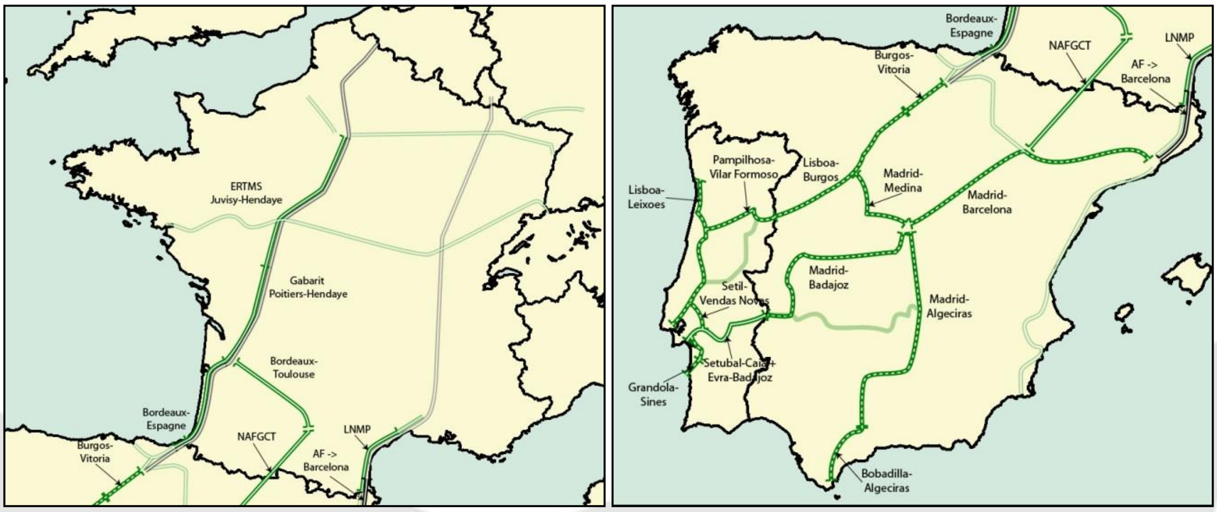
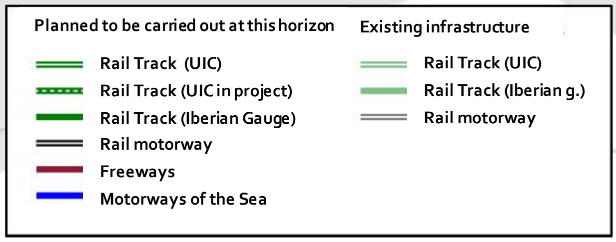


Figure 5 Projects of infrastructures planned to be performed in the medium (2030) and long term:



3.1.4 Analysis of the determinants of the modal choice

The determining factors of the modal choice are calculated from an econometric analysis based on stated preference surveys. These surveys are aimed at providing a qualitative and quantitative analysis of the main factors motivating the choice between the different modes of freight transport, thus enabling a better determination of the reactions of the market to the modifications in the supply conditions.

A preliminary analysis of the main factors of choice of the mode and service of freight transport enabled the identification of 6 characteristics: travelling time (from door to door), total cost, reliability, safety, frequency, and number of transhipments.

In total, 74 companies were interviewed in the context of these surveys. This enabled the analysis of 90 international usual travels and the performance of 810 exercises of stated preferences.

As a result of this analysis, a functions of usefulness was built, which characterize the willingness to pay and the trade-offs between the different characteristics studied. The results of the model presented below only include the segmentations statistically relevant and which have resulted in a better adjustment of the model.

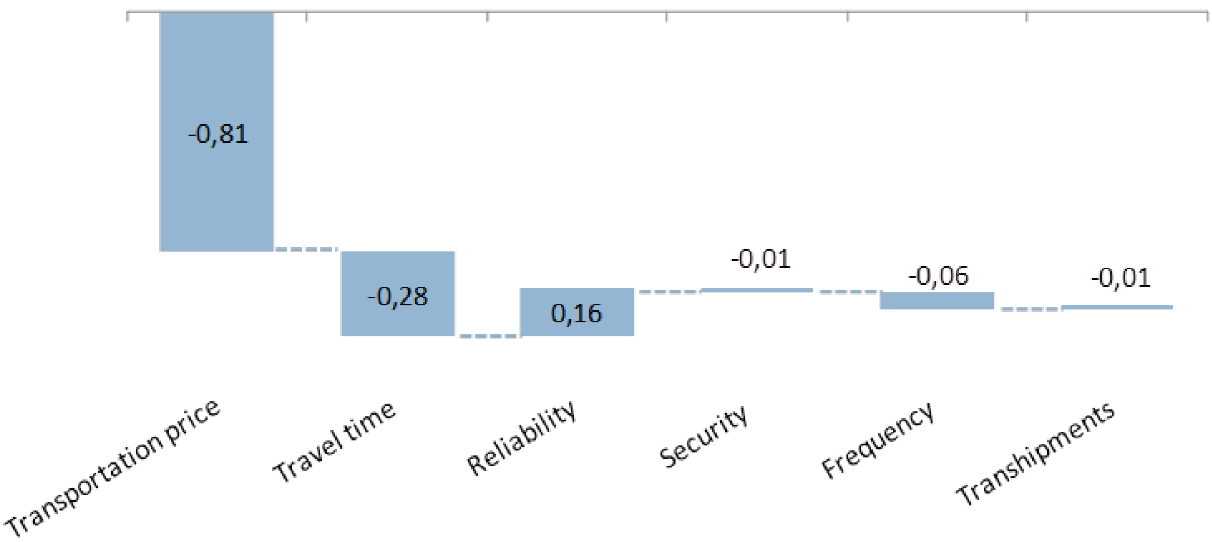


Figure 6 Composition of the estimated value of utility

The results confirm that the total price of the route corresponds to an important proportion of the utility of an alternative. Nevertheless, in a competitive market environment, the travelling time and reliability can have a significant impact on the determination of market shares.

The analysis carried out enabled the distinction of different values of time for the groups of goods of the NST1 type (food products) and NST6 type (construction materials) with a commercial value higher than 3000€/ton. These groups of goods have values of time significantly higher than others.

In terms of averages, the players of the market are willing to pay 0.33 Euros per ton for each hour of travel or less. The following table sums up the results of the estimation of the value of time saved on the different segments of goods:

NST1	NST6 (>3000 €/ton)	Other NST	Total
0,63 € /h.ton	0,58 € /h.ton	0,29 € /h.ton	0,33 € /h.ton

Table 6 – Value of travel time savings for relevant NST groups

Utility functions were adjusted subsequently, thanks to the inclusion of modal constants and scaling factors for the correct calibration of the existing market shares, thus determining the model of modal choice to be used.

3.1.5 Interviews wrap-up

Several in-depth discussions took place with a large variety of stakeholders, i.e. port operators, railway undertakings, terminal operators, shipping companies, corridor managers, infrastructure managers and logistics operators in the four countries covered by the RFC4. Although every stakeholder naturally presented his particular point of view, one can summarise that superposing all issues discussed gives a very clear picture of the strengths/opportunities, but also the observed weaknesses/threats of the RFC4 at the current state.

One can clearly cluster two segments of leverages: firstly operational measures (short- or mid-term considerations) and – secondly – more long term infrastructural measures. Stakeholders unanimously mentioned problems related to the different track gauges on the Iberian Peninsula. This leads to sometimes severe problems at the French – Spanish borders, which was often cited as one of the main reasons for the low market share of rail freight on the corridor.

The following chapters highlight the main topics addressed.

3.1.5.1 Information

The utmost priority for improving the competitiveness of international rail freight is to provide a reliable information platform on actual conditions in which it takes place. Lacking a integrated information platform that enables sharing information on the follow-up of each consignment, to provide real-time information to customers, the frequent replacement of time paths (in the Portuguese case the operator can swap a path without a utilization rate penalty within 7 days) and of the train number, the allocation in each country of different train numbers to the same international freight service, are some examples of the difficulties in obtaining reliable information on international rail services.

These difficulties may be overcome with the development of corridor’s integrated management tools. The Performance Monitoring Reports will include, among others, the following KPIs: achieved punctuality in previously selected points along the chain, average waiting time in passing areas, or deviations between the actual and the scheduled time in corresponding paths.

The need to coordinate multiple activities which involve several different entities in four national rail spaces, such as the path allocation, traffic management, operations at terminals, rail and road transport make the integration of all these interventions particularly difficult to manage, requiring an effective coordination of efforts between the entities that manage the infrastructure, the terminals and rail operations.

3.1.5.2 Value Chain Management

Rail-based integrated supply chains have to be competitive in the face of the highest standards of service established by road haulage solutions, both in terms of price and of level of service offered, measured in terms of reliability, availability, flexibility, customer information (tracking & tracing), quality and safety/security.

In the current framing, it is essential to provide proper support for infrastructure accession by large integrators, by providing the essential conditions of safety, traceability and management of the point-to-point physical processes. They can bring their logistics expertise and the capability to identify the requirements of different markets, the capacity to promote the consolidation of cargos in strategic nodal points in the network, and ensure the necessary occupation rates and balancing of loads.

In order to increase the uptake of rail traffic flows it is important to engage core clients, with volume regularity (that support the launching of services with attractive frequency levels), and merge them with groupage cargo customers (with lower levels of cargo flows). Ultimately, this market may be enticed with the introduction of Rail Motorways, running trucks on top of railcars.

3.1.5.3 Integration of the last mile into the PAP’s

Terminal and port operators miss the integration of the last mile into the PAP’s. They argument that a non-coordination of Corridor slots and terminal slots leads to time losses on the last mile. According to these operators it can’t be made understandable to the final customer, that competitive corridor transport times are wasted between the corridor and the terminals.

On the other hand it was also clarified that priority on scarce terminal slots allocation is given to the big clients of the terminals, bound with long term contracts. This will challenge the train path planning to fit the PAP’s with available terminal slots. But, anyhow, this was seen as a step by step task for improving the whole corridor efficiency.

3.1.6 Traffic forecasts

Total international freight flows in the corridor axis summed up 196 Mt in 2010 of which 113 Mt corresponds to land traffics. These figures relate to the Atlantic Corridor only (especially, trans-Pyrenean flows by the Mediterranean corridor are not included in this analysis), and can be split into three distinct markets:

- The "South" flows, between Spain and Portugal (35 Mt including 30 Mt on land modes)
- The trans-Pyrenean flows, established between the countries of the Iberian Peninsula and their partners (107 Mt of which almost 53 Mt relate to land modes), and
- The "North" flows that use the corridor links north of the Pyrenees (establishing trade routes between France, Germany and its partners, excluding Portugal and Spain (55 Mt including 29 Mt on land)

These traffics can additionally be characterized by three different types of relationships:

- Internal traffic (12% of rail flows in 2010), when both origin and destination of flows are located inside the corridor´s influence area. By definition, all these flows materialize trade relations between Germany, France, Portugal and Spain,
- The exchange traffic (59% of flows) which include either the origin or destination inside the corridor influence area, and
- The transit traffic (29% of flows) that gathers all flows likely to go through any corridor link but neither the origin or destination are located inside the corridor (eg a route Brussels-Paris-Metz-Basel)

The following contingency table displays the interrelations between the above dimensions in 2010 and relevant projection horizons, skimming the rail flows by its different services. It illustrates the strong growth of rail traffic between 2010 and 2020, particularly for cross-border flows, due to the combined impact of extending the UIC gauge from the French border down to Valladolid, and the establishment of the first Ecofret rail motorway service to Vitoria. Rail modal share in 2020 (including rail motorway flows) jumps to 10.6% (against 5.9% in 2010).

		Internal				Exchange				Transit				Total			
		Rail			Land modes	Rail			Land modes	Rail			Land modes	Rail			Land modes
		Conventional + Combined	Rail Motorway	%Rail		Conventional + Combined	Rail Motorway	%Rail		Conventional + Combined	Rail Motorway	%Rail		Conventional + Combined	Rail Motorway	%Rail	
North of the Pyrenees	2010	149	-	12.2%	1 219	2 003	-	11.1%	17 975	1772	-	15.7%	11 297	3 924	-	12.9%	30 490
	2020	275	-	17.0%	1 611	3 390	-	14.9%	22 794	2 919	-	21.6%	13 521	6 583	-	17.4%	37 926
	2030	408	-	18.9%	2 157	5 139	-	16.3%	31 598	4 645	-	24.3%	19 149	10 192	-	19.3%	52 904
	2050	607	-	20.1%	3 021	8 238	-	17.5%	47 190	7 688	-	25.8%	29 742	16 533	-	20.7%	79 954
Across the Pyrenees	2010	394	-	2.9%	13 459	1 409	-	4.3%	32 694	160	-	2.5%	6 448	1 963	-	3.7%	52 601
	2020	753	193	5.9%	15 929	3 184	1 795	12.9%	38 476	393	33	5.4%	7 837	4 330	2 021	10.2%	62 242
	2030	1 254	1 435	12.2%	22 043	5 339	4 166	18.7%	50 774	594	277	8.7%	10 048	7 187	5 877	15.8%	82 865
	2050	2 520	2 432	14.5%	34 164	8 967	7 044	21.7%	73 767	1 059	470	10.6%	14 353	12 546	9 945	18.4%	122 285
South of the Pyrenees	2010	367	-	3.2%	11 515	426	-	2.4%	18 092	-	-	0.0%	186	793	-	2.7%	29 792
	2020	544	-	4.3%	12 666	645	-	3.2%	20 069	1	-	0.6%	206	1 190	-	3.6%	32 941
	2030	1 380	-	7.5%	18 527	1 151	-	3.9%	29 222	4	-	1.5%	299	2 535	-	5.3%	48 048
	2050	2 280	-	8.0%	28 492	2 042	-	4.6%	44 484	6	-	1.4%	455	4 328	-	5.9%	73 431
Total	2010	764	-	2.9%	26 192	3 984	-	5.8%	68 761	1 932	-	10.8%	17 931	6 680	-	5.9%	112 884
	2020	1 314	193	5.0%	30 206	7 476	1 795	11.4%	81 340	3 313	33	15.5%	21 563	12 103	2 021	10.6%	133 109
	2030	2 666	1 435	9.6%	42 727	12 005	4 166	14.5%	111 594	5 243	277	18.7%	29 496	19 915	5 877	14.0%	183 816
	2050	4 843	2 432	11.1%	65 678	19 810	7 044	16.2%	165 441	8 753	470	20.7%	44 550	33 406	9 945	15.7%	275 669

Table 7 – International Transport flows in the Atlantic Corridor [kt]

The increased penetration of UIC gauge all the way through the Iberian Peninsula and the establishment of additional Ecofret services, by 2030, causes yet again a significant increase (14.0%) of rail modal share in 2030. Subsequently, rail ever-increasing modal share continues but much more moderately, reaching 15.7% in 2050.

As we can see, trans-Pyrenean rail share in 2010 is very low (close to 4% of total land flows), and clearly part of the explanation for this fact is the existing interoperability issues between rail infrastructures on both sides of the mountain range. The estimated boost in the tonnage between 2010 and 2030, multiplying by 3.7 present rail flows (excluding rail motorway services), is directly linked to the increased adoption of the UIC standard on Iberian rail infrastructure.

Rail flows "South" of the Pyrenees also experience several interoperability and infrastructural (and “cultural”) issues that hinder its efficiency and competitiveness, such as the diverse (or inexistent) power supply, communication and signalling systems between the Spanish and Portuguese infrastructures, or the limitations on maximum train lengths and weights, due to a few localized steep gradients or the lack of suitable and plentiful 750m length crossing stations. All these have contributed to the “all-road” market currently observed (less than 3% modal share for rail). The expected improvements in the Iberian rail infrastructure up to 2030 will also tackle these issues, supporting the expansion of Iberian rail flows, with international tons figures expectedly multiplying by 3 current flows, while doubling today’s market share.

