RAIL FREIGHT CORRIDOR Rhine-Danube

Rail Freight Corridor Rhine-Danube

Corridor Information Document

Implementation Plan

V3.0

10-01-2025

Co-funded by the European Union

VERSION	AUTHOR	DATE	CHANGES
0.1	PMO, WGs	09-01-2020	Creation of the first draft
0.2	PMO	03-03-2020	Incorporation of MB comments and essential elements of the TMS
1.0	MB	07-04-2020	Official MB-approval of version 1.0.
1.0.0	ExBo	16-04-2020	ExBo meeting
1.0.1.	ExBo	29-05-2020	ExBo comments
1.0.2.	PMO	24-09-2020	Addition of ExBo and MB comments
1.1	PMO, Working Groups Infrastructure and Interoperability	02-06-2023	Updates to chapters 2 Corridor Description 3 Market Analysis Study 4 List of Measures 5 Objectives and Performance of the Corridor 6 Investment Plan All annexes Adding new chapter 7 Cooperation with Other Corridors and RNE Adding new annex 6.1b about congested lines
1.3	PMO	08-09-2023	Changes to the following chapters based on the comments and proposals of the Austrian and Hungarian MoTs: 2.3 Bottlenecks 5 Objectives and Performance of the Corridor
1.4	Infrastructure WG	24-10-2023	Annex 6.2 List of projects (further updates by GYSEV and MÁV)
1.5	Consultation with the RU Advisory Group	21-11-2023	4 List of Measures 5 Performance and Objectives of the Corridor
2.0	Approval by Executive Board	21-12-2023	
2.1	PMO, leaders of Infrastructure Working Group, Interoperability Working Group, Marketing and Communications Working Group	08-11-2024	Chapter 1 Introduction – Information about revised TEN-T Regulation and amended RFC Regulation Chapter 2.1 Key Parameters of Corridor Lines – Partial transition of RFC OEM into RFC RD, information about future extensions, updated RFC map Chapter 3 Market Analysis Study – essential elements of the updated Transport Market Study and information about planned ETC analysis 4 List of Measures – deleting completed measures, adding further

			measures based on amended RFC Regulation 4.3 Capacity Allocation Principles – description of changes as a consequence of the partial transition of RFC OEM into RFC RD 4.7.2 User Satisfaction Survey – update with the results of the survey of 2024 7.2 New chapter about transition into the new RFC RD Major updates and integration of lines of RFC OEM into 6.1.a Capacity Management Plan 6.1.b List of Congested Lines 6.2 List of Projects 6.3 Deployment Plan
2.2	Management Board	20-11-2024	Endorsement procedure of the updated Implementation Plan before submission to the Executive Board
2.3	PMO	28-11-2024	Fine-tuning based on the above meeting of the Management Board
3.0	Executive Board	10-01-2025	Approval

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1 Introduction

In 2010 the European Parliament and the Council adopted Regulation (EU) No 913/2010 concerning a European rail network for competitive freight, which entered into force on 9th November 2010 (hereinafter referred to as Regulation), providing for the establishment of international Rail Freight Corridors (hereinafter referred to as Corridors). The purpose of creating Corridors is to increase international rail freight transport by making it more attractive and efficient. In Annex I to the Regulation, there were nine initial Corridors.

Annex II of Regulation (EU) No 1316/2013 of the European Parliament and of the Council concerning the establishment of the Connecting Europe Facility replaced the above-mentioned Annex of Regulation (EU) No 913/2010. In line with the amended list of initial Corridors, Rail Freight Corridor Rhine-Danube (hereinafter referred to as the Corridor) was established and became operational on 10 November 2020.

Initially, the Corridor connected the following nodes in line with the above-mentioned Regulation:

- Strasbourg-Mannheim-Frankfurt-Nürnberg-Wels
- Strasbourg-Stuttgart-München-Salzburg-Wels-Wien-Bratislava-Budapest-Arad-Brașov/Craiova-București-Constanța
- Čierna and Tisou (Slovak/ Ukrainian border) -Košice-Žilina-Horní Lideč-Praha-München/Nürnberg

The aim of the Corridor is to provide a high-quality service including a seamless crossing of national borders. Cooperation among Infrastructure Managers/Allocation Bodies is realised by harmonising capacity allocation, coordinating temporary capacity restrictions, traffic management, and investment planning along the Corridor.

The principal guidelines specified by the Regulation focus on:

- establishing a single contact point for designated capacity allocation on each Corridor;
- closer cooperation and harmonisation between Infrastructure Managers/Allocation Bodies and Member States both for the operational management of the infrastructures and for investments, in particular by putting in place a governance structure for each Corridor;
- increased coordination between the network and terminals (maritime and inland ports and marshalling yards);
- stable and reliable provision of the necessary infrastructure capacity allocated to international rail freight.

On 18 July 2024, the revised European Regulation about the development of the trans-European transport network comprising the trans-European transport corridors (TEN-T corridors) entered into force. This Regulation will integrate the 11 RFCs and the formerly known 9 TEN-T corridors into the 9 new so-called European Transport Corridors (ETCs).

From the above date on, the member states and the rail infrastructure managers concerned will have 18 months to make the necessary geographical alignments to the current Corridor, as well as the alignments to the governance and the organisation. As a first step, a substantial part of the current RFC Orient / East – Med, including among others many lines currently overlapping with the Corridor, will be integrated into this Corridor by 1 April 2025. As a second step, the Corridor will be extended to Serbia via Budapest and a further additional line will be integrated into this Corridor in Romania as well by 18 January 2026.

The purpose of this update to this document, which is part of the Corridor Information Document (hereinafter referred to as CID), is to prepare for the partial transition of RFC Orient/East-Med into this Corridor.

This first step of the update of the document was approved by the Executive Board (a requirement of Article 9 of the Regulation) of the Corridor comprising the representatives of the ministries in charge of transport on 10 January 2025. The second step of the update of this document is planned by 18 July 2025.

2 Corridor Description

2.1 Key Parameters of Corridor Lines

The Corridor is the transport backbone linking West, Central, and Eastern Europe by connecting France, Germany, Austria, the Czech Republic, Slovakia, Hungary, and Romania. The Corridor runs from the Strasbourg area and from North sea ports in Germany to the Romanian port of Constanta at the Black Sea and (in two distinct branches) at the Slovak-Ukrainian border. According to the results of the first Transport Market Study (hereinafter referred to as TMS) elaborated for the operation of the Corridor, the Management Board (hereinafter referred to as MB) agreed on the following routing consisting of principal lines, possible diversionary lines and connecting lines according to the traffic flows.

Furthermore, as a result of the partial transition of RFC Orient/East-Med into RFC Rhine-Danube scheduled for 1 April 2025, the lines, terminals, and marshalling yards concerned have been integrated into the below table as well and are **highlighted**.

The Corridor will be further extended in the near future. It will incorporate the main railway line between Budapest and Belgrade, from where it will lead back to the north to Timisoara in Romania to merge again with another corridor line. Railway Undertakings will be also able to make use of two new interconnections between two branches. It will allow to transit between Baltic Sea ports to Central Europe and go further to the South of Europe.

The new Corridor alignment will be coherent with the routing of European Transport Corridor Rhine-Danube from 18th of January 2026.

The key parameters of the Corridor lines are displayed in the the Customer Information Platform: https://cip.rne.eu.

Country	Type of line or terminal	Line section / Terminal / Marshalling yard	Length of the line section / City of the terminal or marshalling yard
Austria	Principal lines	Salzburg-Steindorf bei Straßwalchen-Vöcklabruck-Wels	101 km
		Passau-Grieskirchen-Wels	81 km
		Wels-Linz-Enns-Amstetten-St. Pölten-Wien-Bruck a. d. Leitha-Parndorf-Kittsee	282 km
		Parndorf-Nickelsdorf-Hegyeshalom	24 km
		Wien-Ebenfurth-Baumgarten	54 km
		Břeclav/Hohenau (CZ/AT)	**13 km**
		Hohenau - Gänserndorf	**34 km**
		Gänserndorf - Wien Zvbf	**37 km**

	Diversionary line	Marchtrenk-Traun-Linz	21 km
	Connecting line	**Wien Zvbf – Wien Freudenau**	**9 km**
		Tullnerfeld - Krems Terminal	46 km
	Terminals	Wels Vbf CCT/ROLA, ÖBB Infrastruktur AG	Wels
		LINZ AG für Energie, Telekommunikation, Verkehr und Kommunale Dienste	Linz
		Wien Freudenau Hafen	Wien
		Container Terminal Enns GmbH	Mauthausen
		METRANS Terminal Krems an der Donau	Krems an der Donau
		CTS Container Terminal Salzburg GmbH	Salzburg
		Wiencont Container Terminal GmbH	Wien
		Terminal Wien Inzersdorf -Süd, ÖBB Infrastruktur AG	Wien
	Marshalling yard	Wien Zentralverschiebebahnhof	Wien
Czech Republic	Principal lines	Schirnding/Cheb – Cheb	11 km
		Cheb-Plzeň	106 km
		Furth im Wald/Česká Kubice – Domažlice	16 km
		Domažlice-Plzeň	57 km
		Plzeň-Beroun-Praha-Poříčany	144 km
		Praha-Malešice – Praha-Libeň – Praha-Běchovice	11 km
		Poříčany-Kolín-Pardubice	65 km
		Pardubice-Choceň-Česká Třebová	60 km
		Česká Třebová-Olomouc-Přerov-Hranice na Moravě	136 km
		Hranice na Moravě-Horní Lideč/Lúky pod Makytou	70 km
		Hranice na Moravě-Ostrava-Dětmarovice-Český Těšín-Mosty u Jablunkova-Čadca	126 km
		Ostrava-Český Těšín	38 km
		Česká Třebová – Svitavy – Brno	**94 km**
		Brno – Břeclav	**60 km**
		Břeclav/Hohenau (CZ/AT)	**5 km**
		Břeclav/Kúty (CZ/SK)	**11 km**
		Bad Schandau/Děčín (DE/CZ) – Kralupy n.V. – Praha	**144 km**
		Děčín – Nymburk – Kolín	**166 km**
	Diversionary lines	**Kolín – Kutná Hora – Havlíčkův Brod**	**73 km**
		Havlíčkův Brod – Křižanov	**57 km**
		Křižanov – Brno	**60 km**
		Poříčany-Nymburk	15 km
		Praha-Lysá nad Labem- Nymburk-Velký Osek-Kolín	72 km
		Velký Osek-Hradec Králové-Choceň	96 km

	Terminals	Terminal Ostrava-Paskov	Vratimov
		Metrans-Terminal Ostrava - Šenov	Havířov
		Terminal Ostrava-Mošnov	Ostrava
		Contargo-Terminal Plzeň	Plzeň
		Metrans-Terminal Plzeň – Nýřany	Plzeň-Nýřany
		Metrans-Terminal Praha-Uhříněves	Praha-Uhříněves
		Terminal Pardubice	Pardubice
		Rail Hub Terminal Česká Třebová	Česká Třebová
		RCO-CSKD Terminal Přerov	Přerov
		Metrans-Terminal Zlín - Želechovice/Lípa nad Dřevnicí	Lípa nad Dřevnicí
		Terminal Agro Bohemia Kopřivnice	Kopřivnice
		Port Mělník	Mělník
		DUSS Terminal Lovosice	Lovosice
		Terminál Brno Horní Heršpice	**Brno**
		Trimodal Terminal Port Děčín - Loubí	**Děčín**
		Trimodal Terminal Ústí nad Labem	**Ústí nad Labem**
	Marshalling yards	Cheb seř. obvod 2	Cheb
		Plzeň seř. n.	Plzeň
		Beroun seř. n.	Beroun
		Praha-Libeň	Praha
		Kolín seř. nádraží	Kolín
		Pardubice	Pardubice
		Česká Třebová směr. sk.	Česká Třebová
		Olomouc pravé předn.	Olomouc
		Přerov předn.	Přerov
		Valašské Meziříčí	Valašské Meziříčí
		Ostrava-Kunčice	Ostrava
		Bohumín-Vrbice	Bohumín
		Ostrava pravé n.	Ostrava
		Ostrava levé n.	Ostrava
		Děčín hl.n.	**Děčín**
		Kralupy nad Vltavou	**Kralupy nad Vltavou**
		Brno Maloměřice	**Brno**
		Břeclav přednádraží	**Břeclav**
		Havlíčkův Brod	**Havlíčkův Brod**
France	Principal line	Strasbourg-Kehl	20 km
	Terminals	Port Autonome de Strasbourg	Strasbourg
		Hausbergen marshalling yard	Strasbourg
Germany	Principal lines	**Bremerhaven – Bremen**	**69 km**
		Wilhelmshaven – Bremen	**105 km**
		Bremen – Wunstorf	**100 km**
		Wunstorf – Magdeburg	**166 km**
		Hamburg – Stelle	**20 km**
		Stelle – Uelzen	**64 km**
		Uelzen – Veerßen	**2 km**
		Veerßen – Stendal	**105 km**
		Stendal – Magdeburg	**59 km**
		Magdeburg – Roßlau	**56 km**

		Roßlau – Falkenberg	**54 km**
		Falkenberg – Dresden	**76 km**
		Rostock – Neustrelitz	**121 km**
		Neustrelitz – Berlin	**119 km**
		Berlin – Elsterwerda	**143 km**
		Elsterwerda – Dresden	**56 km**
		Dresden – Bad Schandau	**40 km**
		Bad Schandau – Děčín (DE/CZ)	**11 km**
		Kehl-Appenweier-Rastatt Süd (via 4000)	50 km
		Rastatt Süd-Rastatt-Durmersheim (via 4020)-Karlsruhe	40 km
		Karlsruhe-Hockenheim-Mannheim-Darmstadt-Aschaffenburg	140 km
		Aschaffenburg-Gemünden-Waigolshausen-Bamberg-Nürnberg	220 km
		Nürnberg-Regensburg-München	238 km
		Regensburg-Passau	117 km
		Karlsruhe-Pforzheim-Mühlacker	40 km
		Mühlacker-Ludwigsburg-Stuttgart-Ulm-Augsburg-München	287 km
		München-Rosenheim-Freilassing-Salzburg	148 km
		Nürnberg-Marktredwitz-Schirnding-Cheb	140 km
		Regensburg-Schwandorf-Furth im Wald-Domažlice	74 km
	Diversionary lines	Appenweier-Rastatt Süd (via 4280)	40 km
		Rastatt-Ettlingen West (via 4000)-Karlsruhe-Bruchsal-Heidelberg-Mannheim	93 km
		Darmstadt-Frankfurt am Main, Mannheim-Groß Gerau-Frankfurt am Main-Hanau-Aschaffenburg	27 km, 98 km
		Gemünden-Würzburg-Nürnberg	132 km
		Bruchsal-Mühlacker	32 km
		München-Mühldorf am Inn-Freilassing	140 km
	Terminals	Contargo Karlsruhe Rheinhafen	Karlsruhe
		Klumpp + Müller GmbH & Co. KG	Kehl
		ETK Euro Terminal Kehl GmbH	Kehl
		DUSS-Terminal Karlsruhe by DB	Karlsruhe
		Fruchtcargo Container-Depot Wörth	Karlsruhe
		Container Yard Speyer Contargo	Karlsruhe
		Contargo Wörth	Karlsruhe
		DP World Germersheim	Mannheim
		DUSS-Terminal Mannheim-Handelshafen	Mannheim
		RoRo-Terminal Mannheim	Mannheim
		Kobler Container Depot	Mannheim
		Contargo Rhein-Neckar Mannheim	Mannheim
		Kombi-Terminal Ludwigshafen KTL	Ludwigshafen
		Mannheimer Tankwagenreinigung Container Depot	Mannheim
		Cotac Depot Mannheim	Mannheim

		Terminal Worms, Rhenania Worms AG	Mannheim
		Hempt Container-Depot Worms	Mannheim
		GUT Gernsheimer Umschlags-und Terminalbetriebsgesellschaft GmbH & Co. KG	Gernsheim
		DUSS-Terminal Frankfurt/Main-Ost	Frankfurt am Main
		Trimodal Container terminal Aschaffenburg -TCA	Frankfurt am Main
		Contargo Rhein-Main GmbH, Contargo Frankfurt-Ost	Frankfurt am Main
		Contargo Industriepark Frankfurt - Höchst GmbH	Frankfurt am Main
		Frankenbach Container Terminals GmbH	Mainz
		TriCon Container Terminal Nürnberg	Nürnberg
		DB Cargo AG	Nürnberg
		CDN Container Depot Nürnberg GmbH	Nürnberg
		DUSS-Terminal Stuttgart Hafen	Stuttgart
		SCT Stuttgarter Container Terminal GmbH	Stuttgart
		DUSS-Terminal Kornwestheim	Kornwestweim (Stuttgart region)
		DUSS-Terminal Augsburg-Oberhausen	Augsburg
		Container Terminal Regensburg (CTR)	Regensburg
		DUSS-Terminal Regensburg-Ost	Regensburg
		Cargo Center Bayern –Wiesau	Wiesau
		baymodal Bamberg GmbH	Bamberg
		Kloiber Container Depot Augsburg	Augsburg
		DUSS-Terminal Ulm	Ulm
		CDM Container Depot München GmbH & Co. Service KG	München
		DUSS-Terminal München-Riem	München
		TRANSLOG Transport + Logistik GmbH	Schweinfurt
		DUSS-Terminal Landshut	Landshut
		Parsdorfer Tankwagenreinigung Container Depot	München
		Bremerhaven RTB, Bremerhaven NTB, Bremerhaven CTB, Bremerhaven MSC Gate	**Bremerhaven**
		Wilhelmshaven Eurogate, Rail Terminal Wilhelmshaven GmbH	**Wilhelmshaven**
		NORDFROST Seehafen-Terminal	**Wilhelmshaven**
		Brake J.MÜLLER BBT	**Brake**
		Bremen Roland	**Bremen**
		Hannover Nordhafen	**Hannover**
		Rhenus AG	**Holzwickede**

		Hannover-Leinetor	Hannover
		DUSS-Terminal Hannover-Linden	Hannover
		Megahub Lehrte	Lehrte
		Railport Braunschweig	Braunschweig
		Braunschweig Hafen	Braunschweig
		Wolfsburg GVZ	Wolfsburg
		Salzgitter GVZ – KLV Terminal	Salzgitter
		Magdeburg Hanse-Terminal	Magdeburg
		Roßlau container terminal	Roßlau
		Riesa Hafen	Riesa
		Railport Hamburg 1	Hamburg
		Container Terminal Tollerort (CTT)	Hamburg
		DUSS-Terminal Hamburg-Billwerder	Hamburg
		Eurocargo Container Freight Station and Warehouse GmbH	Hamburg
		Hamburg Eurokombi	Hamburg
		EUROGATE Container Terminal Hamburg (CTH)	Hamburg
		Container Terminal Burchardkai (CTB)	Hamburg
		Hamburg Altenwerder CTA	Hamburg
		Hamburg Wallmann	Hamburg
		Schenker Deutschland AG	Essen
		Hamburg BUSS Hansa Terminal	Hamburg
		AMB Steinwerder Distribution Center B.V.	Hamburg
		PCH Packing Center Hamburg GmbH	Hamburg
		Hamburg Süd-West-Terminal	Hamburg
		Hamburg O´Swaldkai	Hamburg
		Rostock Trimodal- RTM	Rostock
		Railport Rostock	Rostock

		Berlin Westhafen	**Berlin**
		LDZ Elsterwerda	**Elsterwerda**
		Dresden-Friedrichstadt GVZ	**Dresden**
		Alberthafen Dresden-Friedrichstadt	**Dresden**
	Marshalling yards	**Maschen**	**Maschen**
		Bremen	**Bremen**
		Rostock Seehafen	**Rostock**
		Braunschweig	**Braunschweig**
		Seelze	**Seelze**
		Seddin	**Seddin**
		Magdeburg	**Magdeburg**
		Dresden-Friedrichstadt	**Dresden**
Hungary	Principal lines	Baumgarten-Sopron-Győr	93 km
		Rajka-Hegyeshalom	13 km
		Hegyeshalom-Győr-Tata-Budapest-Újszász-Szolnok	285 km
		Szolnok-Szajol-Békéscsaba-Lőkösháza-Curtici	136 km
		Komárno/Komárom (SK/HU)	**4 km**
		Szob – Rákospalota-Újpest	**55 km**
		Rákospalota-Újpest – Angyalföld elágazás	**3 km**
		Angyalföld elágazás – Rákos elágazás	**6 km**
	Diversionary lines	**Vác – Vácrátót**	**9 km**
		Vácrátót – Galgamácsa	**15 km**
		Galgamácsa – Aszód	**9 km**
		Aszód – Hatvan	**18 km**
		Hatvan – Újszász	**52 km**
		Budapest-Cegléd-Szolnok	88 km
		Szajol-Püspökladány-Biharkeresztes-Episcopia Bihor	130 km
	Terminals	Terminal ÁTI Györ by ÁTI DEPO Zrt.	Győr
		Railport Győr	**Győr**
		Port of Győr-Gönyű Logistics Center	Győr
		Sopron container terminal by GYSEV CARGO Zrt.	Sopron
		Metrans Terminal Budapest by METRANS, a.s.	Budapest
		Mahart Container Center	Budapest
		Rail Cargo Terminal BILK Budapest by BILK Kombiterminal Co. Ltd.	Budapest
		Port of Budapest Logistics Center	Budapest
		Ro-Ro Terminal Baja	Baja
		Szolnok Industrial Park and Logistics Service Centre	Szolnok
	Marshalling yards	Ferencváros-Rendező	Budapest