"North" rail flows, on the other hand, are characterized by a modal share quite closer to the European Union average (17% in 2010). The expected increases in tonnage and rail modal share are accordingly more moderate here than on the former cases.

3.1.6.1 Train Paths Demand Projections

The following table gives a summary on the train paths allocation scenario established in this study. This scenario is based on traffic projections by origin-destination pairs for 2020, looking to keep only a limited number of services. It was assumed that Irun / Hendaye will retain much of its current weight as a point of articulation between the Iberian Peninsula and the northern rail networks by 2020. This explains the large number of services that have one end in Irun / Hendaye. The flows are given aggregating the two directions of traffic. These services are either direct services or services with only one intermediate stop when indicated.

Table 8 – Annual flows and number of trains per section in 2020

Origin	Destination	Intermediary stop	Rail flows modelled for 2020 (in tons)	Number of trains per year for 2020
Irun/Hend	Metz		277 689	427
Metz	Irun/Hend		313 415	482
Irun/Hend	Mannheim		1 042 163	1 603
Mannheim	Irun/Hend		974 699	1 500
Irun/Hend	Paris		560 456	862
Paris	Irun/Hend		772 579	1 189
Irun/Hend	Le Havre		202 264	311
Le Havre	Irun/Hend		133 926	206
Irun/Hend	Vitoria		608 851	1 290
Vitoria	Irun/Hend		458 113	971
Irun/Hend	Porto		86 502	183
Porto	Irun/Hend		137 290	291
Irun/Hend	Madrid	Vitoria	1 647 287	3 490
Madrid	Irun/Hend	Vitoria	1 228 507	2 603
Irun/Hend	Algeciras		175 327	371
Algeciras	Irun/Hend		124 820	264
Irun/Hend	Lisboa		134 463	285
Lisboa	Irun/Hend		198 751	421
Lisboa	Madrid		225 895	479
Madrid	Lisboa		446 417	946
Mannheim	Paris	Metz	1 605 809	2 470
Paris	Mannheim	Metz	1 219 740	1 877
Metz	Le Havre	Paris	1 269 790	1 954
Le Havre	Metz	Paris	1 375 801	2 117
Madrid	Porto		56 427	120
Porto	Madrid		97 408	206

Figure 7 - Annual number of trains by link in 2020

For 2030, the choice of services was made taking into account, on the one hand, the matrix O/D flows and, on the other hand, flows between main production and consumption centres, again trying to keep a limited number of services.

In the following table, services are either direct services or services with an intermediate stop when specified.

Table 9 – Total flows and number of trains per section in 2030

Origin	Destination	Intermediary stop	Rail flows modelled for 2030 (in tons)	Number of trains per year for 2030
Irun/Hend	Metz		364 811	561
Metz	Irun/Hend		132 886	204
Irun/Hend	Mannheim		250 911	386
Mannheim	Irun/Hend		165 429	255
Lisboa	Paris		241 125	438
Paris	Lisboa		186 306	339
Vitoria	Paris		524 160	953
Paris	Vitoria		700 268	1 273
Vitoria	Metz		133 799	243
Metz	Vitoria		372 903	678
Lisboa	Mannheim		215 137	391
Mannheim	Lisboa		172 505	314
Algeciras	Paris		122 880	223
Paris	Algeciras		220 346	401
Lisboa	Madrid		574 464	1 044
Madrid	Lisboa		1 008 949	1 834
Le Havre	Mannheim	Paris	1 092 997	1 682
Mannheim	Le Havre	Paris	1 085 845	1 671
Mannheim	Madrid		463 169	842
Madrid	Mannheim		243 789	443
Mannheim	Paris	Metz	4 072 775	6 266
Paris	Mannheim	Metz	3 607 828	5 551
Mannheim	Vitoria	Metz	619 087	1 126
Vitoria	Mannheim	Metz	692 421	1 259
Porto	Vitoria		256 802	467
Vitoria	Porto		363 444	661
Irun/Hend	Madrid	Vitoria	940 511	1 710
Madrid	Irun/Hend	Vitoria	542 539	986
Algeciras	Irun/Hend	Vitoria	288 094	524
Irun/Hend	Algeciras	Vitoria	350 834	638
Porto	Mannheim		142 064	258
Mannheim	Porto		63 028	115
Porto	Paris		179 530	326
Paris	Porto		118 735	216
Paris	Madrid		582 522	1 059
Madrid	Paris		262 548	477
Porto	Madrid		247 691	450
Madrid	Porto		139 960	254

Figure 8 - 2030 trains by link

The above figures are net of rail motorway flows, which are dealt separately in the next section.

By 2020, the Ecofret connection between Vitoria-Lille will be the first rail motorway service running on the Atlantic Corridor. The traffic on this route is estimated at 2Mt (equivalent to 4,034 trains) per year.

For 2030, the demand projections are summarized in the following elements.

Table 10 – 2030 Rail Motorways estimates for the Atlantic Corridor

2030		In Kt	In number of trains
Vitoria	Paris	589	1 176
Vitoria	Lille	871	1 738
Madrid	Lille	1 019	2 033
Madrid	Paris	516	1 030
Lisboa	Paris	221	441
Lisboa	Lille	508	1 013
Porto	Paris	295	589
Porto	Lille	262	522
Vitoria	Bettembourg	266	532
Madrid	Bettembourg	171	342
Vitoria	Mannheim	713	1 424
Madrid	Mannheim	446	890
		5 877	**11 731**

Figure 9 - 2030 rail motorway trains by link

3.1.7 Extension of Atlantic Rail Freight Corridor

3.1.7.1 Connection to Mediterranean Corridor at Zaragoza

The Mediterranean Rail Freight Corridor runs from Algeciras in the South of Spain to the Hungary-Ukraine border and beyond, holding a common section with the Atlantic Rail Freight Corridor in the Algeciras – Madrid rail link. The proposal of new Atlantic Corridor extension to Zaragoza, creating a new connection between both corridors, adds the Autonomous Communities of Aragón and Navarra to the corridor's catchment area.

Figure 10 - Mediterranean and Atlantic Corridors contact points

The strategic sectors of the Aragonese economy are the automotive industry, logistics and transport. Aragón holds a relevant geostrategic position between the highly populated economic centres of Madrid, Barcelona, and the Basque Region. Some 50% of the Spanish automobile production is distributed through Aragón.

Aragón is one of the top 3 automotive clusters in Spain, being home to the GM Figueruelas site - General Motors most productive assembly plant in Europe - and over 300 tier 1, 2, 3 and 4 automotive suppliers, including Brembo, Mann+Hummel, Valeo, Arcelor Mittal or Fujikura. Other large plants in the region include factories for train engines (CAF - Construcciones y Auxiliar de Ferrocarriles S.A.), household appliances (Balay), or stationary products (SAICA and Torraspapel). Agriculture production, traditionally a relevant economic sector of Aragón, thrive on a well-developed irrigation system around the Ebro River.

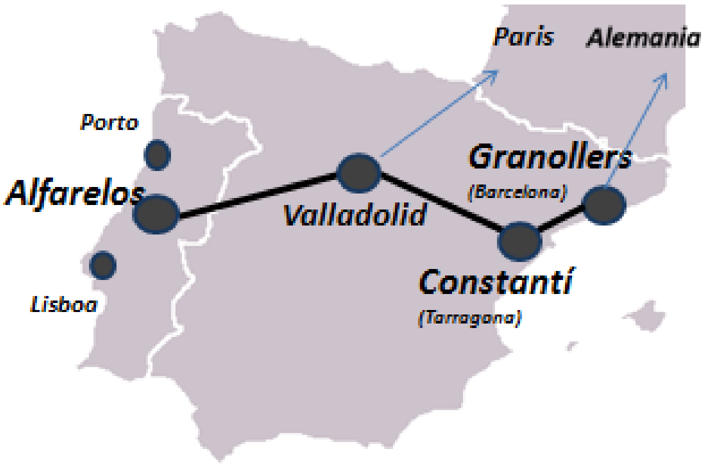
The economic structure of Navarra differs from the Spanish average for the importance of the industrial sector, highly technological and showing strong export capacity. The following sectors stand out: Automotive, machinery and electrical equipment, food Industry (there are several Registered Designation of Origin in Navarra, particularly in cheese, wine, and peppers), and renewable energy.

Volkswagen Navarra SA is home to Spanish production and export champion VW Polo, the only 'made in Spain' car among the twenty best selling models worldwide. BSH Home Appliances España SA is another example of a leading company in the region.

These industries comprise several significant international rail freight shippers. We could name, for instance, GM's and VW's automotive flows to/from the assembly plants located in these Communities and elsewhere in Europe (using the Atlantic or Mediterranean corridors alike, in the case of GM), or the stationary related flows to/from Portugal.

There are also other international services that run through this extension (Zaragoza – Vitoria/Miranda del Ebro railway line), such as Portugal – Catalonia flows which use it to avoid going through Madrid's *Cercanias* congested rail network, as does Transfesa's twice-weekly IBEREXPRESS service.

Figure 11 - Transfesa's IBEREXPRESS uses the Corridor Extension to Zaragoza

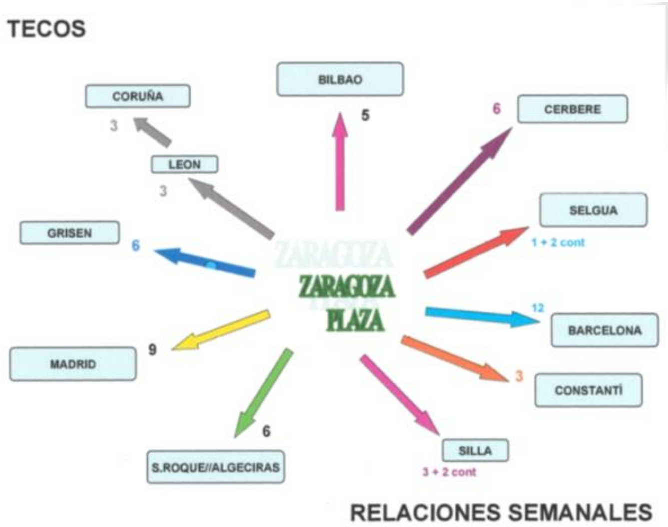


Several relevant logistics platforms are also located in this region, such as Zaragoza Plaza or Mercazaragoza, which is the base for a Port of Barcelona's inland terminal (TMZ), fostering maritime business in Zaragoza and the Ebro Valle, since 2012. Zaragoza Plaza is, on its own, the largest logistics premises on the European continent. Its intermodal service capacity (railways, roads, and air routes) have made PLAZA the site chosen by such as INDITEX, Imaginarium, Memory Set, Porcelanosa, TDN, DHL Express, Barclays Bank, MANN+HUMMEL IBÉRICA, S.A.U., etc. Several weekly rail services are offered on its premises, as illustrated below.

The new intermodal terminal at Noáin, near to Pamplona, supports the increased use of railways by local Industries from Navarra, which heavily rely on road transport. Located on existing Adif's premises, close to Pamplona Airport and the "Ciudad del Transporte de Pamplona", it has 15,000 square meters of warehouses and seventeen tracks, nine of them for loading and unloading, and eight for reception.

The terminal is currently operated by Tercat - Barcelona's BEST (Barcelona Europe South Terminal) terminal operator, materializing Adif's new strategy for the increased involvement of supply chain agents in terminal management and operations, such as the handling of intermodal units and provision of ancillary services (other recent examples include Huelva, Villafria de Burgos or Tarragona terminals). Noáin Terminal rail services to BEST terminal, performed by 70 TEU trains, started on a weekly frequency, and a second or a third frequency are expected shortly.

Figure 12 - Weekly rail services from/to services from Zaragoza Plaza per direction



The following tables provide the total forecasted tonnes for these region's international freight flows, along with the rail freight catchment potential for this new connection, which also includes the flows between Portugal and Catalonia.

ES-PT [kt]		To/from Aragón/Catalonia	To/from Navarra	Total
All Modes	2010	940	76	1 015
	2020	1 123	91	1 214
	2030	1 570	120	1 690
	2050	2 454	195	2 649
Rail flows	2010	260	-	260
	2020	401	14	416
	2030	810	60	870
	2050	1 388	117	1 506

Table 11 – Projections of freight flows to/from Portugal on the new extension to Zaragoza

There were over one million tons traded between Portugal and these Spanish Autonomous Communities in 2010, with rail seizing almost 28% modal share. These freight flows are estimated to growth over 2.5 times up to 2050, while rail flows will expectedly multiply by 6 its current figures, doubling today's figures to reach a modal share of almost 60%, in 2050. Depending on future network congestion and/or border cross, a significant part of these may be expected to use this connection (as opposed to going through Madrid).

thrg.Pyrenees [kt]		To/from Aragón	To/from Navarra	Total
All Modes	2010	8 284	4 066	12 350
	2020	9 896	4 885	14 781
	2030	13 189	6 610	19 799
	2050	19 454	9 786	29 240
Rail flows	2010	485	180	665
	2020	724	260	984
	2030	829	354	1 183
	2050	1 480	525	2 005

Table 12 – Projections of freight flows through the Pyrenees and the new extension to Zaragoza

Regarding trans-Pyrenean trade flows, 2010's tonnes figures are estimated to multiply by 2.3 by 2050, while rail flows triples, increasing its market share from 5.2% to 6.5%. It is worth mentioning here that the implementation plans established in the framework of this study consider the new high-capacity rail axis across the Pyrenees (Central Crossing) only in 2050.

3.1.7.2 Connection to Germany

Preparing the extension of the Atlantic Rail Freight Corridor to Germany two possible rail connections were analysed:

- via Stiring-Wendel/Saarbrücken and;

- via Strasbourg/Kehl/Offenburg.

The following figure shows that the main additional potential road transport flows between Germany and France were using the links via Metz-Saarbrücken in the North and Mulhouse in the South.

Figure 13 - Road transport flows Metz/Saarbrücken and Mulhouse

The link Metz – Saarbrücken is of highly relevance for Atlantic Rail freight Corridor. In contrast, the potential for a modal shift from road to rail on the Mulhouse link is mainly relevant for the Mediterranean corridor. As the above figure illustrates, this link is of less relevance for Atlantic Rail freight Corridor.