		Szolnok-Rendező	Szolnok
Romania	Principal lines	Lőköshaza/Curtici (HU/RO)	11 km
		Curtici - Arad	17 km
		Arad - Timisoara	57 km
		Timisoara - Orsova	187 km
		Orsova – Filiaşi	102 km
		Filiasi - Craiova	36 km
		Arad - Simeria	157 km
		Simeria - Coslariu	69 km
		Coslariu - Sighisoara	98 km
		Sighisoara - Brasov	129 km
		Brasov - Predeal	26 km
		Predeal - Brazi	92 km
		Brazi - Chitila (Bucuresti)	52 km
		Chitila (Bucuresti) - Fetesti	147 km
		Fetesti - Constanta	78 km
	Diversionary lines	Biharkeresztes - Oradea Est (HU/RO)	22 km
		Oradea Est - Cluj Napoca Est	155 km
		Cluj Napoca Est - Coslariu	99 km
		Craiova - Videle	158 km
		Videle - Chitila (Bucuresti)	50 km
		Simeria - Filiasi	202 km
		Ploiești Triaj – Buzău – Făurei – Fetești	204 km
	Terminals	Railport Arad	Arad
		Oradea Intermodal Vest	Oradea
		Cluj Napoca	Cluj Napoca
		Turda - Rofersped	Turda
		Semenic (Timişoara Sud)	Timisoara
		Allianso Terminal Ploiești	Ploiesti
		Bucureşti Sud	București, Ilfov
		Tibbett Logistics	Bucuresti, Ilfov
		Bucharest International Rail Freight Terminal (BIRFT)	București, Ilfov
		Bucharest Intermodal Terminal by Yusen Logistics Co., Ltd.	București, Ilfov
		UMEX Terminal Constanta	Constanta
		APM Terminal Constanta	Constanta
		DP World Constanta	Constanta
		SOCEP Terminal Constanta	Constanta
	Marshalling yards	Chitila	Chitila (București)
		Braşov	Braşov
		Bucureşti	Bucureşti
		Ploiești	Ploiești
		Craiova	Craiova
		Simeria	Simeria
Slovakia	Principal lines	Čadca-Žilina	30 km
		Lúky pod Makytou-Púchov-Žilina	64 km
		Žilina-Vrútky-Liptovský Mikuláš-Poprad-Spišská Nová Ves-Kysak-Košice	243 km
		Barca-Výh. Slivník (Výh.8)	33 km
		Výh. Slivník (Výh.8)-Čierna nad Tisou	57 km
		Barca-Košice (via Košice predmestie)	4 km

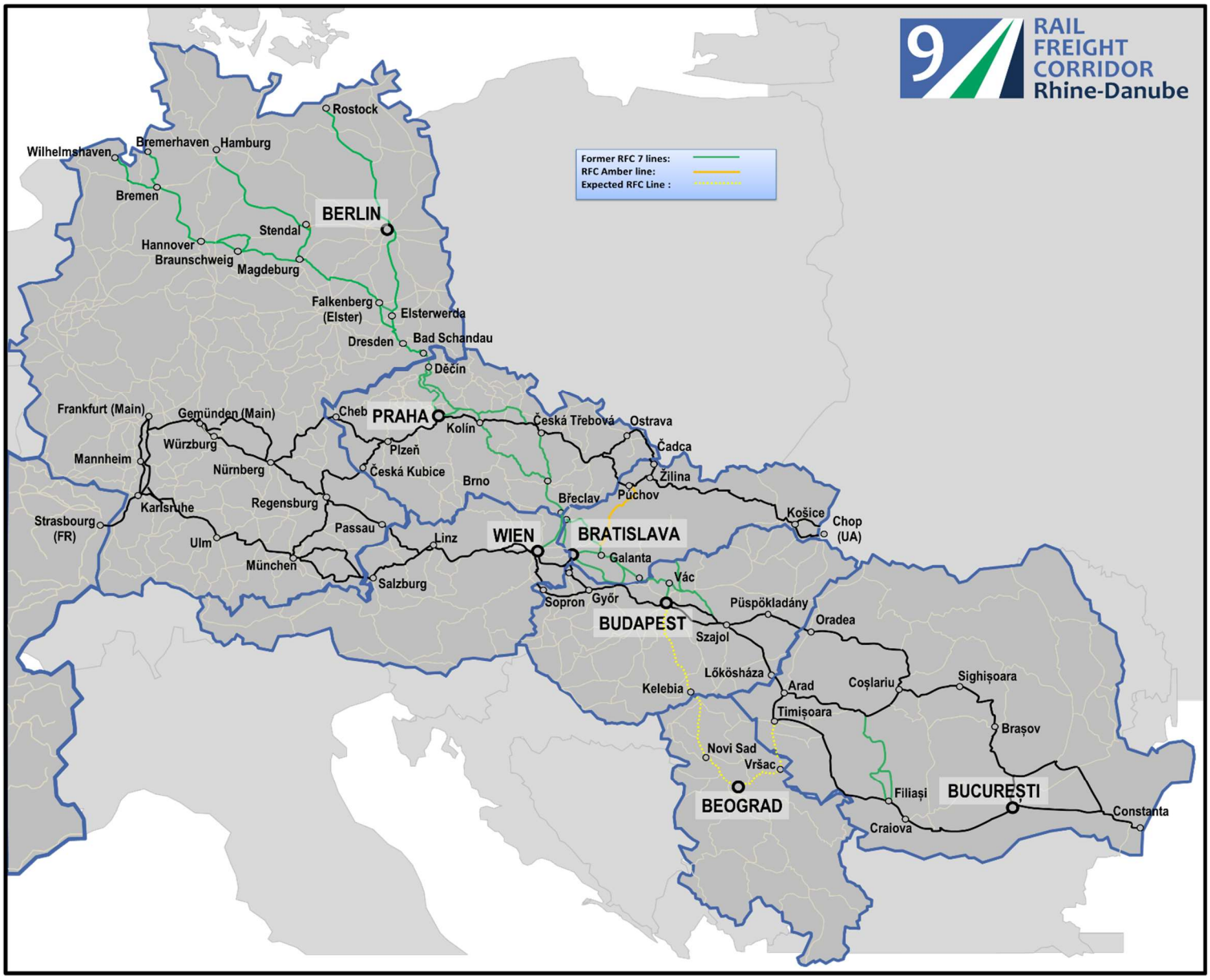
		Barca-Haniska pri Košiciach	6 km
		Kittsee-Bratislava Petržalka-Rusovce-Rajka	17 km
		Břeclav/Kúty (CZ/SK)	**18 km**
		Kúty – Devinska N.Ves	**51 km**
		Devínska N.Ves – Bratislava hl.st.	**13 km**
		Bratislava hl.st. – Rusovce	**28 km**
		Bratislava hl.st.– Nové Zámky	**91 km**
		Nové Zámky – Komárno	**29 km**
		Komárno/Komárom (SK/HU)	**5 km**
		Nové Zámky – Štúrovo	**44 km**
		Štúrovo/Szob (SK/HU)	**14 km**
	Diversionary line	**Kúty – Trnava**	**69 km**
		Trnava – Galanta	**27 km**
		Výh. Slivník (Výh.8) -Maťovce	56 km
	Connecting line	**Bratislava hl.st. –Dunajská Streda**	**47 km**
		Dunajská Streda – Komarno št.hr.	**53 km**
		Čierna nad Tisou-UA border (Chop)	4 km
	Terminals	TIP Žilina (Metrans)	Žilina - Teplička
		RCO Žilina	Žilina
		RCO Košice	Košice
		Metrans-Terminal Košice	Košice - Haniska pri Košiciach
		TKD Dobra	Dobra
		Bratislava Palenisko by Slovenská plavba a prístavy (SPaP) a.s.	Bratislava
		UKV Terminal Bratislava ÚNS	Bratislava
		Metrans Dunajská Streda	Dunajská Streda
		MLC Maťovce (Premako)	Maťovce
		RCO Ružomberok (Lisková)	Ružomberok
	Marshalling yards	Bratislava východ	Bratislava
		Nové Zámky	Nové Zámky
		Štúrovo	Štúrovo

The updated map of the Corridor is displayed on the next page.

The black lines demonstrate the initial lines of the Corridor.

The orange lines represent those lines which will be transition from RFC OEM into the Corridor. So on which lines the C-OSS of RFC RD has already offered Reserve Capacity for timetable 2025 in October 2024 and will offer PaPs for timetable 2026 for the first time instead of RFC OEM.

The dotted lines stand for the future extensions which are to be completed by 18 January 2026 at the latest.


RAIL FREIGHT CORRIDOR Rhine-Danube
Former RFC 7 lines:
RFC Amber line:
Expected RFC Line :
Rostock
Wilhelmshaven
Bremerhaven
Hamburg
Bremen
BERLIN
Stendal
Hannover
Braunschweig
Magdeburg
Falkenberg (Elster)
Elsterwerda
Dresden
Bad Schandau
Děčín
Frankfurt (Main)
Gemünden (Main)
Würzburg
Mannheim
Nürnberg
Karlsruhe
Regensburg
Strasbourg (FR)
Ulm
München
Passau
Salzburg
Cheb
PRAHA
Kolín
Plzeň
Česká Kubice
Brno
Česká Třebová
Ostrava
Čadca
Žilina
Púchov
Břeclav
Košice
Chop (UA)
Linz
WIEN
BRATISLAVA
Galanta
Vác
Győr
Sopron
BUDAPEST
Püspökladány
Oradea
Szajol
Lőkösháza
Kelebia
Arad
Coşlariu
Sighişoara
Timişoara
Braşov
Novi Sad
Vršac
BEOGRAD
Filiaşi
BUCUREŞTI
Constanta
Craiova

2.2 Corridor Terminals

All terminals along designated lines have been determined as part of the Corridor as well, except if a terminal does not have any relevance for the traffic on the Corridor. The marshalling yards, major rail-connected freight terminals, rail-connected intermodal terminals in seaports, airports and inland waterways belong to the terminals listed in chapter 2.1. Terminals are also displayed in the CIP accessible via https://cip.rne.eu.

2.3 Bottlenecks

The bottlenecks which hinder smooth and competitive rail freight transport can be grouped into the following categories:

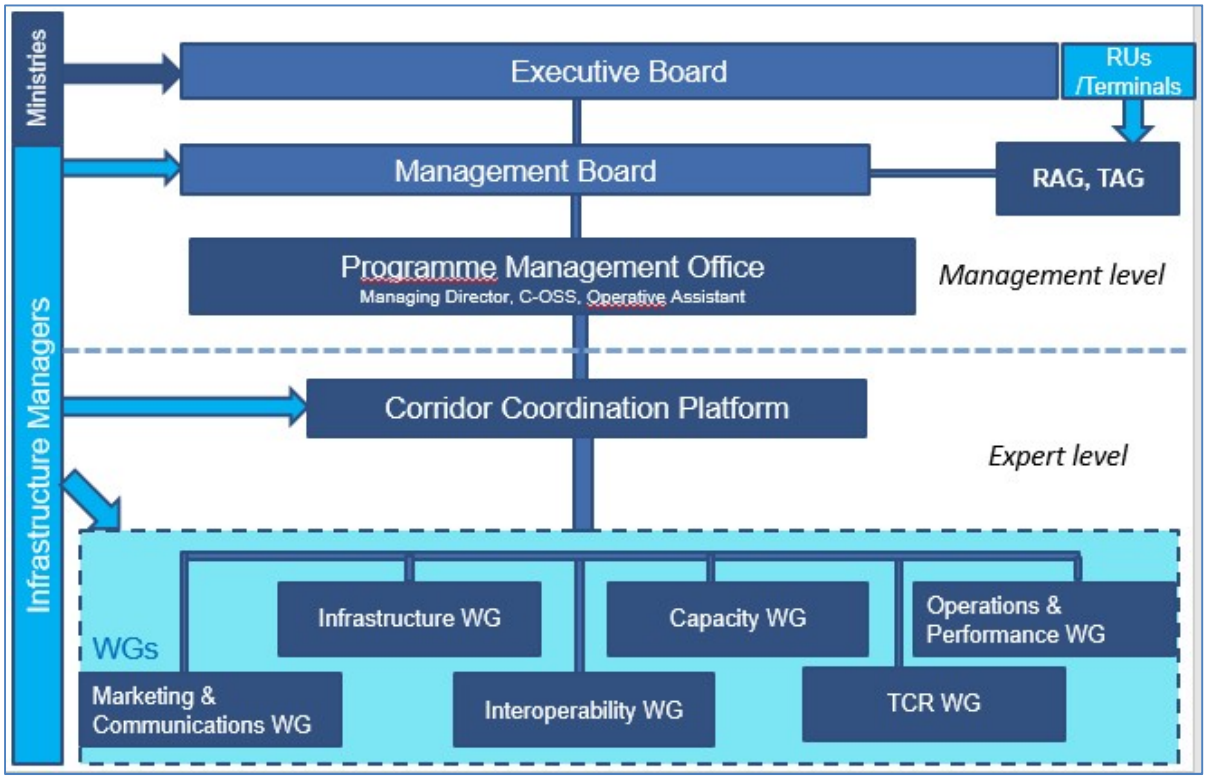
- infrastructural bottlenecks
  - Sections which do not meet the TEN-T requirements specified in Article 39 (2a) of the Regulation (EU) No 1315/2013 of the European Parliament and of the Council.
- operational bottlenecks
  - Capacity and traffic management issues during the train run.
- administrative bottlenecks
  - Effects of non-harmonised rules and procedures.
- capacity bottlenecks
  - Issues in relation with capacity planning and path allocation. This includes on the one hand, the lack of multi-annual planning works due to missing multi-annual financing environment, on the other hand, congested infrastructure, too, which is defined in Art. 47 of Directive 2012/34/EU.

The detailed list of already identified infrastructural and capacity bottlenecks together with the suggested measures towards their removal can be found in the Capacity Management Plan included in Annex 6.1.a.

The list of congested lines is included in Annex 6.1.b.

2.4 Corridor Governance

Information about the current governance structure of the Corridor can be found in chapter 1.4 of the CID and is displayed in this chapter, too.



3 Market Analysis Study

The first Transport Market Study (TMS) of the Corridor was conducted in 2020 and can be found on its website: https://rfc-rhine-danube.eu/documents/.

Its major finding was that the Corridor has a highly important strategic role, being one of the main East-West links across Continental Europe.

In 2024, the Corridor has updated its TMS within the framework of a joint project of all Corridors, which was coordinated by RailNetEurope (RNE). The main benefits of the common project are as follows: more efficient use of resources of all participating stakeholders and comparable TMSs over all corridors.

The baseline of the common basis used for the updates of the individual TMSs were

- a feasibility study approved by the RNE General Assembly (GA) in December 2022 and
- commonly agreed Guidelines approved by the RNE GA in May 2023.

The essential elements of the updated Transport Market Study can be found on the following pages.

For the analysis of the current and future transport markets along the 11 RFCs, a European-wide transport model has been used – the NEAC Model – which combines socio-economic, trade and transport statistics with traffic flows for different transport modes. The geographic scope of the model covers the European Union and the non-EU countries crossed by the 11 RFCs and involved in their catchment areas. The model has been calibrated to the year 2022 (Model Base Year). Future scenarios have been elaborated for the 2030 time horizon.

Due to the adoption of a common, network-wide approach and use of an EU-wide network model, the analysis of the individual RFCs has been performed within the framework of the

11 RFCs Network and overall European policy and market trends. This approach is also appropriate considering that the 11 RFCs share many infrastructure components, i.e. corridor lines, logistics nodes and Border Crossing Points, as well as their catchment areas. Also, regulatory, policy and economic backgrounds and developments, as well as most available statistics on the sector, generally concern the country or EU territorial scale.

Specifically concerning the study policy background, the 2024 11 RFCs Joint TMS Update has been conducted in the framework of the rail sector specific milestones introduced by the EC in its Smart and Sustainable Mobility Strategy to support the achievement of the ambitious target of the European Green Deal, of reducing transport emissions by 90% by 2050 (compared to 1990 levels), i.e., doubling passenger high-speed rail traffic by 2030 and tripling it by 2050, while increasing rail freight by 50% by 2030 and doubling it by 2050 (compared to 2015 levels). With reference to the 50% target growth set in the EU policies for the period 2015-2030, the following table provides transport volume figures in million tkm for the EU27 in 2015, and 2022. Data show that the gap to be filled between 2023 and 2030 is significant, especially for the international segment.

Freight volume (million tkm) in 2015 and 2022

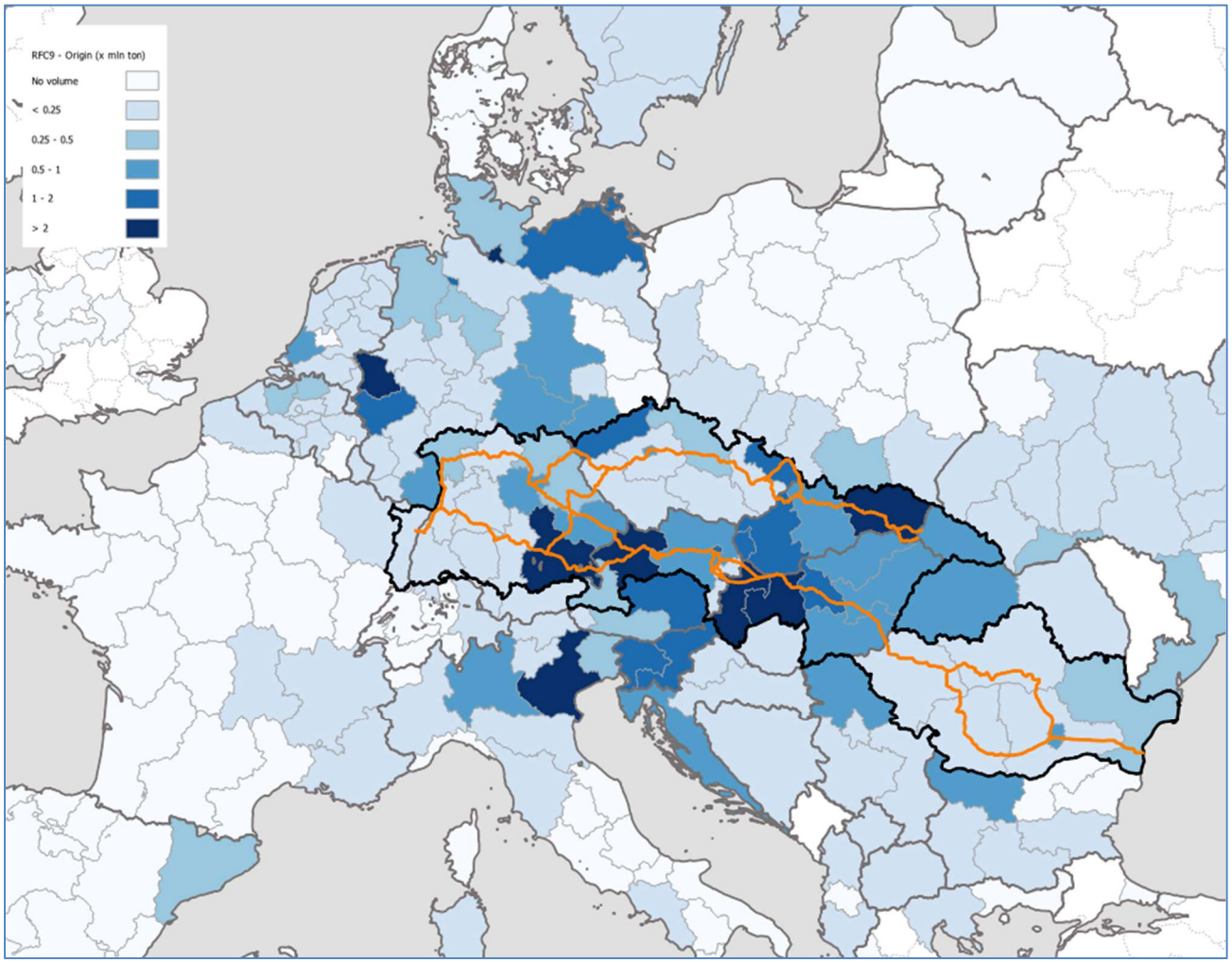
	2015	2022	Var. % '15-22
International rail freight transport	155,289	149,032	-4%
National rail freight transport	181,811	199,830	10%
Total rail freight transport	337,100	348,862	3%

Source: Eurostat [rail_go_typepas]; Notes: (1) Data for Belgium are excluded from the total as they are not available for 2015 and 2022. (2) Data are limited to main undertakings

For the analysis of the current market (Base year scenario), train data from the Train Information System (TIS) managed by RNE have been used, which combined with available trade and economic data available at the NUTS 2 area, served as a basis to define the Corridor catchment area and main origin and destinations, prior to estimate the volumes of the transported goods and the modal share by land transport mode.

The catchment area for international rail freight transport of the Corridor - namely the NUTS 2 regions where trains cross at least one Corridor BCP have either their origin and/or destination – exceeds the corridor area, i.e. the area crossed by the corridor infrastructure (see overview in the overleaf figures). The Corridor catchment area captures (large parts of) Germany, France, Czechia, Austria, Hungary, Slovakia and Romania. A large proportion of the rail freight transport uses the Corridor, and its border crossing points, to ship freight by rail from different Corridor, with important origins such as Munich, Linz, East Slovakia, West Hungary, and Budapest. Also, outside the corridor area different zones can be seen that contribute to the Corridor, such as the rest of Germany (Rhine-Ruhr area, Hamburg), France, Italy, Poland, Serbia, Greece, and Ukraine.

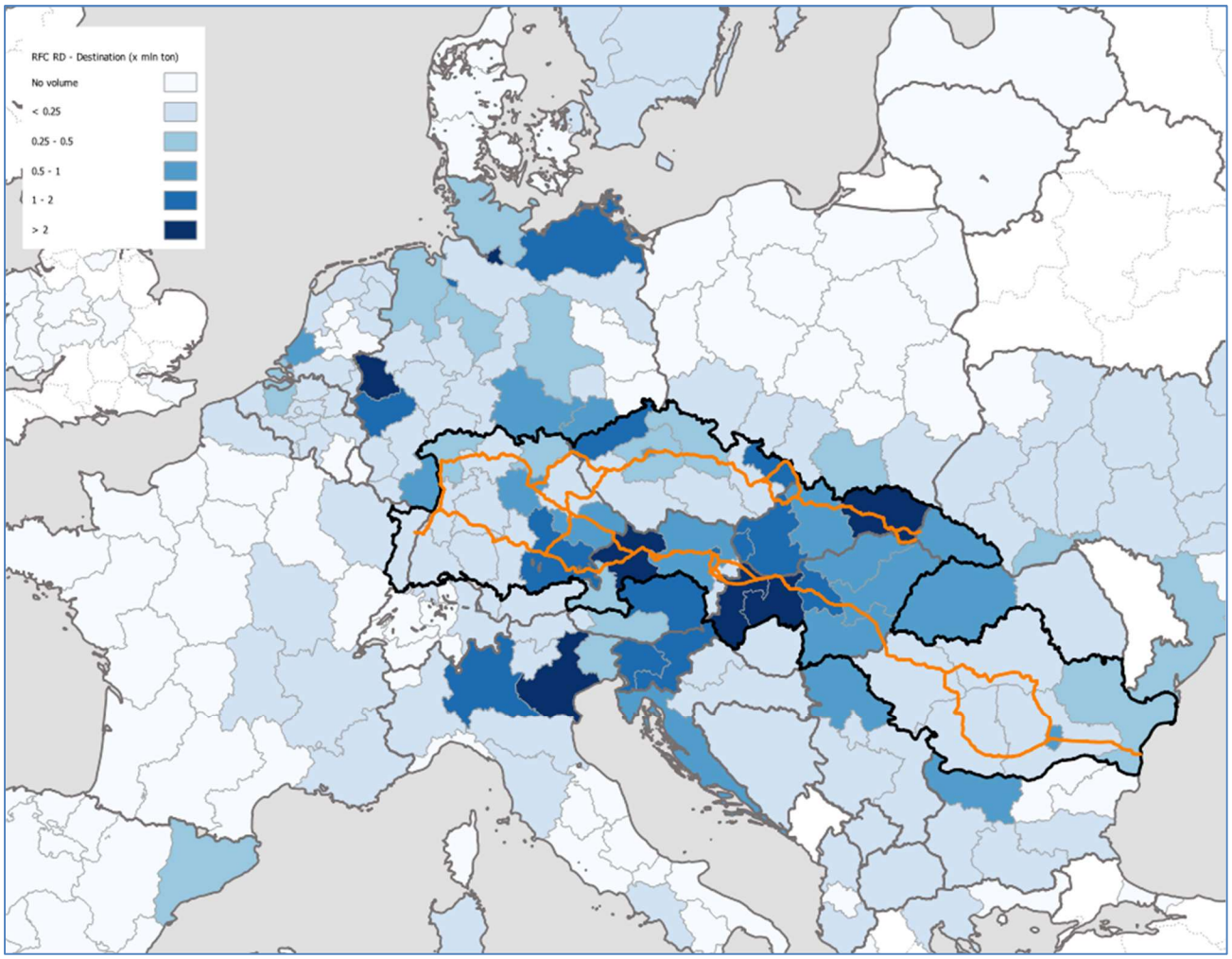
Origins of international rail freight volume (in million tonnes) in the Corridor rail network catchment area



Legend: Orange = rail tracks of the Coridor. Blue = Volume by origin. Black = Delineation of corridor area

The next figure presents the destinations within the Corridor catchment area. The figure highlights similar zones as the origins that exhibit the high freight volumes dispatched from these destinations. It is evident from the figure that numerous zones benefiting from Corridor's services fall outside the corridor area, such as areas in in the rest of Germany (Rhine-Ruhr, Hamburg), Italy (Veneto), Serbia, Croatia and Bulgaria.

Destinations of international rail freight volume (in million tonnes) in the Corridor rail network catchment area



Legend: Orange = rail tracks of the Corridor. Blue = Volume by origin. Black = Delineation of corridor area

For the purposes of the 2024 Joint TMS Update, future scenarios have been built only considering socio-economic and infrastructure developments. This solution reflects the decision to develop only short-term forecasts up to 2030 and adopt a pragmatic and as far as possible, concrete approach, thus omitting the simulation of the possible effects associated with policy developments such as:

- The proposed weights and dimensions directive and electrification of Heavy Goods Vehicles;
- The internalization of external costs of road transport (road pricing);
- Incentives to rail/combined transport operations;
- Technological/operational improvements of intermodal transport solutions and logistics chains;
- Market sensitivity to climate and energy transition.

In line with this approach, the following scenarios have been defined, all of them at the 2030 time horizon:

Reference or background scenario:
It describes the economic developments (in terms of GDP changes), which have the most important impacts on the future of rail transport. The base for this is the EU reference 2020-2050 scenario and the World Economic Outlook 2023.

Projects scenario:
It provides an overview of the impacts resulting from the expected developments in the rail transport system. Actually, a number of projects are ongoing and/or planned for the improvement of the railway infrastructure belonging to the 11 RFCs Network. Such projects were first identified in the 11 RFCs Implementation Plans, which were further confirmed by the 11 RFCs. Furthermore, the list of the investments planned for the development of the 9 TEN-T Core Network Corridors was consulted to integrate the information available from the RFCs. The ongoing and planned investments differ in size. Some are big projects such as Rail Baltica or the Fehmarnbelt. But there are also many investments related to the modernisation and rehabilitation of railway lines to meet the TEN-T standards, improve network interoperability or increase capacity by upgrading railway lines and nodes. Not all projects have been considered for future scenarios simulation purposes. First of all, projects have been selected which are assumed to be completed before or in 2030. Second, only major projects were considered which should be able to 'translate' into a time gain or cost reduction. This approach reflects the purpose of the study and nature of the model, limited to freight market analysis and thus transport volumes and modal share estimation by land transport mode, excluding network capacity simulation and assessment, and looking at the short-term time horizon.

Sensitivity scenario: the completion of the TEN-T network at standard in 2030
It provides an overview of what would happen if – in addition to the investments included in the projects scenario - ERTMS is fully introduced, 740 meter long trains are allowed to operate anywhere on the whole network, 22.5 tonnes axle load is achieved on the entire network, intermodal loading gauge is also possible along the RFCs and if the RFCs network rail gauge meets European standards. This TEN-T completion scenario should be considered as a sensitivity analysis, as the projects required to reach the TEN-T standards will not be fully implemented before 2030.

In the absence of a consistent historical series of data and information on the operations along the 11 RFCs – worth also considering that the RFCs were established and entered into operation in different years between 2013 and 2020, and their alignment adjusted over time to reflect market needs – an e-survey was conducted as part of the 2024 Joint TMS Update – *2023 11 RFCs Joint TMS Update Survey* – to assess the occurred and expected changes associated with their establishment on three main areas: occurred and expected impact of the RFCs, occurred and expected market developments along the RFCs, and market drivers. The survey involved the Railway Undertakings Advisory Groups (RAGs) and Terminal Advisory Groups (TAGs) of the 11 RFCs.

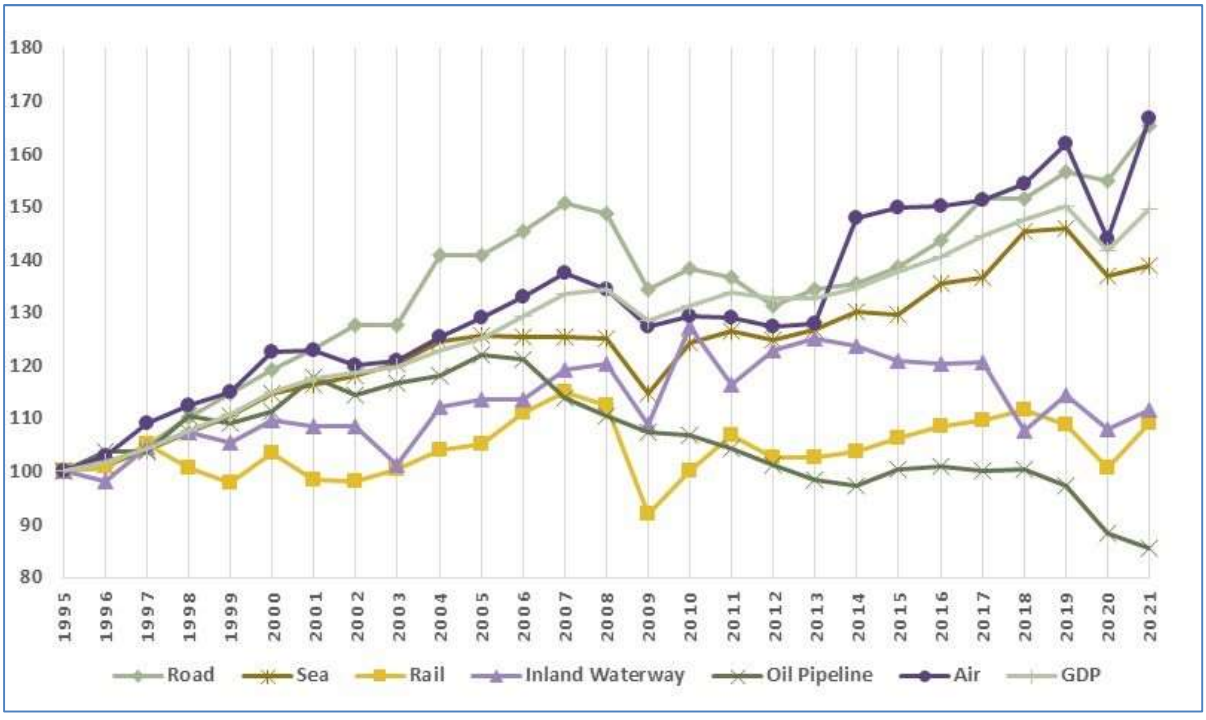
KEY STUDY FINDINGS ON RAIL FREIGHT MARKET IN EUROPE AND ALONG THE CORRIDOR

OVERALL MARKET TRENDS AND SECTOR DEVELOPMENTS

The data available from the EC DG MOVE/Eurostat (Statistical Pocketbook 2023 and Rail Market Monitoring Report) and from the Independent Regulators Group (IRG) (Rail Market Monitoring Reports) provide an overview of the development of the European rail freight sector since mid of the 1990s when the rail freight market liberalization started, allowing monitoring trends before and after the 2008 credit crunch, which is considered the second major financial crisis after the 1930s Great Depression, and which was followed by additional adverse events during the past 10-15 years when the 11 RFCs were gradually established and entered into operation. Key findings from the statistical analysis are as follows:

The period since the entry into force of the rail freight regulation has indeed been marked by a number of socio-economic, health and geopolitical events, which negatively impacted trade and transport flows at the global and European scale. The statistical review shows that the above-mentioned 2008 financial crisis basically altered the economic and transport developments experienced by Europe over the previous decades. EU27 long-term series over the past 30 years show that the effects of this crisis are persisting: albeit positive, the trend of GDP and most transport modes of the following period stands indeed at lower growth rates. Overall, the European rail freight market grew modestly over the last decade, contrasting with the strong development experienced between 2001 and 2008. The EU economy and transport markets were more recently further impacted by the 2020-2021 COVID-19 pandemic and by the current geopolitical crisis that started in 2022 with the Russian-Ukrainian war and deteriorated with the Israel-Gaza conflict and Red Sea crisis.

Transport trends in billion tkm EU27 (1995=100)



Source: EC – DG MOVE – Statistical Pocketbook 2023

Rail freight transport between 2013 and 2021 marginally grew in the EU27 from about 385 billion tkm to 410 billion tkm, i.e. 7%, which is only half of the rate of growth of total transport volumes and GDP. However, over the same period combined transport more than doubled from about 41 billion tkm to 100 billion tkm. Trends for the Corridor countries are similar to the EU ones, specifying that the growth of rail freight transport registered higher rates. In countries along the Corridor rail freight transport grew from about 209 to 231 billion tkm, i.e. 10%.