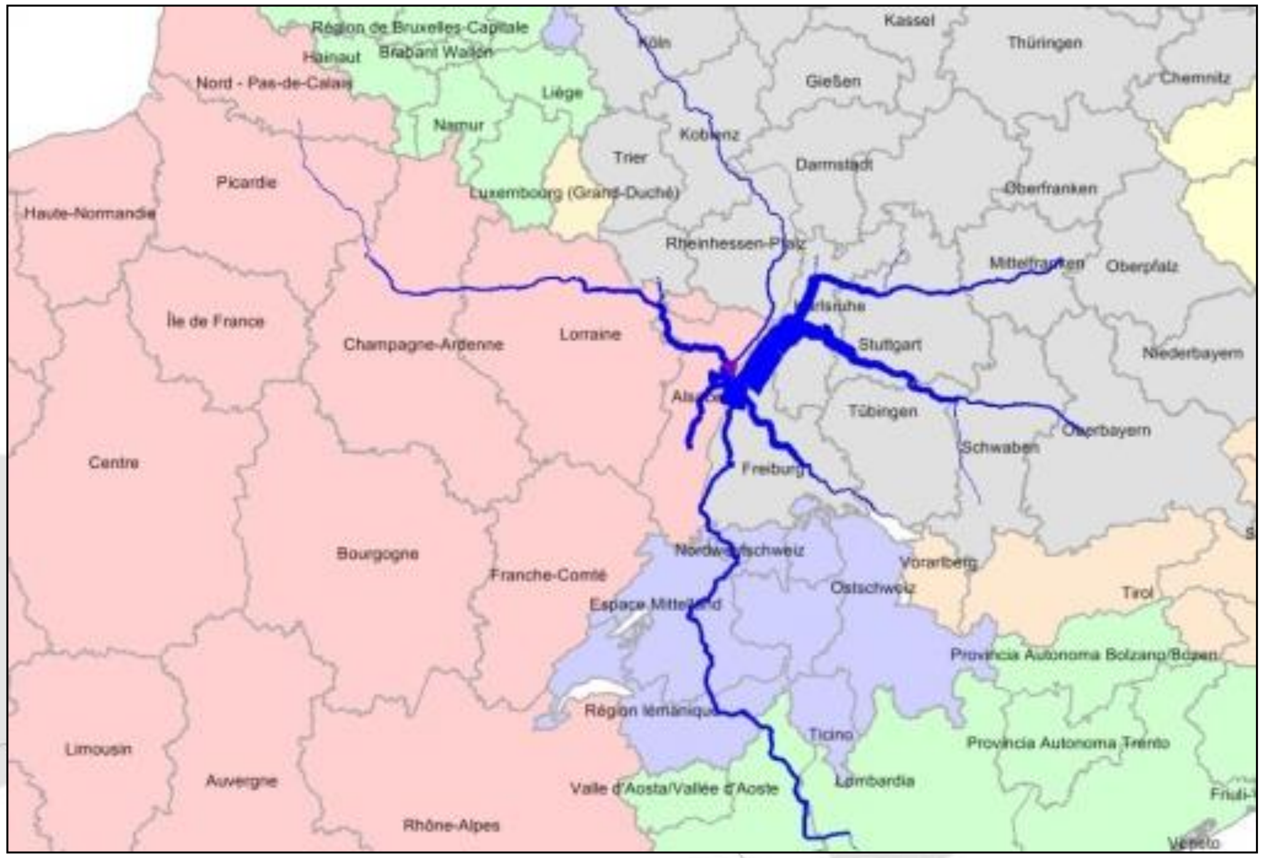


Figure 14 - Road transport flows using border crossing station Kehl/Offenburg

As it can be seen in figure 14 the itinerary for connecting Germany and France via Strasbourg – Kehl – Offenburg is mainly relevant for regional transport flows. Only a few transport flows refer to long distance transport. In 2013, about 1200 cross-border freight trains used the connection via Kehl/Strasbourg. Compared to the connection via Stiring-Wendel/Saarbrücken, Kehl/Strasbourg carries about 10% of the observed cross-border rail freight traffic between France and Germany. As conclusion, the connection via Strasbourg – Kehl – Offenburg-Mannheim is of limited interest for the Atlantic Corridor, although it can serve as a backup route to the itinerary via Stiring-Wendel/Saarbrücken.

3.1.7.3 Connection to Rhine-Danube Rail Freight Corridor

With the extension to Mannheim and Strasbourg, the Atlantic Corridor will be connected directly with the Rhine-Danube Rail Freight Corridor. The later runs from Mannheim and Strasbourg via Munich, Vienna, Bratislava and Budapest to Constanta in Romania on the Black Sea. This provides additional opportunities to manage future rail flows between Portugal, Spain, France and the East/South-East European countries.

The following figures show the expected progress of road transport volume of Portugal, Spain, France and Germany from/to the East-/South-East European countries. This data is relevant to help establish the modal shift potential of future road flows between these countries.

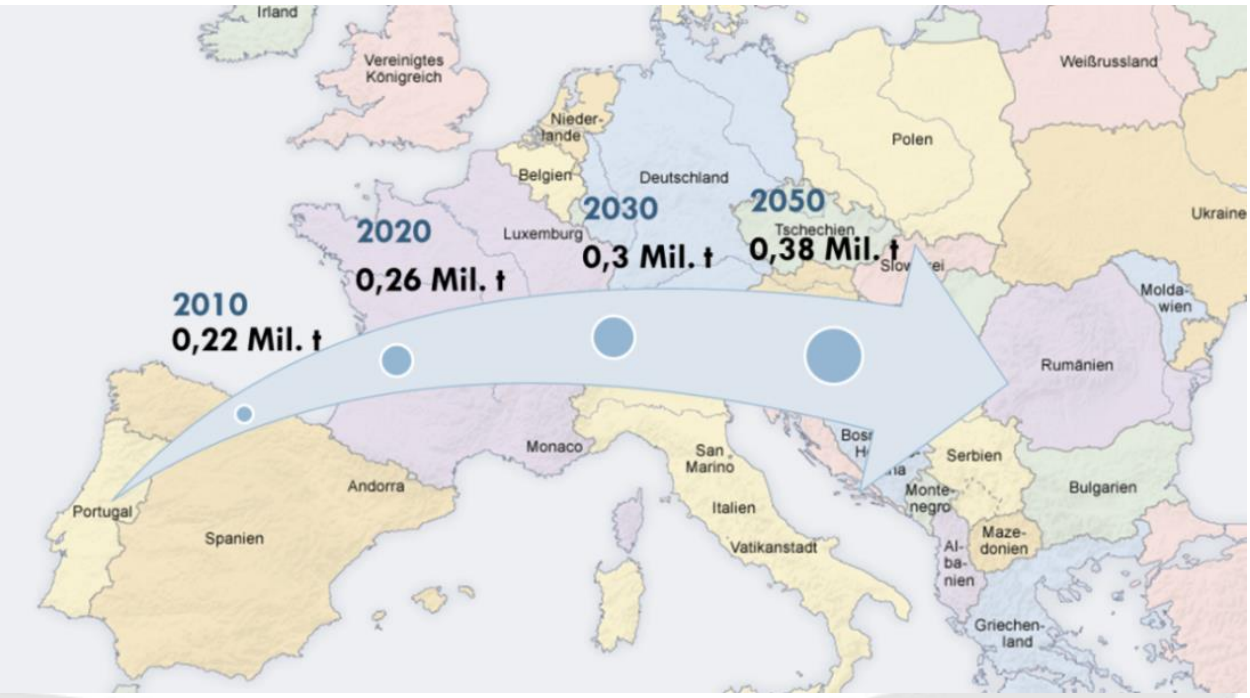


Figure 15 - Road freight volumes between Portugal and East-/South-East Europe (both directions)[Mt]

Figure 16 - Road freight volumes between Spain's Corridor area and East-/South-East Europe (both directions)[Mt]

Figure 17 - Road freight volumes between France's Corridor area and East-/South-East Europe (both directions)[Mt]

Road transport volumes between Portugal and the East-/South-East European countries are very low, resulting in just 0.38 million tonnes in 2050, which mainly run from Portugal to East-/South-East Europe and precisely Poland. The main commodities transported are machinery, transport equipment, manufactured articles and miscellaneous articles (NSTR9).

In contrast, the road transport volumes between Spain and the East-/South-East Europe will almost double between 2010 and 2050, resulting in 4.8 million tons. The most relevant transport volumes in East-/South-East Europe are oriented to Poland and the Czech Republic, and only limited volumes are going to other East-/South-East European countries. In addition the transport flows are quite unbalanced: About 60% of the transport volume originates in Spain and goes to the Eastern-/South-Eastern European countries. Main transport goods are NSTR9 (Machinery, transport equipment, manufactured articles and miscellaneous articles), foodstuffs, metal and agriculture products as well as chemicals.

Since these flows are handled mainly in combined transport terminals, and are not transported directly from their origin to their destination, the opportunities for handling goods in German terminals were analysed, based on a DB Netz database. Several terminals in Germany currently run direct international services to East-/South-East European cities, such as those located in Mannheim or Kehl (Rhine-Danube Rail Freight Corridors connections to the Atlantic Rail Freight Corridor), but also those terminals located in Cologne or Duisburg.

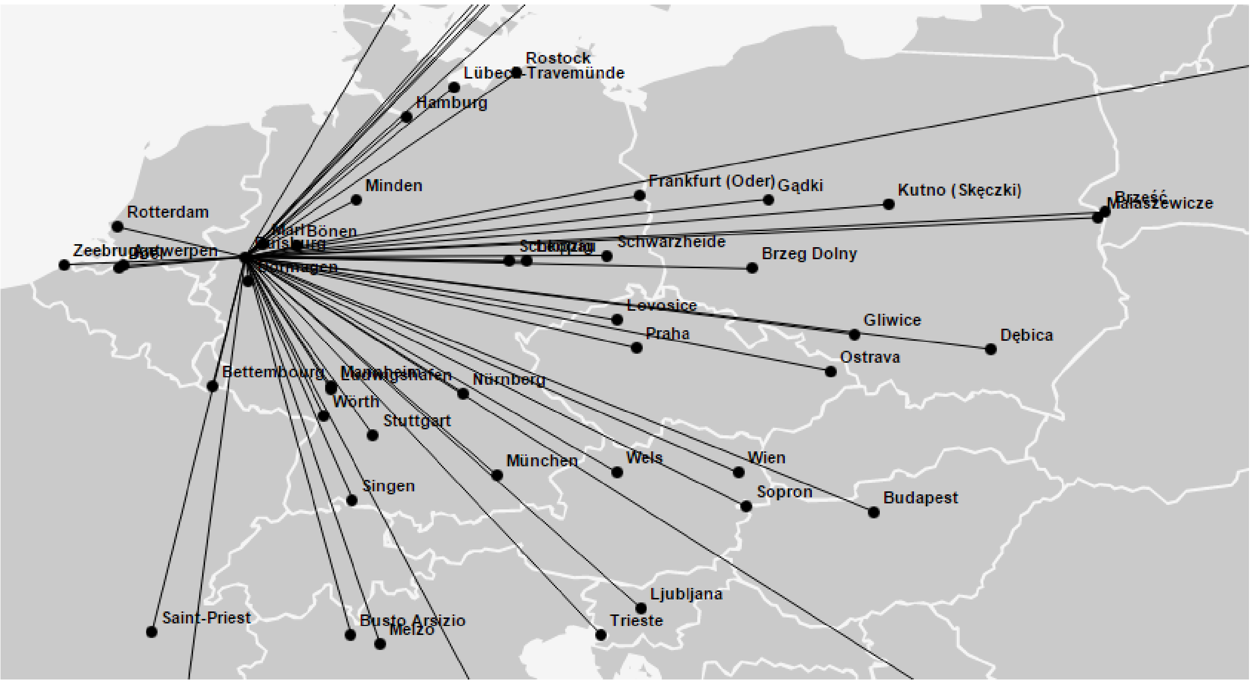


Figure 18 – Rail connections of Duisburg Terminal to the East

The example of Duisburg connections is given in figure 18. As a result of this analysis, it can be stated that there are some important eastward connections subsequent to Atlantic Rail Freight Corridor, via the Rhine-Alpine and Rhine-Danube Corridors. The central Gateway terminal in this context is Duisburg, providing up to 20 regular connections to East and South-East European countries. In addition, up to 4 connections are available from/to the terminals in Mannheim and Ludwigshafen.

3.1.7.4 New Connections with Nantes-St. Nazaire and La Rochelle seaports

In addition to the proposal of new connections to Mediterranean Corridor in Zaragoza, and to Rhine Danube Rail Freight Corridor in Germany, the rail links connecting the French seaports of Nantes/St. Nazaire and La Rochelle were also included into the corridor. Since both ports are major seaports in France, its inclusion in Atlantic Rail Freight Corridor may lead to additional international rail transport volumes along the corridor.

Therefore, the potential road transport volumes from/to Germany, Portugal and the corridor area in Spain which might be shifted to rail were analysed and summarized in table 13 for the NUTS3 regions Nantes/St. Nazaire and La Rochelle. One should take note that this table does not distinguishing between loco and port traffic.

O/D (both ways)		2010	2020	2030	2050
Nantes/St. Nazaire	Germany	680	860	1130	1560
	Spain	680	820	1100	1800
	Portugal	90	110	120	200
La Rochelle	Germany	190	230	290	400
	Spain	160	200	290	460
	Portugal	19	21	27	43

Table 13 – International road freight flows to French seaports (@NUTS3) [kt]

As it can be seen in table 12, the transport flows are on a relatively low level and, in the particular case of Portugal, totally negligible. When analysing the transport flows in detail, only few O/Ds between regions will have sufficiently high volumes suitable for rail transports. But this is only the case under the condition that these flows are sufficiently locally massified on a few shippers to be of interest for rail transport:

From/to La Rochelle

- Südbayern: 126’000 (2010) – 300’000 tons per year (2050)
- Niedersachsen: 70’000 (2010) – 150’000 tons per year (2050)

From/to Nantes/St. Nazaire

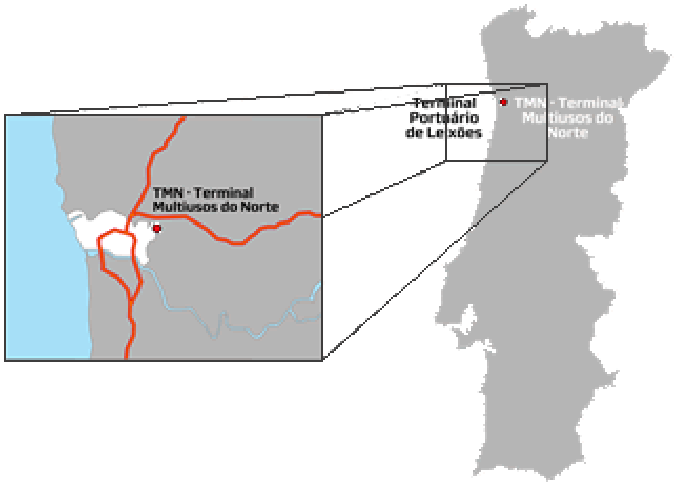
- Südbayern: 37’000 (2010) – 87’000 tons per year (2050)
- Niedersachsen: 41’000 (2010) – 94’000 tons per year (2050)
- Stuttgart: 29’000 (2010) – 70’000 tons per year (2050)

The main commodities transported are Machinery, transport equipment, manufactured articles and miscellaneous articles (NSTR9) whereas the other commodities are distributed to all the other commodity groups.

As conclusion, with the exception of some potential between Spain and Nantes/St. Nazaire, the potential for rail connections of the Iberian Peninsula with Nantes/St. Nazaire and La Rochelle is of minor interest. The transport volumes between Germany and Nantes/St. Nazaire or La Rochelle are relatively low and distributed to disperse O/D pairs and commodities. Those conditions are more or less inappropriate for rail transport.

3.1.7.5 Connection to Valongo terminal (SPC Multiusos)

Figure 3 - TMN Valongo's location near Oporto



The Valongo Terminal, recently integrated in the Atlantic Rail Freight Corridor, lies in a 16 ha site in the Industrial Area of Campo (Valongo), situated at about 29 km from the Port of Leixões and at about 20 km from Francisco Sá Carneiro Airport. With 8.000 Sqm of warehousing area (including a customs bonded area) and a storage capacity of 2.300 TEUS, it can operate 500 m long electric trains 24 hours/day, holding a theoretical capacity for 8 block trains a day.

This strategic location allows it to serve the northern part of Portugal, and perform as a backup site to the Port of Leixões future Logistics Platform. This is quite relevant as, increasingly, feeder movements between Portuguese seaports are being captured by rail, and particularly those with a leg in Sines seaport, such as MSC operations to the Port of Setúbal (a operation performed at SPC's terminal at the Sapec Bay Industrial Area).

SPC main vocation is terminal operations management, and it operates several rail and Logistics terminals close to the main Portuguese Atlantic freight hubs, such as Valongo (Oporto), Setúbal (TMS), but also Bobadela (Lisbon – just by CP Carga's Terminal) and a couple of other sites. It enjoys privileged partnerships with terminal players located in strategic locations in Spain (Irun, Tarragona and Sagunto).

SPC is one of CP Carga largest international transport customers, e.g. in the Iberian Link Service (an intermodal CPCarga / Renfe partnership connecting the Portuguese Atlantic rail hubs - Bobadela and Leixões - to Madrid and Catalunya). Its core customers lie in the chemical industry, to whom it provides added values services, such as container tanks heating, and its biggest commitment goes toward capturing market share in specific freight categories that involve larger scale operations, such as chemicals, industrial raw and intermediate materials, steel, wood, and shipping containers.