Most countries along the Corridor are among the ones registering a higher rail modal share in the EU. Five out of seven countries are positioned within the ten first-ranking EU countries for rail modal share in 2022.

Share of rail in total freight transport in % (based on tkm)

	2008	2013	2015	2019	2022	Var. '19-'13	Var. '22-'13	Var. '22-'08
Lithuania	64.5	57.2	56.4	56.8	37.2	-0.4	-20	-27.3
Switzerland	35.3	36.0	37.2	34.1	33.4	-1.9	-2.6	-1.9
Slovakia	**40.0**	**38.6**	**36.3**	**30.7**	**30.1**	**-7.9**	**-8.5**	**-9.9**
Austria	**33.3**	**31.9**	**32.3**	**30.6**	**30.0**	**-1.3**	**-1.9**	**-3.3**
Slovenia	26.7	30.5	30.9	31.4	28.8	0.9	-1.7	2.1
Hungary	**24.9**	**30.3**	**29.1**	**26**	**26.3**	**-4.3**	**-4.0**	**1.4**
Latvia	47.9	43.1	42.3	37.4	26.0	-5.7	-17.1	-21.9
Czechia	**31.9**	**28.0**	**26.1**	**25.9**	**22.0**	**-2.1**	**-6.0**	**-9.9**
Romania	**19.9**	**23.3**	**25.0**	**20.5**	**21.0**	**-2.8**	**-2.3**	**1.1**
Poland	30.5	24.2	23.3	21.5	20.8	-2.7	-3.4	-9.7
Germany	**14.6**	**13.9**	**14.1**	**13.7**	**14.9**	**-0.2**	**1.0**	**0.3**
Bulgaria	10.3	7.5	8.7	8.5	11.2	1.0	3.7	0.9
Finland	13.1	12.7	10.9	11.8	10.8	-0.9	-1.9	-2.3
Sweden	10.3	9.6	8.6	9.4	10.5	-0.2	0.9	0.2
Belgium	8.2	6.8	6.9	7.2	7.3	0.4	0.5	-0.9
Luxembourg	9.8	7.2	7.0	6.8	6.1	-0.4	-1.1	-3.7
European Union - 27 countries (from 2020)	6.0	5.7	5.7	5.3	5.5	-0.4	-0.2	-0.5
Croatia	4.5	3.1	3.2	3.5	4.1	0.4	1.0	-0.4

	2008	2013	2015	2019	2022	Var. '19-'13	Var. '22-'13	Var. '22-'08
France	**4.2**	**3.6**	**4.1**	**3.5**	**3.7**	**-0.1**	**0.1**	**-0.5**
Italy	2.6	2.4	2.6	2.3	2.7	-0.1	0.3	0.1
Estonia	10.4	7.6	4.5	3.3	2.4	-4.3	-5.2	-8.0
Norway	2.0	1.9	1.6	1.6	2.1	-0.3	0.2	0.1
Netherlands	2.0	1.7	1.8	1.8	1.9	0.1	0.2	-0.1
Denmark	1.4	1.8	1.9	1.7	1.6	-0.1	-0.2	0.2
Spain	0.8	0.8	0.9	0.8	0.8	0.0	0.0	0.0
Portugal	0.3	0.3	0.3	0.3	0.2	0.0	-0.1	-0.1
Ireland	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Greece	0.2	0.0	0.1	0.1	0.1	0.1	0.1	-0.1

Source: Eurostat

At the same time, Czechia, and Slovakia are also among the ones that have registered a high decline in rail modal share over time. This is a general trend at the EU27 scale that is likely related to the change in the commodity basket trade. At both EU 27 and Corridor related country levels, there is an underlying stagnation or decline of dry and liquid bulk commodities (originating even from before the mid of the 1990s), associated with a growth of intermodal transport, a market segment that is apparently growing with the gradual opening of the rail freight market and greening of logistics chains.

At the EU27 scale, the COVID-19 pandemic seems to have had different impacts on rail freight traffic measured in net tkm, with either increases or decreases in transport volumes between 2019 and 2021. The negative impact has been apparently significant in the Baltic States, Denmark, Luxembourg, Portugal, and Romania, whereas Bulgaria and Greece experienced about 20% growth. Most of the counties along the Corridor registered positive variations during the pandemic period. Baltic States, in particular, also experienced a significant drop in traffic since the start of the Russian-Ukrainian war in 2022. In fact, EU sanctions implemented with Belarus and Russia following the start of the Ukrainian conflict impacted rail freight traffic negatively in the Baltic States, whereas rail train freight traffic between Ukraine/Moldova and the EU has increased, particularly through Poland and Romania.

Since the start of the rail freight liberalisation process in the late 1990's and 2000's, the market share of the domestic incumbent RUs gradually declined in most EU Member States, whereas the market share of non-incumbents increased together with the operations of foreign incumbents. As a general pattern, common to the EU27 and countries along the Corridor, the trend of the market share of domestic incumbents continued to decline in the period between 2013-2021. In the countries along the Corridor, the market share of the domestic incumbents

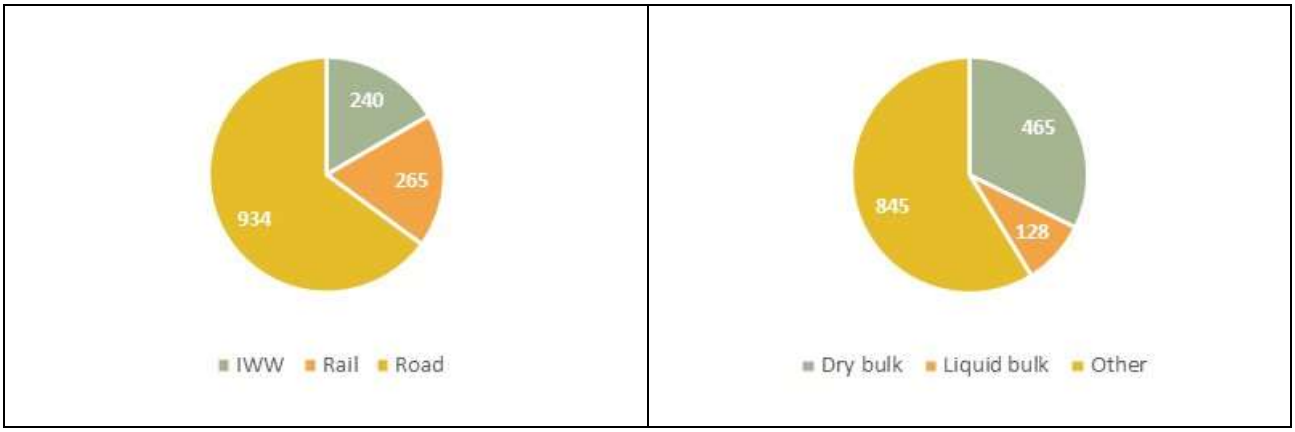
in 2021 was about 50% on average; the market share of national and international incumbents was about 60% on average.

ANALYSIS OF THE CURRENT AND FUTURE FREIGHT TRANSPORT MARKET ALONG THE 11 RFCS NETWORK

The total volume of international freight transport over land for the 11 RFCs Network catchment area is 1,439 million tonnes. The volume of international rail freight transport is 265 million tonnes (about 442 thousand international trains[1]), which is 18% of the total amount of transport to, from, and within the catchment area of the 11 RFCs Network. The share and volume of inland shipping (IWW) is 17% (240 million tonnes), and the share of road transport is 65% (934 million tonnes).

Concerning the cargo types[2], the category *Other* (general cargo, including intermodal transport and container) dominates the international freight transport for the 11 RFCs Network, by 845 million tonnes of volume. This is about 59% of all international freight transport. This cargo type is mostly transported by road (about 69%). *Dry bulk* is the second largest cargo type at 32% (465 million tonnes). *Liquid bulk* has as share of 9% (128 million tonnes) in the total volume of international freight transport over all land modes.

Estimated volume (million tonnes) and share of international freight transport over land by mode and cargo type within the catchment area of the 11 RFCs Network



Source: NEAC estimations

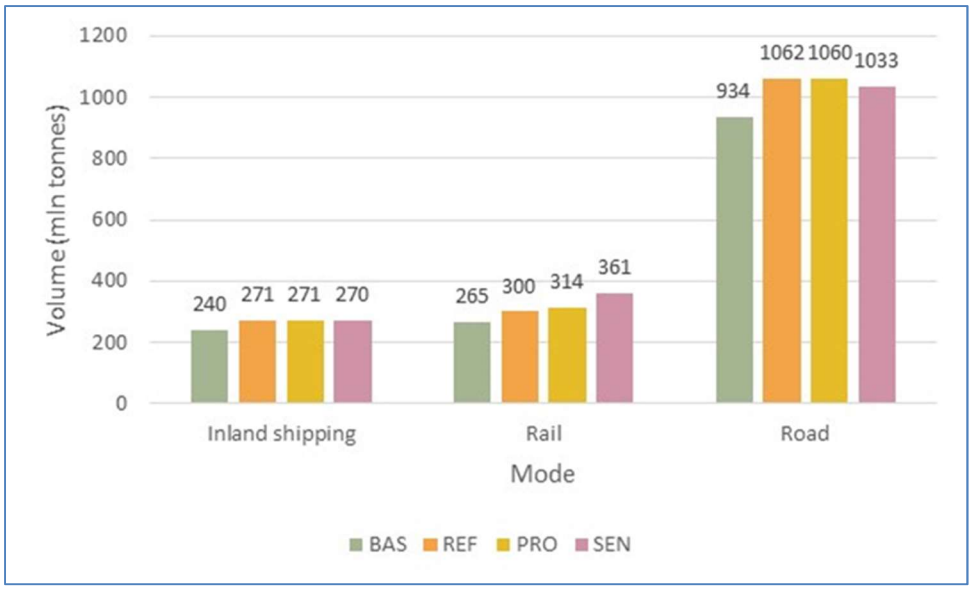
The three future scenarios (Reference, Projects and Sensitivity) show an increase in international freight transport in general. Within the 11 RFCs Network catchment area, due to economic growth (EU Reference and UN), the increase in general is about 18%. This is in line with the GDP growth for the EU27, which is 17%. Inland shipping shows a growth of 13% (from 240 to 271 million tonnes), road has a growth of 14% (from 934 to 1062 million tonnes) and rail transport of 13% (from 265 to 300 million tonnes). In the absence of further developments, the rail freight market is expected to grow at a slower pace compared to GDP and to the overall transport sector, therefore losing market share. This is due to the changing trends in the basket of transported commodities and differentiated geographic demand growth distribution. For all

[1] Using an average of 600 tonnes per train

[2] We distinguish dry bulk, liquid bulk, and other (general cargo and container). Dry bulk comprises commodities such as sand, ores and coal. Liquid bulk comprises mainly oil(products) and liquid chemicals. General cargo concerns a broad range of products such as cars, machinery, and electronics. Containers concern intermodal transport. The content is often unknown.

land freight transport, the projects scenario and the sensitivity scenario have a limited impact on the overall growth of international freight transport.