Chemicals represent around 50% of Portuguese rail freight imports, mainly in 30 foot intermodal containers that usually return emptily to their origin. 90% of chemicals' import flows are destined to the Northern part of Portugal (from Santo Tirso down to S. João da Madeira), while export flows originates mainly from the southern part of the country (Repsol).These flows are most relevant between Bobadela and Valongo, in Portugal, and Tarragona in Spain, Europe's second most important - and Iberian first - chemistry hub.

SPC also has some experience in managing rail services. Just recently, SPC set up an international rail freight operation in a joint operation with Geodis, connecting its main terminals to Catalunya. This operation lasted for several months and summed over 100 trains during its lifetime up to its end, in March 2014, when Geodis lost its main customer (IKEA) to Transfesa/Klog and dropped the train.

3.1.8 Analysis SWOT

An analysis SWOT is the study of a given situation (strenghts and weaknesses) and possible ways of evolution of this situation (opportunities and threats). It is a way of presenting the main elements of this analysis applied to the railroad mode in the zone covered by the Rail Freight Corridor Atlantic.

3.1.8.1 Strengths:

- The possibility of transporting important volumes on long distances allowing potentially reduced costs,
- The mobilization of public authorities and infrastructure managers and their organization in common structures,
- The service done by the corridor for important production sites and consumption,
- Rail transport reduced environmental impact.

3.1.8.2 Weaknesses:

- High capital costs, at the same time for infrastructures and rolling stocks,
- A lack of flexibility of the periods of transport,
- An absence of priority for the freight trains on the rail network,
- Lesser costs, at the moment, for the road and maritime modes of transport,
- A direct competition of the maritime mode on the corridor and the efficient range of services of transport,
- A lack of confidence of the actors of the transport in the rail mode.

3.1.8.3 Opportunities:

- The liberalization of the market which can allow an increase of the competitiveness of the offered services and a price drop for the rail transport,
- The simplification of the procedures of reservation of paths and the realization of new tools with benefit from new technologies,
- A reduction in the competitiveness of the road mode in relation with the increase of the energy costs and creation of new taxes,
- The development of the iberian ports in the hinterland of the Rail Freight Corridor Atlantic which, in support on the optimization of the rail network, can become a competitive alternative of the Northern ports of Europe and Mediterranean, in particular for the transcontinental traffics.

3.1.8.4 Threats:

- The economic situation and the uncertainty which causes its impact on the countries of the Rail Freight Corridor Atlantic,
- The relocation of the centers of consumption and production towards other countries of Europe,
- The development of the sea transport (cheaper in terms of investments) and services which develop themselves in this frame (maritime highways).

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 2022 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:

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Phone	*(+34) 917 744 774*
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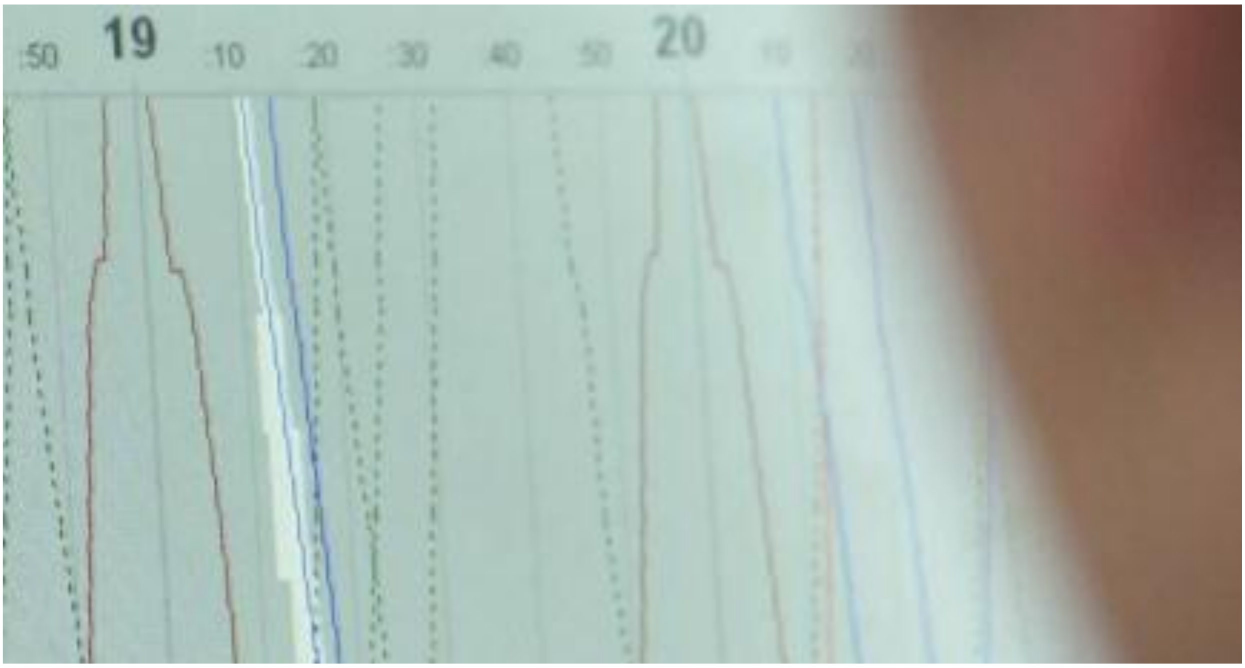


The main functions of the one-stop shop of Rail Freight Corridor Atlantic will be the following:

- 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 2022 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 2022 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 2022 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:

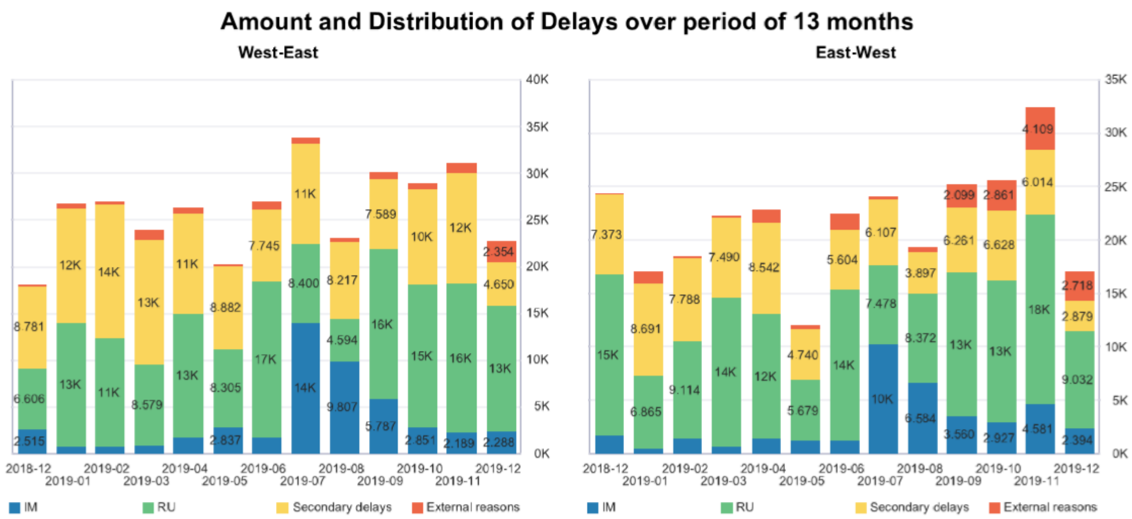
Indicators	
i.	Annual number of prearranged freight paths (p)
ii.	Volume of offered capacity (km×days): - at X-11 - at X-2
iii.	Volume of requested capacity (km×days): - between X-11 and X-8 - between X-8 and X-2 (late paths requests) - between X-2 and X+12 (ad hoc paths requests)
iv.	Volume of requests (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.

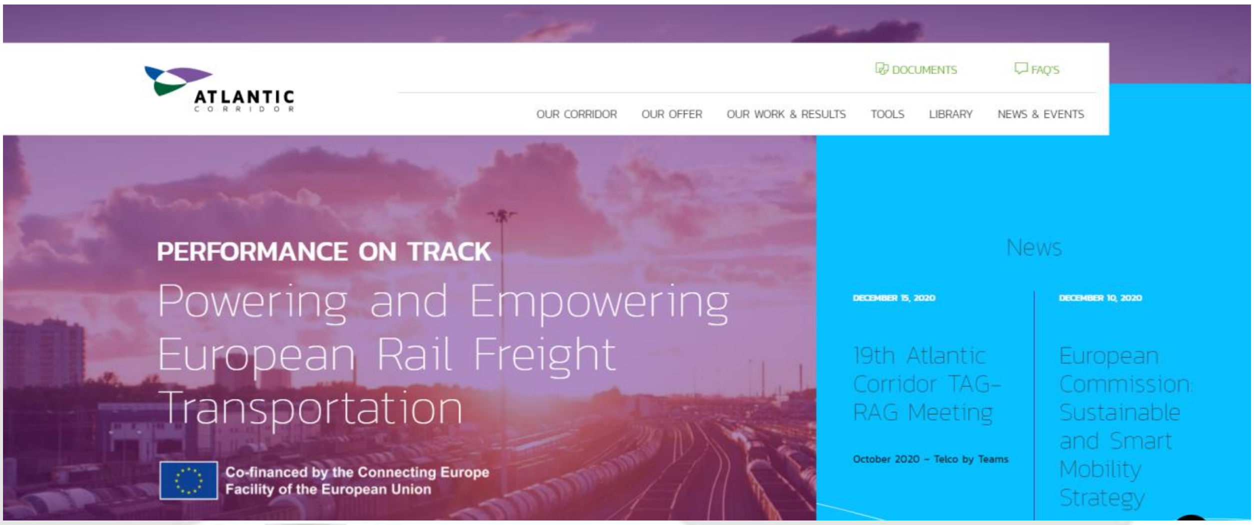
Considering the information required from Regulation EU 913/2010 and 1316/2013, the EEIG Atlantic Corridor offers to adopt the following agenda:

	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.

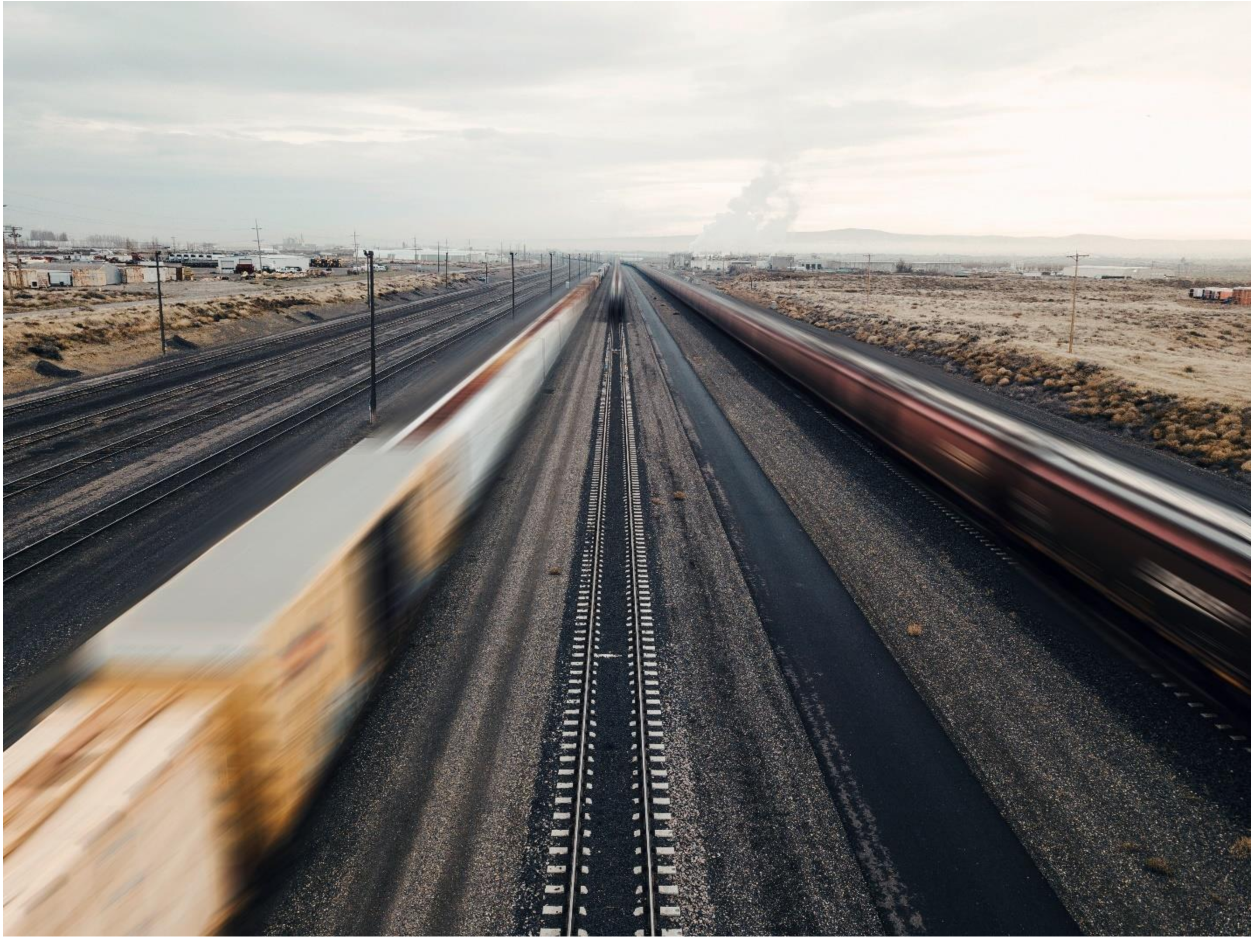
Strategic Objectives	2020	2025
a) Number of international prearranged freight paths using the corridor (n.) • <u>Method</u>: Number of international prearranged paths and/or TTR slots crossing one or two borders available at X-11. • <u>Purpose</u>: Provide a basic production indicator for Rail Freight Corridor Atlantic	50	+25%
b) Average speed of prearranged paths [km/h], excluding freight transhipment time at the border between France and Spain • <u>Method</u>: 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 • <u>Purpose</u>: 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.

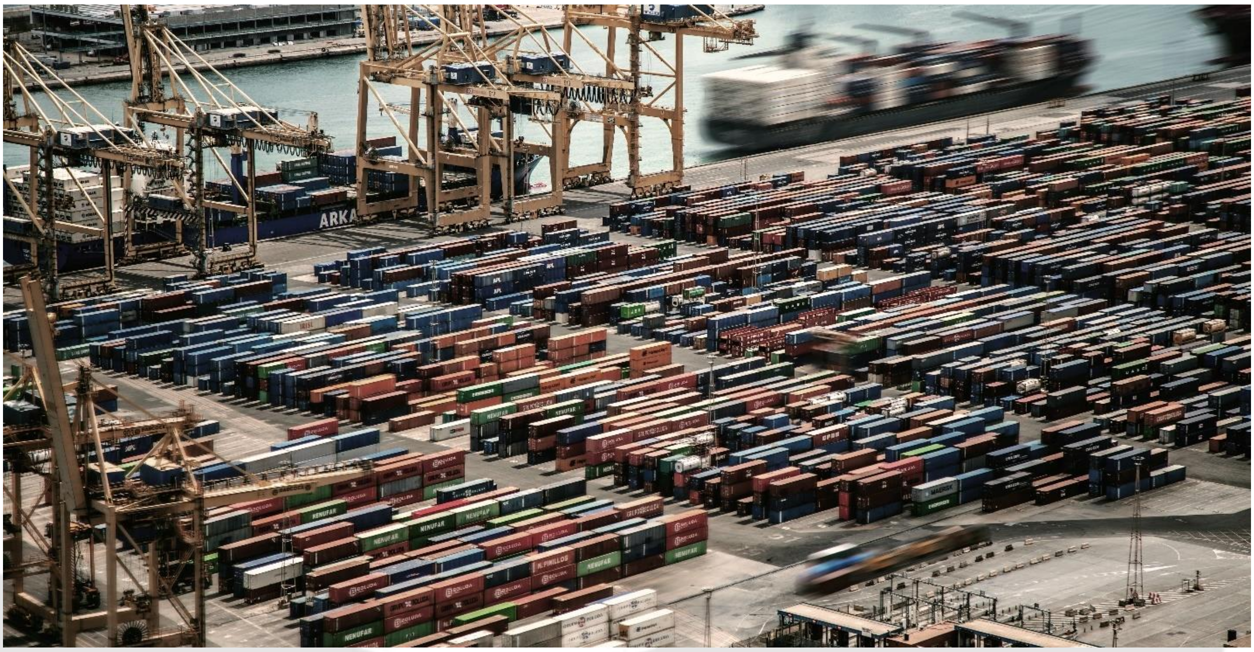
6.1.2 Suppression of bottlenecks

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 Portuguese Railway Investment Plan “Ferrovia 2020”, presented by the Portuguese Government in February 2016, is based on PETI3 +. The Plan PETI3+ defined a set of priority duly identified by a large number of stakeholders, namely:

- International commitments, including bilateral ones with Spain and those resulting from the Atlantic Corridor;
- Promotion of freight transport and in particular exports;
- Articulation between national ports and the main land borders with Spain.

FERROVIA 2020

PROJETAR PORTUGAL NA EUROPA

Al in all, the Plan foresees an intervention in over 1000 km of rail lines with an investment of about 2M€ of investment, the investment shall be allocated in the following way by national corridor:

- North International Corridor
    - Investment: 676 million euros
    - Community funding: EUR 386 million
- South International Corridor
    - Investment: 627 million euros
    - Community funding: EUR 389 million
- North-South Corridor

- Investment: 380 million euros
- Community funding: EUR 227 million

■ Complementary Corridors
- Investment: 264 million euros
- Community funding: € 141 million

With Co-financing rates for contracts vary between 40% and 85%, the main goals of this investment are the following:

■ INCREASING THE COMPETITIVENESS OF RAIL TRANSPORT
- Reduction of travel times;
- Reduction of transport costs (€ / km / container);
- Increased capacity (number and length of trains).

■ IMPROVING INTERNATIONAL CONNECTIONS
- Corridor Sines / Setúbal / Lisboa-Caia;
- Corridor Leixões / Aveiro - Vilar Formoso;
- Promote the use of the railway on routes to and from national ports.

■ CREATE CONDITIONS FOR RAIL INTEROPERABILITY
- Electrification: + 480 km of electrified lines;
- Signalling: + 400 km of lines with electronic signalling;
- Freight train length - increased to 750 m;
- Gauge - installation of (multipurpose) sleepers that enable changing the gauge in international corridors.

Most recently, 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, when the majority of the precedent points will have been solved.

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.

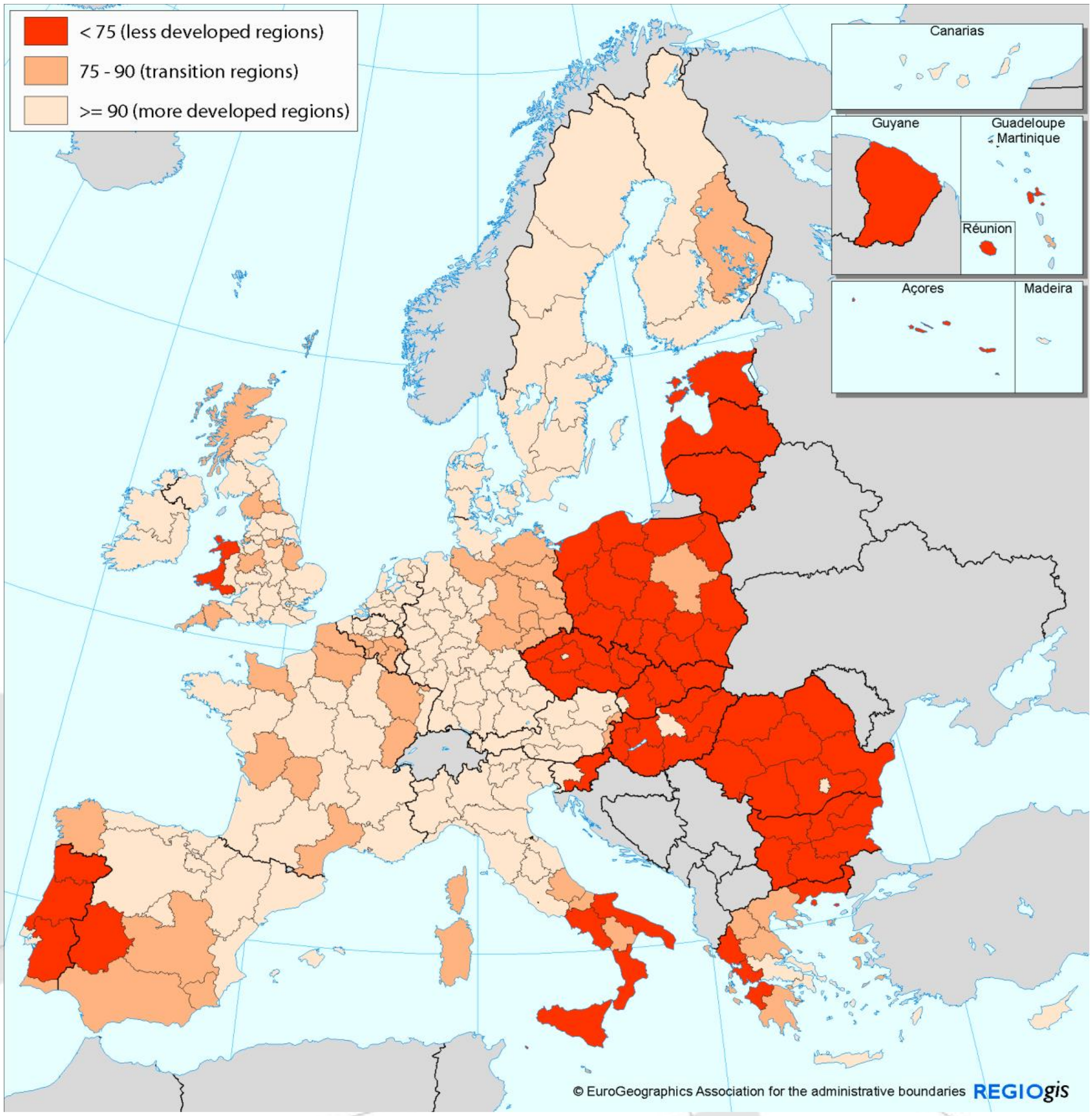
6.4 Reference to Union Contribution

The European Commission's proposal for the Multiannual Financial Framework (MFF) for 2014-2020 was approved to over 960 billion euros (2011 prices). The Commission has presented a set of regulations laying down the objectives and management of the EU funds in the period 2014-2020, covering cohesion policy, maritime affairs and fisheries, research and innovation, environment and climate, competitiveness.

6.4.1 Structural and Cohesion Funds

The total proposed budget for the period 2014-2020 is 351.5 billion euros, including funding for the new Connecting Europe Facility, which is designed to enhance cross-border projects in transport, energy and information technology.

France, Spain and Portugal will be affected by the following map:



The budget for the cohesion policy 2014-2020 will be divided as following (2011 prices):

Fund Budget	(€ billion)
Cohesion Fund (including infrastructure projects)	66.4
Less developed regions	164.3
Transition regions	31.7
More developed regions	49.5
Cooperation	8.9
Additional allocation for outermost and sparsely populated northern regions	1.4
Connecting Europe Facility (CEF) for transport, energy and ICT	29.3
TOTAL	351.5

The Cohesion Fund, with an allocated budget of **66.4 billion euros**, helps Member States with a Gross National Income per inhabitant of less than 90 % of the EU-27 average to invest in TEN-T and the environment.

According to the regulation (EU) 1316/2013 approved on the 11.12.13, the European Commission proposes to allocate **19.3 billion euros during the 2014-2020 period for the Connecting Europe Facility,** to be complemented by an **additional 10 billion euros ring fenced for related transport investments inside the Cohesion Fund.**

This amount comprises:

- **23.2 billion euros for transport** (including 10 billion euros transferred from the Cohesion Fund),
- 5.1 billion euros for the energy sector and
- 1 billion euros for ICT.

On the basis of the Multi Annual Call 2014 results provided by INEA, the European Commission decided to allocate 9,83 / 13 billion euros to rail project; **0,83 / 0,94 billion euros will be dedicated to the rail project of the Atlantic Corridor**.

The viability of various projects described in the Investment Plan of Rail Freight Corridor Atlantic will require European aid in the short, medium and long term, taking into account the limited resources of their Member States for transport infrastructures.

After the subsequent validation of the Investment Plan of Rail Freight Corridor Atlantic by its Executive Board, the EEIG Atlantic Corridor will assist IM of the Corridor in terms of request of funds to be addressed, namely, to INEA for the financing of projects connected with the improvement of competitiveness of rail freight traffic.

Annex 5.A Rail Freight Corridor "Atlantic" / Corridor Information Document 2022 – 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

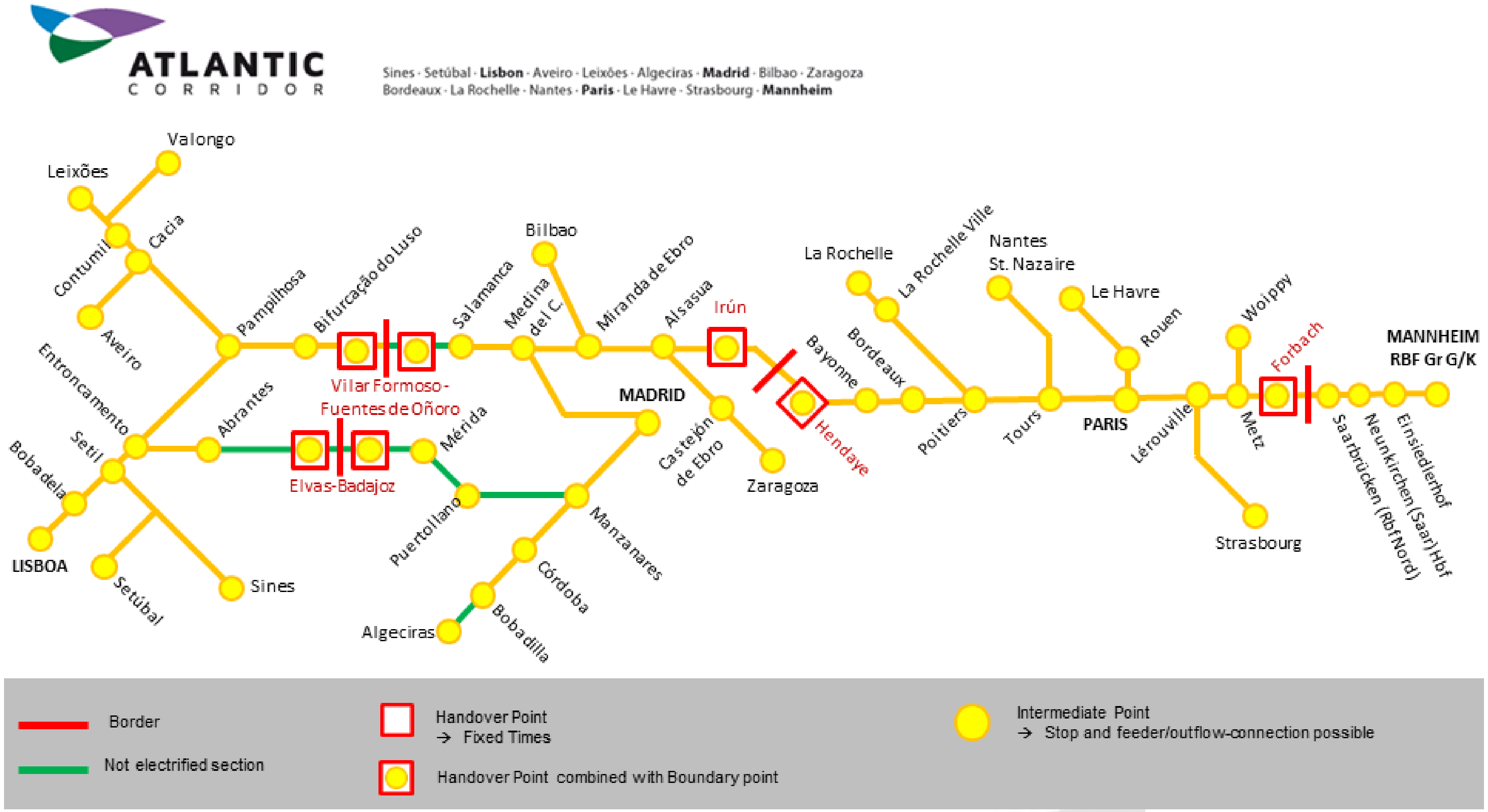
  https://www.atlantic-corridor.eu/media/1130/rne_international_contingency_management_handbook_final_v15.pdf