Development of volume (in million tonnes) by mode and scenario for the 11 RFCs Network catchment area



Source: NEAC estimations; Legend: BAS Base year scenario; REF Reference scenario, PRO Projects scenario; SEN: Sensitivity scenario

Focusing on international rail freight transport, the reference scenario expects a growth of 13%, which is approximately 35 million tonnes extra compared to the 2022 situation. Both the Projects scenario and the Sensitivity scenario show the impact of the different rail projects and rail measures. In the Projects scenario, rail transport grows an extra 4% compared to the reference scenario (300 million tonnes to 313 million tonnes) due to projects. In total this is approximately 13 million tonnes of extra international rail freight transport.

The hypothetical Sensitivity scenario shows that compared to the reference, there is a potential of 61 million tonnes extra rail freight transport due to longer trains, 22.5 t axle load, ERTMS, and standard gauge on the Iberian Peninsula. The total expected rail freight transport volumes in this scenario reaches 361 million tonnes, corresponding to a 20% growth compared to the Reference scenario.

Considering both economic and infrastructure developments, the Sensitivity scenario can be regarded as a potential maximum growth for rail transport across the 11 RFCs Network. Compared to the 2022 base year, transport volumes would increase from 265 to 361million tonnes i.e. by 36%, out of which around 1/3 is due to economic development and 2/3 to infrastructure investments.

As a result of the analysis performed, it is possible to conclude that the major planned projects along the 11 RFCs Network assumed to be completed by 2030, and the modernisation of railway lines and cross-border sections, are fundamental to removing infrastructure bottlenecks and reducing travel times and transport costs. Such initiatives are expected to increase competitiveness of rail transport on the 11 RFCs Network, and thus on each RFC, including the Corridor. Further to these projects, completing the 11 RFCs Network in line with the TEN-T requirements is key to increase the rail market share.

With reference to the 50% growth set in the EU policies for the period 2015-2030, the observed growth for the period 2015-2022 and expected for the time frame 2023-2030 (+36%) still lags below the target. Therefore, the development of a high-quality and interoperable network does not seem to be sufficient to achieve the ambitious targets set in the relevant European transport policies, an outcome that would hardly change even assuming additional mega cross-border projects would be completed like Brenner and Turin-Lyon.

Such targets remain challenging to meet in the absence of a significant change in the structure of the costs of road and rail transport. Internalising external costs of road transport, and or incentives to reduce the costs of rail transport might be needed. The potentially negative impacts on rail market share of measures such as improving the efficiency of road transport shall also be considered, as also reported in a recent study by the Community of European Railway and Infrastructure Companies (CER) – *Study on Weights and Dimensions: Impacts of the Proposed Amendments to the Weights and Dimensions Directive on Combined Transport and Rail Freight Transport*[3]. Market opening appears also to be relevant in increasing the competitiveness of rail transport. A recent study by the European Rail Freight Association (ERFA) – *The European Rail Freight Market; Competitive Analysis and Recommendations*[4] – considers how non-incumbent operators, focussing on the fast-growing intermodal and logistics train segments, are likely to experience further growth in market share in the 2020s. According to the study, competition amongst railway undertakings has made rail more attractive compared with road, which can be partially explained by the business model of non-incumbents, more focused (i.e., intermodal and logistics, block trains, and international traffic), lean and agile, and cost competitive, able to offer better service levels consistently.

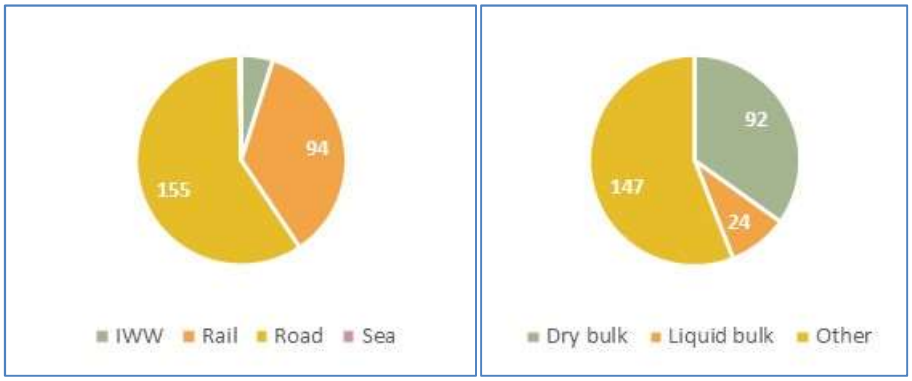
ANALYSIS OF THE CURRENT AND FUTURE FREIGHT TRANSPORT MARKET ALONG THE CORRIDOR

International freight transport across all modes in the catchment area of the Corridor amounts to 263 million tonnes. The international rail freight transport volume in this area is estimated at 94 million tonnes (about 100.000 trains). This is 36% of the total amount of transport for the Corridor. The share of inland shipping is 5%, the share of road transport 59%. Sea shipping does not play an important in this RFC (less than 1 million tonnes).

Concerning the cargo types, *Other* (General cargo, including intermodal transport and container) dominates the international freight transport within the catchment area of the Corridor, with a volume of 147 million tonnes. This is about 56% of all international freight transport for the Corridor. Dry bulk is the second largest cargo type at 35%. Liquid bulk has a share of 9% Corridor.

[3] https://www.cer.be/cer-reports/study-on-weights-and-dimensions
[4] https://erfarail.eu/news/the-european-rail-freight-market-competitive-analysis-and-recommendations

Estimated volume (million tonnes) and share of *all* international freight transport by mode and cargo type in the *catchment* area of the Corridor



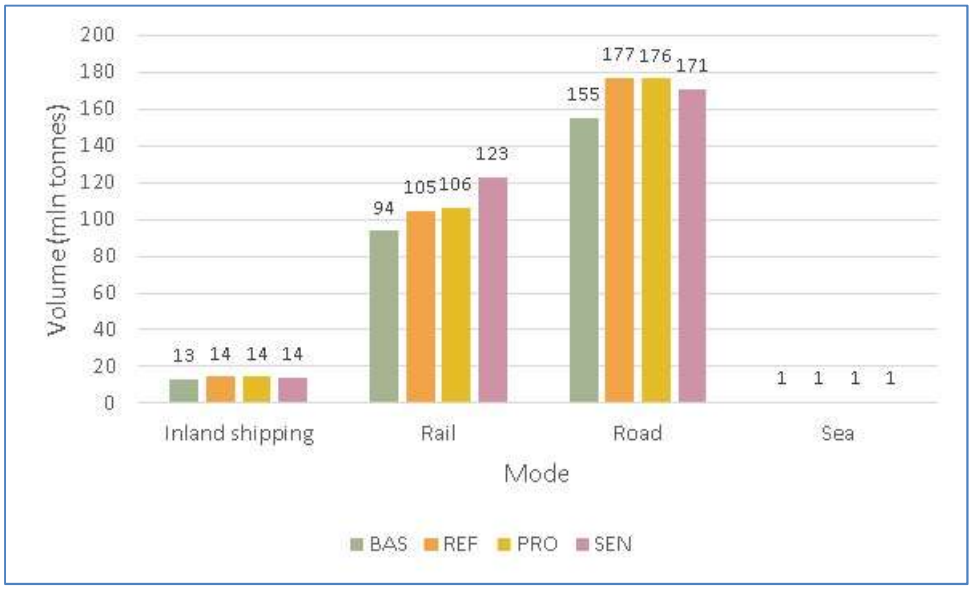
Source: NEAC estimations

On relations within the catchment area of the Corridor, rail freight transport has a share of 36% in the total amount of international freight transport. This is a volume of 94 million tonnes. The total amount of international rail freight transport of 94 million tonnes relates to approximately 100,000 trains within the corridor area of the Corridor.

The most important rail transport origins and destinations can be found in Germany, Austria, Slovakia and Hungary, in locations such as Munich and Linz. The most important relation is between East Slovakia and Ostrava (vv). Other important relations are Landshut -Linz and Munich-Linz.

The three future scenarios (Reference, Projects and Sensitivity) show an increase in international freight transport in the Corridor in line with what expected at the European level. Mainly due to autonomous economic growth, the increase in general is about 13%, in the Corridor growth is also 13%. This is in line with the GDP growth for the EU27 which is 17%. In the Corridor, rail has a growth of 12%, inland shipping and sea shipping grow by 11%, and road has a growth of 14%. In the absence of further developments, the rail freight market is expected to grow a bit less compared to GDP and to the overall transport sector, therefore slightly losing market share. For all freight transport, the Projects scenario and the sensitivity scenario have an impact on the overall growth of international freight transport, especially in the Corridor.

Development of volume (in million tonnes) by mode and scenario for the corridor area of the Corridor



Source: NEAC estimations; Legend: BAS Base year scenario; REF Reference scenario, PRO Projects scenario; SEN: Sensitivity scenario

In the Corridor, for the Reference scenario, a growth of international rail transport is expected at 13%, which is approximately 11 million tonnes extra compared to the 2022 situation. This would be (rounded) 112,000 extra international freight trains in the Corridor.

The Projects scenario shows the impact of the different rail projects and rail measures. In the Projects scenario rail transport grows an extra 1% compared to the reference scenario. In total it is estimated that this is approximately 1 million tonnes of extra international rail freight transport. This gives (rounded) 2,000 extra trains in the Corridor. Corridor.

The Sensitivity scenario shows that there is another potential of 17 million tonnes extra rail freight transport mainly due to longer trains. The total number of unique international freight trains would then be around 115,000. Compared to the 100,000 unique trains in 2022, this is a growth of around 15%. This figure can be regarded as a potential maximum growth.

Overall, the sensitivity scenario can be regarded as a potential maximum growth for rail, considering both economic and infrastructure developments. Compared to the 2022 base year, transport volumes would increase from 94 to 123 million tonnes i.e. by 31%.

OCCURRED AND EXPECTED CHANGES DUE TO THE ESTABLISHMENT OF THE RFCS

The e-survey conducted to collect the opinion of the 11 RFCs RAGs and TAGs members on the occurred and expected impact of the establishment of the RFCs, involved 42 representatives of the RAGs and 30 members of the TAGs, who submitted valid questionnaires between September 2023 and January 2024. Whereas the overall number of responses

makes the survey outcome meaningful for the analysis of the occurred and expected changes at the 11 RFCs Network scale, an analysis specific to each individual RFC would not be statistically significant. The survey results are accordingly used in the 2024 11 RFCs Joint TMS Update for the 11 RFCs Network. It is worth noticing that the survey responses reflect the views of the respondents at the time of submission of the questionnaire (Autumn 2023/January 2024). They furthermore represent a partial view of the market as the sample of the respondents is not representative of the market universe; and may contrast with the findings from the statistical review presented in the previous section above, as the opinions relate to the RFCs and international trains, whereas national statistics refer to the whole country network and national as well as international traffic. The main findings from the survey are summarised in the following bullet points for each of the three investigated areas.