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

Mentioned in 2, 2.1, 2.2 and 2.3

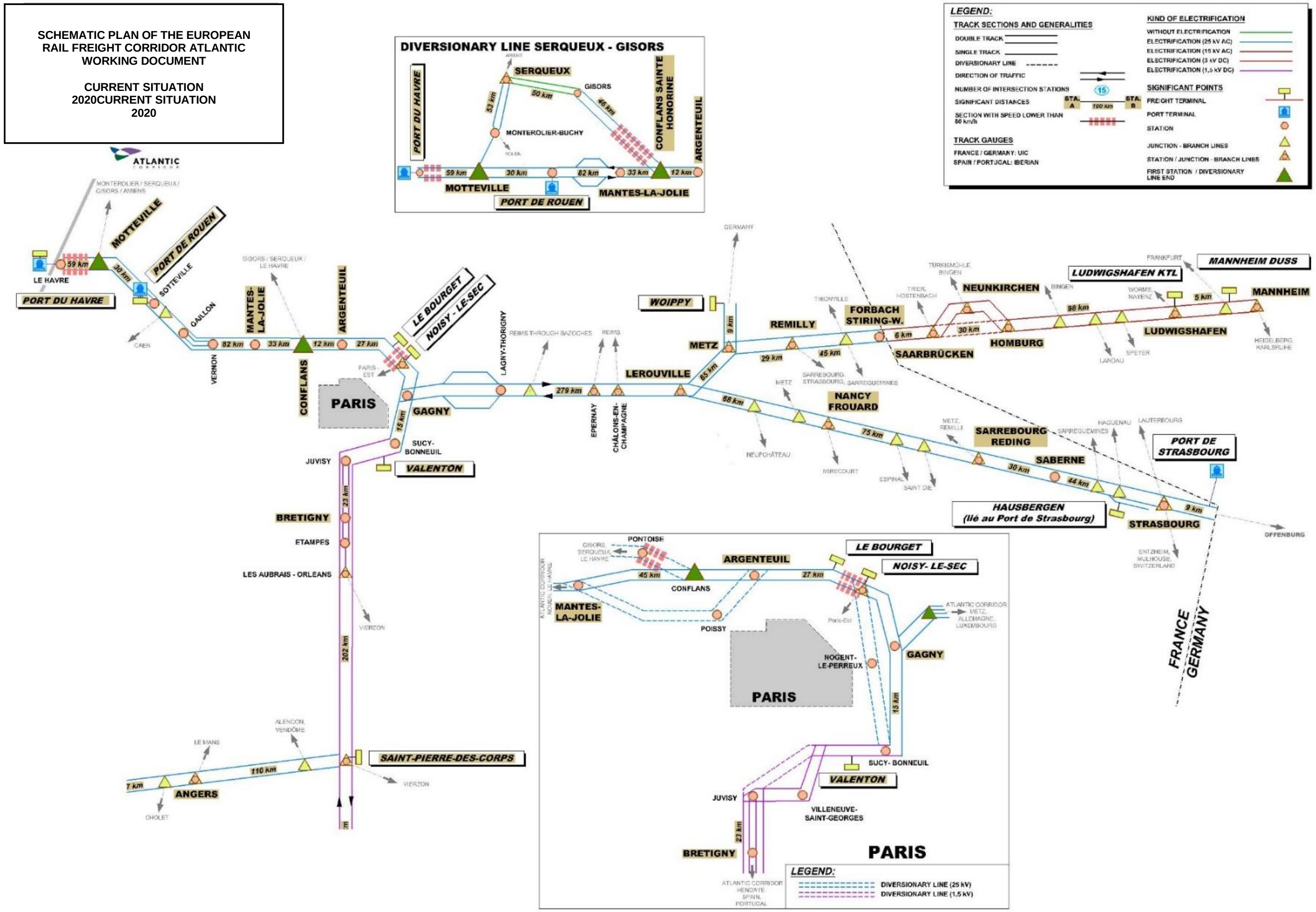
Annex 5.D.1 Ports and Terminals

Mentioned in 2.2



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

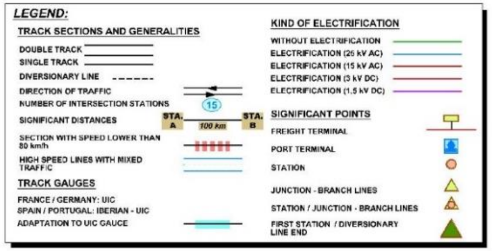
Map 1/5 Mentioned in 2.1 abd 2.2

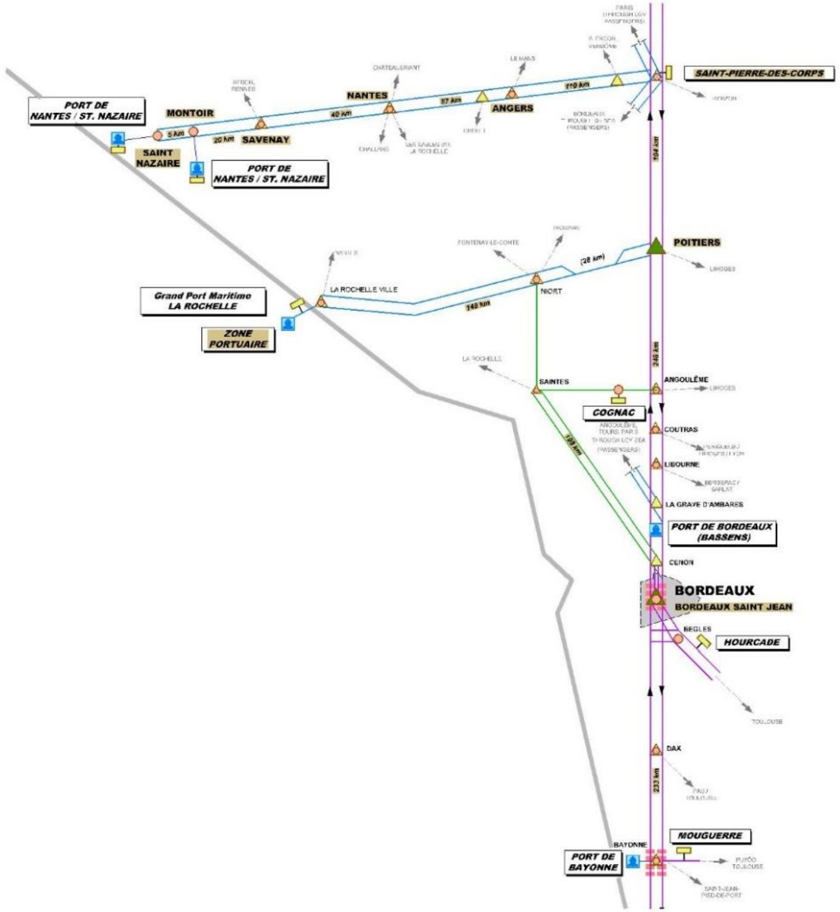


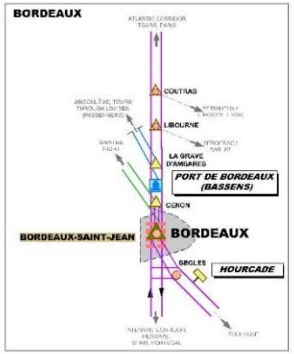
Map 2.5

SCHEMATIC PLAN OF THE EUROPEAN
RAIL FREIGHT CORRIDOR ATLANTIC
WORKING DOCUMENT

CURRENT SITUATION
2020CURRENT SITUATION
2020



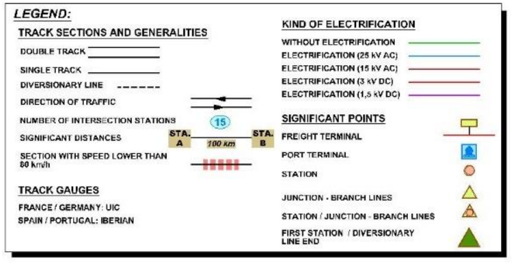


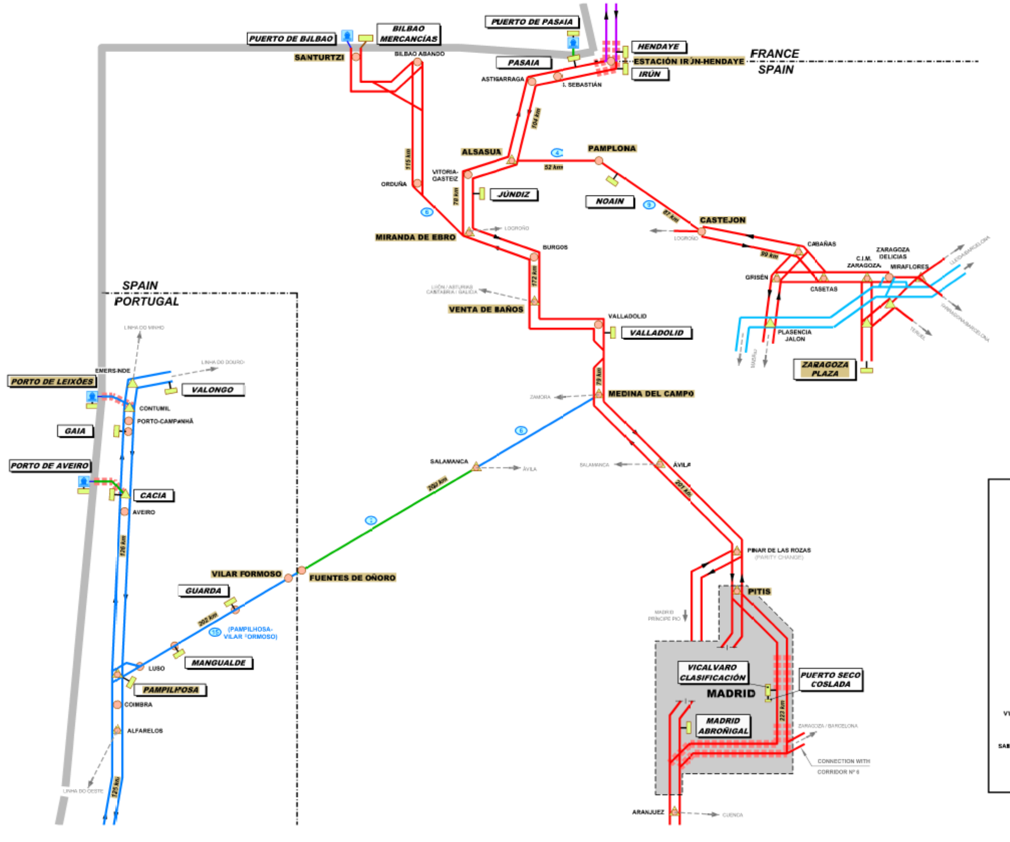


Map 3/5

SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC WORKING DOCUMENT

CURRENT SITUATION
2020CURRENT SITUATION
2020

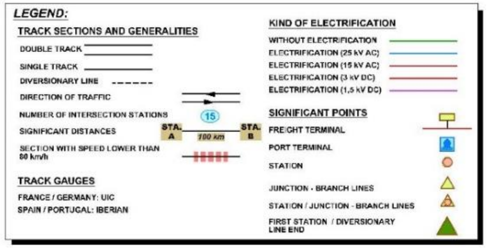


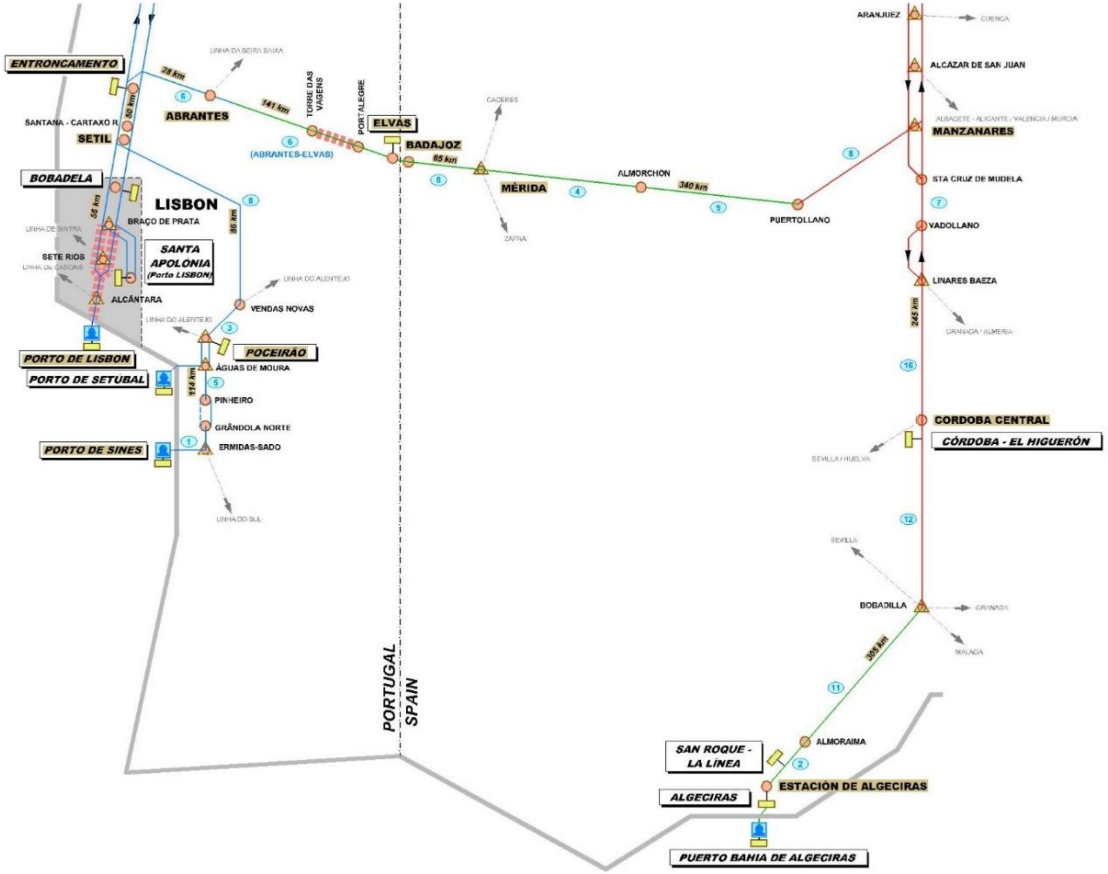


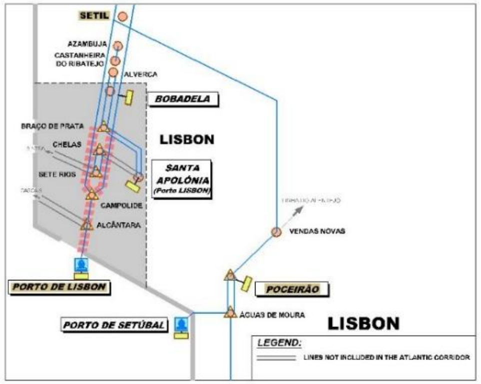
Map 4/5

SCHEMATIC PLAN OF THE EUROPEAN
RAIL FREIGHT CORRIDOR ATLANTIC
WORKING DOCUMENT

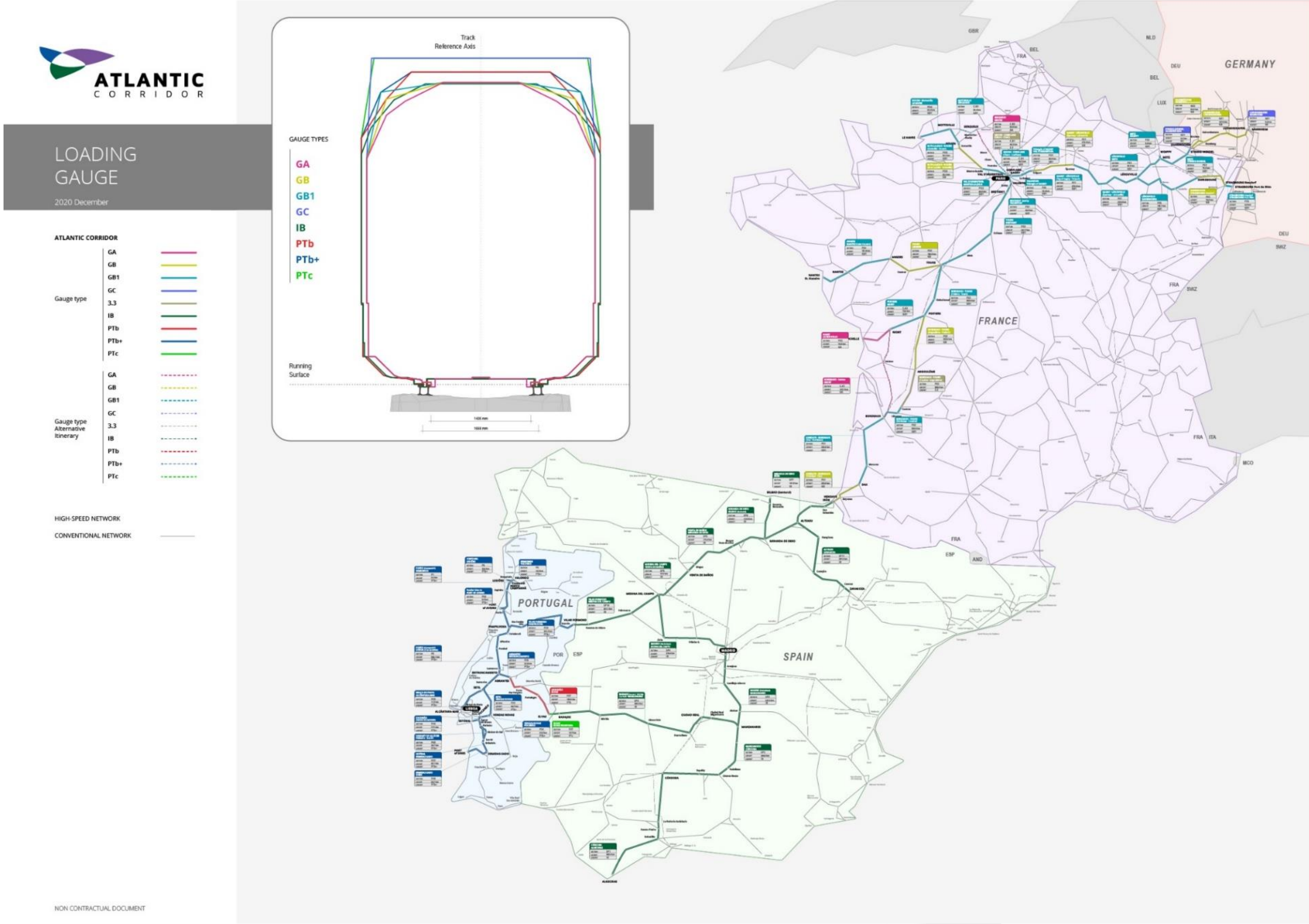
CURRENT SITUATION
2020CURRENT SITUATION
2020







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
HIGH-SPEED NETWORK
CONVENTIONAL NETWORK
GAUGE TYPES
Track
Reference Axis
Running
Surface
GERMANY
FRANCE
PORTUGAL
SPAIN
NON CONTRACTUAL DOCUMENT

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								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
GE1 - Stiring Wendel (french border)-Mannheim	Stiring-Wendel (Frontière)	Saarbrücken	3231	2 (circulation à droite)	15 000 V.	**5,5**	22,5	1435	15-20	15-20		X				X																		X			120	2000													750*	G2
138,8 km	Saarbrücken	Homburg	3250	2 (circulation à droite)	15 000 V.	**31,1**	22,5	1435	5-15	5-15		X				X																		X			100 - 160	2400													750*	G2
	Homburg	Ludwigshafen	3280	2 (circulation à droite)	15 000 V.	**96,8**	22,5	1435	0 - 20	0 - 20		X				X																		X			160	2000													750*	DE3
	Ludwigshafen	Mannheim	3401	2 (circulation à droite)	15 000 V.	**5,4**	22,5	1435	0 - 25	0 - 25		X				X																		X			100 - 160	1500-2000													740*	DE3
GE3 - Strasbourg Port du Rhin (French border) to Offenburg	Strasbourg Port-du-Rhin (frontière)	Appenweier	4260	2 (circulation à droite)	15 000 V.	**13,5**	22,5	1435	0-10	0 - 10		X				X																		X			120 - 160	2400													740*	G2
21,1 km	Appenweier	Offenburg	4280	1 / 2 (circulation à droite)	15 000 V.	**7,6**	22,5	1435	5-10	5-10		X				X																		X			250	2400													740*	DE3
Itinéraire alternatif Saarbrucken - Hombourg via Neunkirchen																																																				
GE2 - Saarbrucken - Hombourg via Neunkirchen	Saarbrücken	Neunkirchen	3511	2 (circulation à droite)	15 000 V.	**21,3**	22,5	1435	5 - 25	5 - 25		X				X																		X			100 - 120	1500-2000													740*	G2
34,9 Km	Neunkirchen	Homburg	3282	2 (circulation à droite)	15 000 V.	**13,6**	22,5	1435	0 - 10	0 - 10		X				X																		X			120	2400													740*	G2

FRANCE

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

LINE	SECTION			INFRASTRUCTURE							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) (DE)	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) (DE)	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 (circulati on 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 (circulati on partielle ment 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 (circulati on 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 (circulati on 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 BLOCK (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	Brinkola	100	2	3000 V	21,7	22,5	1668	0	13				X								X	X									X					100						2500	1450	2500	1620					550	IB
	Brinkola	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
SP9. Badajoz(frontera) - Mérida - Ciudad Real - Manzanares	Frontera (Badajoz)	Badajoz	520	1	-	5,3	22,5	1668	< 10	< 10															X												120						> 1730	> 1730	> 1.950	> 1.950					460	IB
	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	Nóemi	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			
23				X	Création IPCS Gaillon-Val de Reuil	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		
16	X		X	X	Refonte du plan de voie de Brétigny (modernisation RER C)	PS4 Brétigny Valenton	X				X		
17				X	Redécoupage du BAL entre Juvisy et Brétigny (modernisation RER C)	PS4 Brétigny Valenton	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€	
28			D	D	Medina del Campo – Salamanca. Electrificación y sistema de señalización (se extrapola la inversión del tramo Medina del Campo – Salamanca)	Medina del Campo - Fuentes de Oñoro	Already in Service				X		
29			D	D	Salamanca – Fuentes de Oñoro. Electrificación y sistema de señalización (se extrapola la inversión del tramo Medina del Campo – Salamanca)	Medina del Campo - Fuentes de Oñoro	X				X		
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€	
17	D	D		D	Variante de Almoraima (estación de San Roque)	Madrid - Algeciras	Already in Service			X			
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		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		
19	D		D	D	New technical station (Lousal - Canal Caveira)	P37 Setúbal – Ermidas do Sado		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			
23	D	D	D	D	Modernization (Covilhã - Guarda)	P25 Abrantes - Guarda	on-going	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			

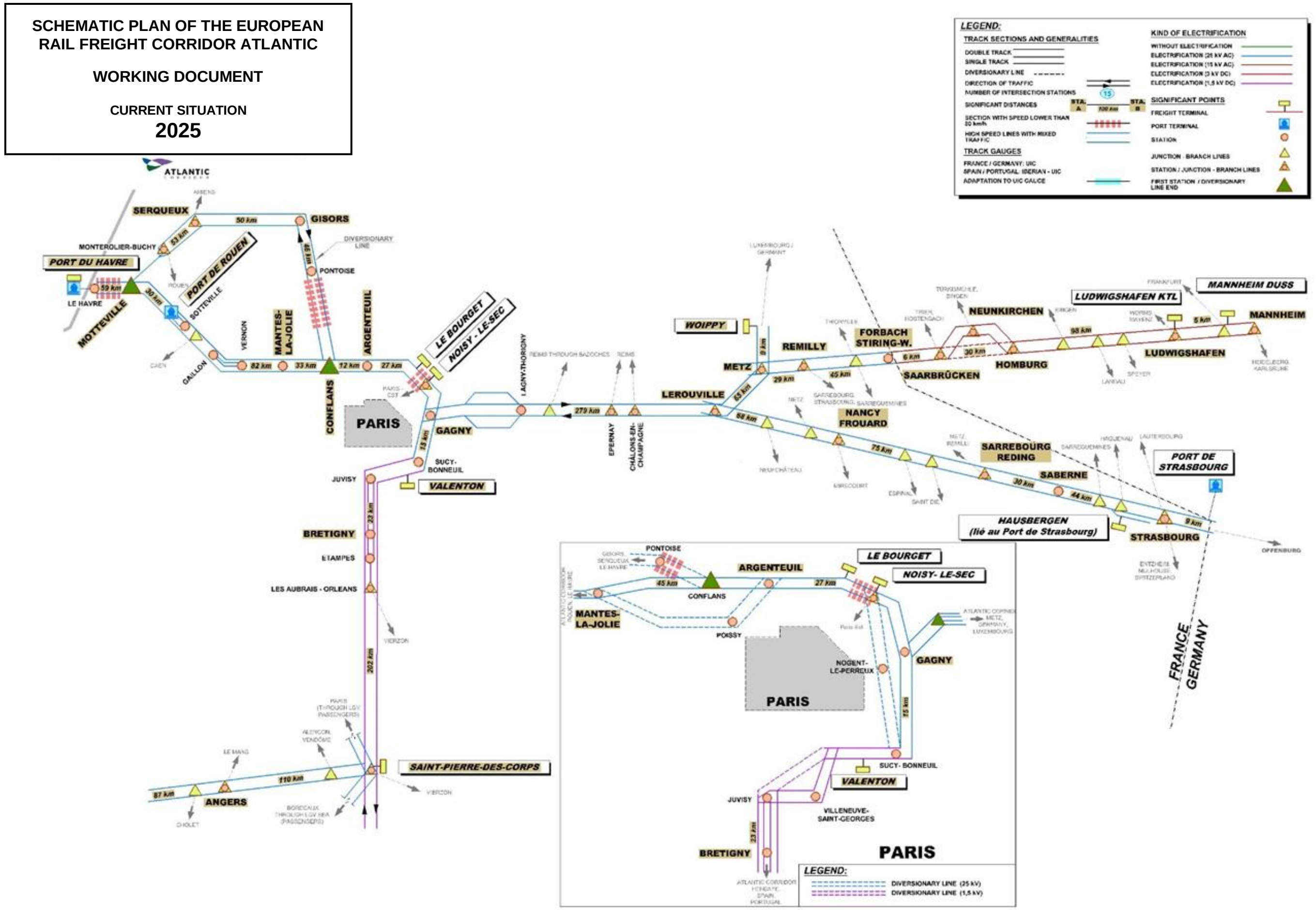
ERTMS-ETCS Facilities

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



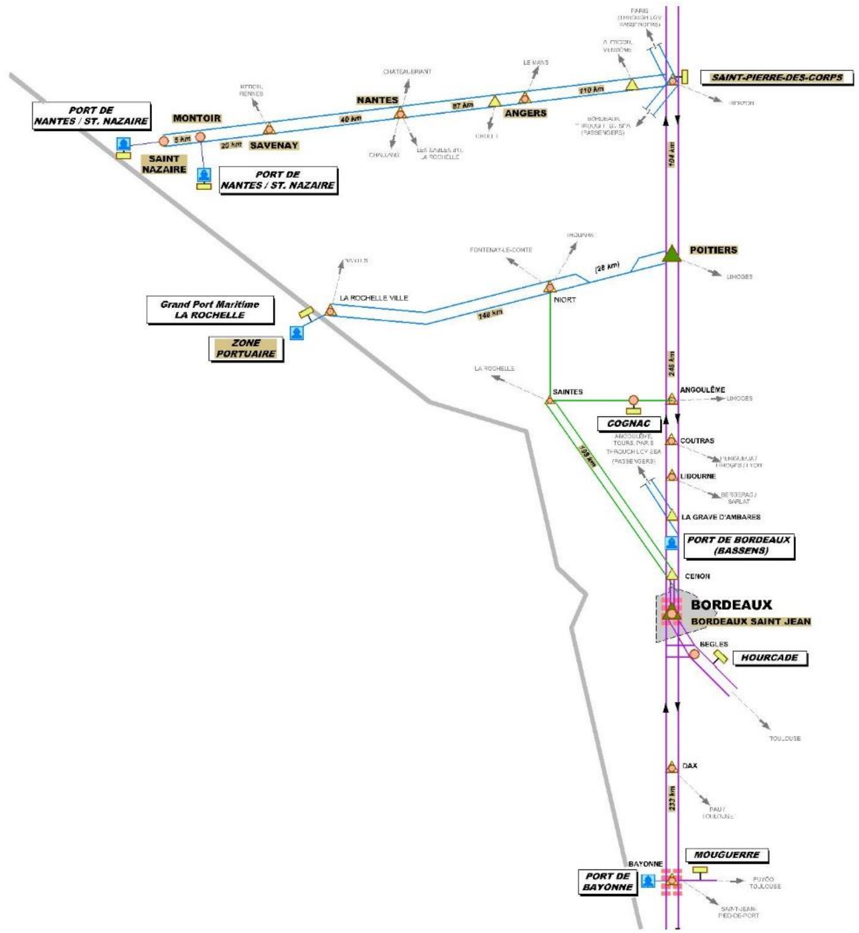
Map 2/4

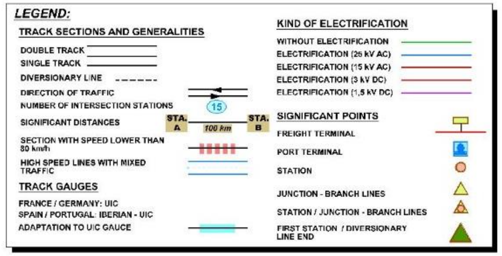
SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC

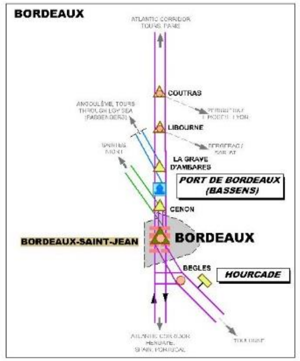
WORKING DOCUMENT

CURRENT SITUATION

2025







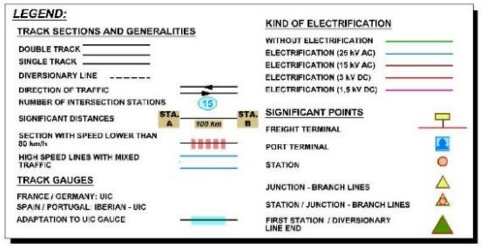
Map 3/4

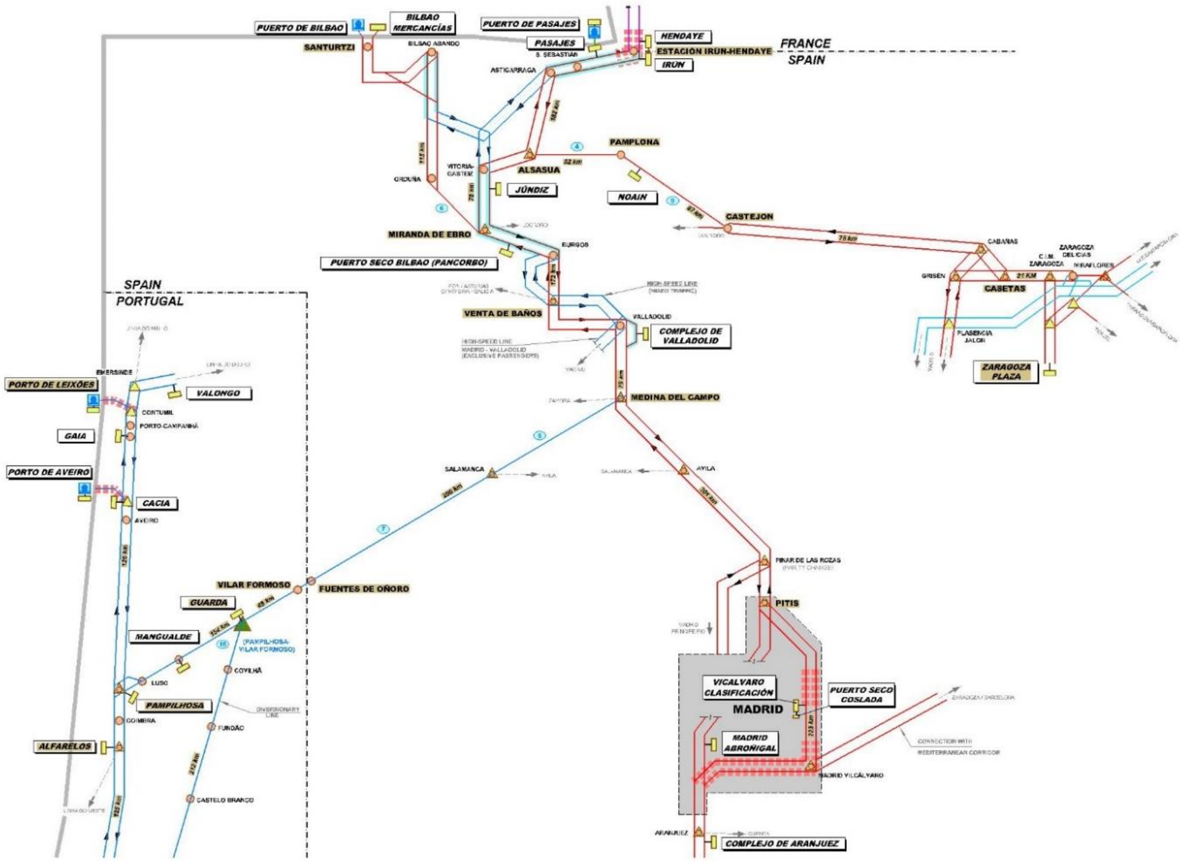
SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC

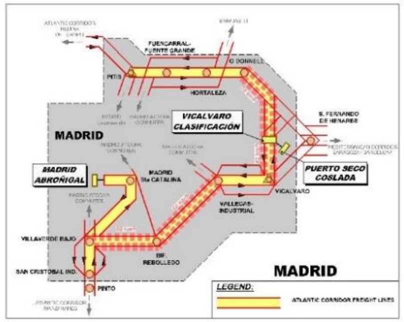
WORKING DOCUMENT

CURRENT SITUATION

2025





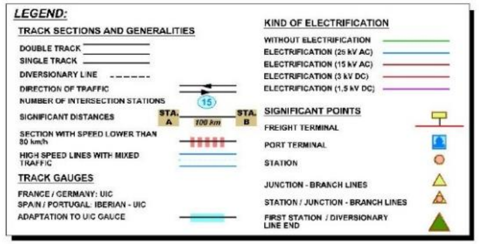


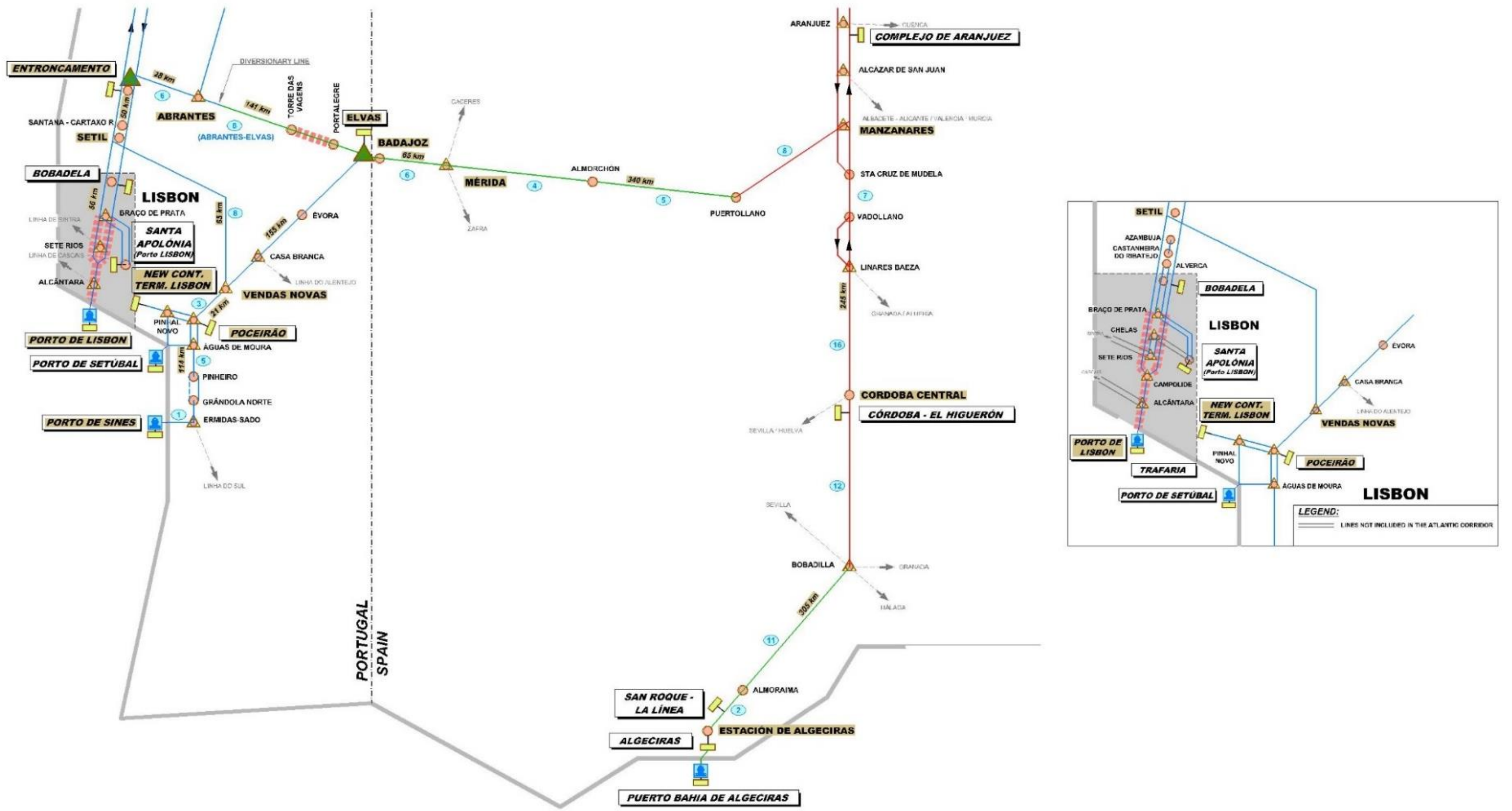
Map 4/4

SCHEMATIC PLAN OF THE EUROPEAN RAIL FREIGHT CORRIDOR ATLANTIC

WORKING DOCUMENT

CURRENT SITUATION
2025





Annex 5.H Summary of the PaPs offer 2021 for freight on Rail Freight Corridor "Atlantic"

Mentioned in 4.2

ATLANTIC CORRIDOR

PAP Pre-Arranged Paths Offer 2022

SOUTH-NORTH DIRECTION

					PORTUGAL							SPAIN												FRANCE										GERMANY			
PAP Ref.	Running Days in IP network (origin)	Running Days in Adif network (origin)	Running Days in SNCF Réseau network (origin)	Running Days in DB NETZ network (origin)	LISBOA / BOBADELA	LEIXÕES	PAMPILHOSA	ENTRONCAMENTO	ELVAS (HP)	VILAR FORMOSO Arrival (HP)	VILAR FORMOSO Departure (HE)	FUENTES DE OÑORO	BADAJOZ Arrival (HP)	BADAJOZ Departure (HE)	MÉRIDA	ALGECIRAS	MADRID	BURGOS	ZARAGOZA	PAMPLONA	BILBAO	IRUN (Arrival)	IRUN (Departure)	HENDAYE (Arrival)	HENDAYE (Departure)	BAYONNE		VALENTON	VAIRES/TORCY	METZ SABLON/WOIPPY		FORBACH (ARRIVAL)	FORBACH (DEPARTURE)	SAARBRÜCKEN	EINSIEDLERHOF	LUDWIGSHAFEN	MANNHEIM
RFC04PaP0001			1 2 3 4 5	2 3 4 5 6																									from Silla or Tarragona / Cerbère (7.35)	???	CEFB06	00:38	00:43	00:57			03:29
RFC624PaP003			1 2 3 4 5	2 3 4 5 6																									from Perpignan (10.43)	???	PNFB09	02:30	02:35	02:49			05:22
RFC624PaP005			2 3 4 5 6	3 4 5 6 7																									from Barcelona / Perpignan 10:16	???	PNFB10	03:37	03:42	03:56			07:01
RFC624PaP007			1 2 3 4 5	2 3 4 5 6																									from Cerbère (7.42)	???	CEFB07	03:56	04:01	04:15			07:57
RFC624PaP009			1 2 3 4 5	2 3 4 5 6																									22:03		VVFB22	04:55	05:00	05:20			08:18
RFC624PaP011			1 2 3 4 5	2 3 4 5 6																									from Silla or Tarragona / Cerbère (15.00)	???	CEFB15	05:30	05:37	05:53			09:32
RFC624PaP013			1 2 3 4 5 6	2 3 4 5 6 7																									from Perpignan (18.25)	???	PNFB19	09:54	09:59	10:13			
RFC624PaP015			1 2 3 4 5	2 3 4 5 6																									from Barcelona / Perpignan (20.38)	???	PNFB21	10:06	10:11	10:25			13:31
RFC624PaP017			1 2 3 4 5 6 7	1 2 3 4 5 6 7																						02:45					BYFB00	19:45	19:50	20:04			
RFC624PaP019			1 2 3 4 5 6 7	1 2 3 4 5 6 7																									19:08		VFB15	20:11	20:16	20:30			23:04
RFC624PaP021			1 2 3 4 5 6	1 2 3 4 5 6																									from Gevrey (15.31)	???	GVFB15	20:18	20:23	20:37			23:40
RFC624PaP023			1 2 3 4 5 6	1 2 3 4 5 6																									from Perpignan (8.45)	???	PNFB07	23:54	23:59	00:13			
RFC04PaP0025		1 2 3 4 5 6 7	1 2 3 4 5	2 3 4 5 6															15:09					20:39	01:50	D+1					HEFB02	06:46	06:51	07:05			
RFC04PaP0027		1 2 3 4 5 6 7	1 2 3 4 5	2 3 4 5 6																12:45		TTR Pilot		15:35	16:15			TTR Pilot				10:07	10:12		TTR Pilot		12:56
RFC04PaP0029		2 3 4 5 6 7	1 2 3 4 5	2 3 4 5 6													23:05				via Zaragoza TTR Pilot	10:05			16:15			TTR Pilot				10:07	10:12		TTR Pilot		12:56
RFC04PaP0031		1 2 3 4 5 6 7	1 2 3 4 5	2 3 4 5 6																	14:00	Rolling Pl.		20:08	16:15	D+1		Rolling Pl				10:07	10:12		Rolling Pl		12:56
RFC04PaP0033		1 2 3 4 5																12:21						16:53	???	to Lyon Sibelin ???											
RFC04PaP0035		1 2 3 4 5 6 7	1 2 3 4 5 6 7													17:04	09:30			via Zaragoza		21:03			09:15		HESO09	???	to Somain (1.00) / Antwerp								
RFC04PaP0037			1 2 3 4 5 6 7																							19:35	BYTC19	???	to Tourcoing (14.42) / Antwerp								
RFC04PaP0039		1 2 3 4 5 6 7															00:16							10:30													
RFC04PaP0041	5 6	6 7			15:50			18:48		23:10	1:30													13:02													
RFC04PaP0043	5 6					13:05	15:07																														
RFC04PaP0045	6	2 4 6 7					Via Beira Baixa	20:43		00:56	02:40	03:05					11:49																				
RFC04PaP0047	1 3 5			Via Beira Baixa	18:32			20:43		00:56																											
RFC04PaP0049	2 4 5	2 4 5						04:33	07:14				07:29	10:19	11:09																						

Time zone in Portugal (HP) =
Time zone in Germany/France/Spain (HE) - 1H00

PaPs Spain/Portugal — PaPs Germany/France/Spain/Portugal — PaPs France/Spain — PaPs France/Germany/Netherlands

NORTH-SOUTH DIRECTION

					GERMANY				FRANCE										SPAIN												PORTUGAL						
PAP Ref.	Running Days in DB NETZ network (origin)	Running Days in SNCF Réseau network (origin)	Running Days in Adif network (origin)	Running Days in IP network (origin)	MANNHEIM	LUDWIGSHAFEN	EINSIEDLERHOF	SAARBRÜCKEN	FORBACH (ARRIVAL)	FORBACH (DEPARTURE)		METZ SABLON/WOIPPY	VAIRES/TORCY	VALENTON		BAYONNE	HENDAYE (Arrival)	HENDAYE (Departure)	IRUN (Arrival)	IRUN (Departure)	MIRANDA EBRO / BILBAO	NOAIN / PAMPLONA	GRISEN / ZUERA	BURGOS	MADRID	ALGECIRAS	MÉRIDA	BADAJOZ Arrival (HE)	BADAJOZ Departure (HP)	FUENTES DE OÑORO	VILAR FORMOSO Arrival (HE)	VILAR FORMOSO Departure (HP)	ELVAS (HP)	ENTRONCAMENTO	PAMPILHOSA	LEIXÕES	LISBOA / BOBADELA
RFC426PaP0002	2 3 4 5 6	1 2 3 4 5 6 7			21:58			00:40	00:55	01:00	FBCE01	???	to Cerbère (17.49) / Silla or Tarragona																								
RFC426PaP0004	1 2 3 4 5 6 7	1 2 3 4 5 6 7						05:03	05:17	05:22	FBBY03					00:04																					
RFC426PaP0006	1 2 3 4 5	1 2 3 4 5 6 7					03:39	05:10	05:25	05:30	FBPN02	???	to Perpignan (23.00) / Silla or Tarragona																								
RFC426PaP0008	1 2 3 4 5 6 7	1 2 3 4 5 6 7			02:23			04:56	05:11	05:16	FBPN06	???	to Perpignan (20.17) / Silla or Tarragona																								
RFC426PaP0010	1 2 3 4 5	1 2 3 4 5			13:38		TTR Pilot		16:25	16:30		TTR Pilot	21:30																								
RFC426PaP0012	1 2 3 4 5	1 2 3 4 5			13:38		TTR Pilot		16:25	16:30		TTR Pilot	21:30																								
RFC426PaP0014	1 2 3 4 5	1 2 3 4 5 6 7						20:19	20:40	20:45	FBPN21	???	to Perpignan (11.07)																								
RFC426PaP0016	1 2 3 4 5	1 2 3 4 5 6 7			19:00			22:29	22:44	22:49	FBGV22	???	to Gevrey (3.37)																								
RFC426PaP0018	1 2 3 4 5	1 2 3 4 5 6 7			19:35			22:44	22:59	23:04	FBCE23	???	to Cerbère (16.45) / Constanti																								
RFC426PaP0020	1 2 3 4 5				19:45			22:59	23:14	23:19	FBPN23	???	to Perpignan (18.13) / Barcelona																								
RFC426PaP0022	2 3 4 5 6	1 2 3 4 5 6 7						23:42	23:57	00:02	FBPN00	???	to Perpignan (18.43) / Barcelona																								
RFC426PaP0024	1 2 3 4 5	1 2 3 4 5 6 7			20:16			23:10	23:25	23:29	FBCE00	???	to Cerbère (18.09) / Silla or Tarragona																								
RFC04PaP0026	1 2 3 4 5 6 7	1 2 3 4 5 6 7	2 3 4 5 6 7		02:49			05:25	05:40	05:45	FBIN03						01:13		D+1	12:56		Via Zaragoza			23:51												
RFC04PaP0028	1 2 3 4 5	1 2 3 4 5	1 2 3 4		13:38		TTR Pilot		16:25	16:30				TTR Pilot			9:30	11:15			TTR Pilot		17:50														
RFC04PaP0030	1 2 3 4 5	1 2 3 4 5	1 2 4 5 6 7		13:38		TTR Pilot		16:25	16:30				TTR Pilot			9:30	18:45				TTR Pilot			06:35	08:40											
RFC04PaP0032	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5 6 7		13:38		Rolling Pl.		16:25	16:30				Rolling Pl.			9:30	16:09	Rolling Pl.		22:25																
RFC04PaP0034	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5													From Lyon Sibelin ???		19:55						00:12													
RFC04PaP0036		1 2 3 4 5 6 7	1 3 4 5 6 7										From Antwerp / Somain (2.45)	???	SDHE02		18:00			09:20		Via Zaragoza			18:45												
RFC04PaP0038		1 2 3 4 5 6 7											From Antwerp / Tourcoing (15.25)	22:35		9:30	TTR Pilot																				
RFC04PaP0040			1 2 3 4 5 6 7															22:05				Via Zaragoza			08:39												
RFC04PaP0042			6 7	6 7														05:15													15:29	18:22		00:50	02:16	04:08	
RFC04PaP0044				6 7																														00:40			01:48
RFC04PaP0046			1 3 5 6	7																					16:40					01:30	01:37	02:21		06:12			
RFC04PaP0048				2 4 6																												02:21		07:19			08:43
RFC04PaP0050			2 4 5	2 4 5																							15:58	16:48	15:50				18:32	21:14			

Time zone in Portugal (HP) =
Time zone in Germany/France/Spain (HE) - 1H00

PaPs Spain/Portugal — PaPs Germany/France/Spain/Portugal — PaPs France/Spain — PaPs France/Germany/Netherlands

Notes: Logistic Services to be provided by the Freight Terminals shall be agreed between the applicant and the terminal. The foreseen load transfer location is only as informative

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