Occurred and expected impact of RFCs, in the areas of governance, operational efficiency and capacity management

The opinion of the 11 RFCs RAGs and TAGs members about the changes within the governance area is positive, especially in terms of cooperation with the market, including but not limited to RUs and terminal operators, as well as concerning facilitation of discussion among Member States about the issues affecting the competitiveness of international rail freight transport. The opinion about the progress made regarding cooperation between RFCs and Core Network Corridors (CNCs)/ERTMS horizontal priority is less favourable. The market opinion is unfavourable about the progress made on harmonising international freight rail services' legislative, regulatory, procedural and operational aspects. The expectations of the market players concerning the future impact of the programmes and activities of the RFCs are relatively positive concerning all aspects. Respondents consider the cooperation between RFCs and an EU Network of Infrastructure Managers (ENIM) as assumed in the proposal for the new capacity regulation, to be the best governance solution for bringing issues forward;

The stakeholders' opinion about the changes that occurred within the operational efficiency area is also generally positive, except for the progress made in the promotion of technical and operational harmonisation of the European railway transport system towards its interoperability. The respondents' expectations concerning the future impact of the programmes and activities of the RFCs are relatively positive concerning all the assessed issues related to operational efficiency. Cooperation between RFCs and an EU Network of Infrastructure Managers (ENIM) is also considered the best-fitting governance solution to bring operational efficiency issues forward;

The respondents' opinions about the changes that occurred within the capacity management area are predominantly unfavourable. Notwithstanding the market's negative opinion of the progress made since the establishment of the RFCs in this area, the expectations on the future impact of the programmes and activities by the RFCs are rather positive with regard to all the investigated aspects related to capacity management. The best governance solution for capacity management improvements is deemed to be the cooperation between the RFCs and an EU network of Infrastructure Managers (IMs).

Occurred and expected market developments

The vast majority of the e-survey respondents operated or still operate rail services or manage/operate terminals serving trains across at least one border crossing point on any of the RFCs. Most of them also operated or served international rail freight transport before the establishment of the RFCs. The majority of the respondents declare they experienced an increase in their operations since 2013, and most of them also have a positive expectation about the future, expecting overall market growth;

The variation in traffic experienced by RUs and terminal operators since 2013 is positive for the Corridor. The majority of the respondents declare they experienced market growth along the corridor.

The prevailing type of international trains operated on the RFCs Network consists of intermodal trains, followed by conventional block trains and single-wagon load trains. Most RUs and terminal operators experienced growth in intermodal train operations in the past years, whereas the trend for conventional block and single-wagon load trains is predominantly stable. Most respondents have a positive expectation for the future in terms of traffic growth for all market segments;

Concerning traffic between logistics nodes, most operations relate to Port to Rail-Road Terminal (RRT) transport, followed by RRT to RRT services and Port to Port operations. Experienced variations by RUs were mostly positive for the Port to RRT or RRT to RRT segments and stable for the Port to Port one. Terminal operators have predominantly experienced growing trends in all market segments in the past years. The vast majority of RUs and terminal operators are expecting positive future trends for the three market segments;

Regarding service distances, most operations cover distances between 300 km and 900 km, followed by services covering distances longer than 900 km and below 300 km. RUs experienced mostly positive variations for services covering distances longer than 300 km and declared the market is stable for operations below 300 km. Terminal operators have predominantly experienced growing trends in all market segments in the past years. The vast majority of RUs and terminal operators are expecting positive future trends for the three market segments.

Market drivers

RUs and terminal operators have very similar views about the effects of the main market drivers on the growth of international rail freight transport in the short term, i.e., up until 2030. Most identified drivers are expected to have positive effects as they are assumed to improve rail transport's competitiveness. At the same time, the geopolitical context and socio-economic outlook, as well as the shortfall of the labour force, are perceived as threats;

The socio-economic outlook is ranked first by the market, followed by infrastructure development and interoperability, policy and economic incentives to promote shift to rail. Increased performance of rail freight services and harmonisation of procedures and national legislation to improve cross-border operations are the two most relevant market drivers, according to the respondents, if considering both first and second-ranking options;

Although indicated as having a potential negative impact on the market, labour shortages and geopolitical context are not ranked among the most critical market drivers. Finally, technological improvements towards better integration and increased efficiency of multimodal logistics chains, better-integrated RFCs and terminal capacity management do not seem to be considered priority issues by the RUs and terminal operators.

RECOMMENDATIONS ON FACILITATING AND STRENGTHENING THE RAIL FREIGHT MARKET ALONG THE 11 RFCS AND THE CORRIDOR

In line with the overall study approach aimed at conducting the 2024 Corridor TMS Update as part of a Joint TMS Update of the 11 RFCs, study recommendations are primarily formulated focussing on the short-term development of the 11 RFCs belonging to the European rail network for competitive freight. RFCs share indeed both infrastructure and market, and more importantly a same EU policy background and overall socio-economic and geopolitical challenges despite some differences between Eastern and Western as well as Northern and Southern European countries. The 2024 11 RFCs Joint TMS Update allows for an estimation of the current market with reference to the RFCs catchment areas based on a common approach and tool, and for an overall assessment of the impact of the development of the 11 RFCs Network towards the development and completion of the TEN-T network at standard. In line with the methodology decided to be adopted for the 2024 11 RFCs TMS Update, no assessment of the current and future capacity was performed as part of the study and no detailed quantitative assessment of the current and future market operations by the operators along the individual RFCs and with reference to the expansion or new construction of individual projects and logistics nodes. The adopted approach albeit appropriate for an assessment of the market and modal share of the individual RFCs as part of the 11 RFCs Network, does not allow capturing RFCs specific market elements, especially the ones related to operational aspects. Study recommendations have been formulated around two main areas: market developments and targets and institutional and operational developments.

MARKET DEVELOPMENTS AND TARGETS

The simulations made in the study demonstrate that major projects, and particularly the completion of the TEN-T network at standard, would significantly increase the competitiveness of rail freight transport. The post-COVID recovery and the recent geopolitical crises caused delays in the implementation and completion of the projects needed to complete a high quality and interoperable TEN-T network. Price increases and shortages of construction materials particularly affected the advancement of ongoing and planned projects. A high-quality and interoperable network might, furthermore, not be sufficient to achieve the ambitious targets set in the relevant European transport policies, in the absence of a significant change in the structure of the costs of road and rail transport. The following recommendations are proposed to support market development towards the achievement of the EU policy targets:

Timely complete the development of a high-quality, interoperable network:
Building missing links and removing infrastructure bottlenecks increasing infrastructure capacity by adding new tracks and lines where needed, increasing their speed and improving their gradient, can solve congestion problems, save energy and reduce transport costs as well

as improve travel times. Such developments are relevant at the network level, but produce effects also at the individual corridor scale;

Achieving the requirements set in the TEN-T Regulation towards a Single European Railway Area, i.e. 740 meter long trains, ERTMS, 22.5 tonnes axle load, intermodal loading gauge, UIC gauge, electrification, is fundamental to support the development of a Single European Railway Area;

Support intermodal and combined transport. The intermodal market is the most promising international rail freight market segment, requiring improvement of interconnectivity between main railway lines and terminals, increasing the capacity of the existing terminal infrastructure, investing in technologies to facilitate and speed up transport and transhipment operations, and tracking and making more reliable the transport of intermodal units along logistics chains and within logistics clusters.

Stronger cooperation between all involved parties for better effectiveness in the availability and use of funds and the definition of investment implementation strategies focussed on those sections of the network with higher market potential. For over a decade, the sector has benefited from a stronger TEN-T policy with a dedicated Connecting Europe Facility Fund. Among the different transport modes involved in the TEN-T network, rail and rail cross-border initiatives are treated as a priority. However, the available financial resources are limited overall compared to the financial needs that would be necessary to complete all projects. Investing in infrastructure might not be sufficient, e.g. to be operational, ERTMS also requires rolling stock to be equipped with onboard units.

Introduce market regulatory and policy measures to increase the competitiveness of rail freight transport. Although not a specific subject of this study, regulatory and policy measures might be necessary to facilitate and foster the rail freight market in Europe towards the achievement of higher market shares and EU policy targets. Rail freight transport is generally more expensive and less flexible compared to road transport. Internalising external costs of road transport, and/or creating incentives to reduce the costs of rail transport would increase its competitiveness and support the achievement of the ambitious EU policy targets. In this respect, policymakers shall also consider the potential effects on the modal share of measures improving the efficiency of road transport. As emphasised in the above-mentioned study by ERFA5 regulatory measures facilitating market opening appear also to be relevant in increasing the competitiveness of rail transport (e.g. enforcement of antitrust regulations; unbundling of subsidised public service operations from open market business; and ending direct subsidies to or recapitalization of state-owned freight railway undertakings).

INSTITUTIONAL AND OPERATIONAL DEVELOPMENTS

Recommendations on institutional and operational developments are formulated as follows, according to the findings from the market consultation (2023 11 RFCs Joint TMS Update Survey), conducted as part of the 2024 11 RFCS Joint TMS Update:

Improve capacity management: Capacity management is considered by the market and also by the analyses and studies at the basis of the proposal for the new capacity regulation, a key

[5] https://erfarail.eu/news/the-european-rail-freight-market-competitive-analysis-and-recommendations

area for improvement. Progress was made in the management of Temporary Capacity Restrictions, however capacity planning remains an issue. Digital Capacity Management as an integral part of the European program “Timetable Redesign (TTR) for Smart Capacity Management” is at the core of the proposal for the new capacity regulation, and it is paramount to reaching Green Deal targets for the transport sector and the rail freight segment within it.

Monitor operational performance: The revised TEN-T regulation identifies new operational requirements, related to punctuality and dwell times at borders. Furthermore, some infrastructure requirements also depend on operations, such as 740 meter long trains. Investing in infrastructure, albeit needed, is long-lasting and capital-intensive. The competitiveness of international rail freight transport also depends on the improvement of cross-border operations and integrated/coordinated planning and management of the rail network at the European scale. An RFCs common KPI framework is already in place, and RNE is also already monitoring infrastructure KPIs. Such activities might be continued in light of the new set of requirements foreseen in the revised TEN-T Regulation (EU) 1679/2024 and RFC governance structure, also defined in the Art. 67 of this regulation.

Balance network and corridor governance approach: The analysis of the RFC catchment areas shows that international trains using at least one corridor BCP may actually use more than one RFC. A network approach is more fitting to the planning and management of the network capacity. Geographical specificities and logistics clusters and chains exist that still make the corridor concept useful, especially to support discussion and coordination among IMs and Member States and for a customer-oriented approach aimed at involving RUs and Terminal Operators. This consideration also seems to be in line with the opinions expressed by the 11 RFCs RAGs and TAGs members in the survey conducted as part of this study.

In addition, the RFC is planning to conduct a transport market analysis along the lines of the ETC Rhine-Danube in a common project with the other RFCs by the end of March 2025.

4 List of Measures

This chapter lists the schedule of the measures necessary for the further implementation and development of the Corridor.

Measures for the further implementation of the Regulation:

The revised TEN-T Regulation amended the RFC Regulation 913/2010/EU on 18 July 2024. In order for the continuous and full implementation of the anended RFC Regulation, the Corridor is planning to deliver the following measures.

Deliverable	Additional information	Deadline
Updated Implementation Plan	1st step: Essential elements of the updated TMS Corridor Description and Bottleneck Analysis: Data from the Implementation Plan of RFC OEM are added and the major changes are incorporated.	by 13 January 2025

	Investment Plan: Data from the Implementation Plan of RFC OEM are add and the major changes are incorporated. References to further, future extensions in Hungary, in Romania and to Serbia are added. The description about the C-OSS activities are the Corridor.	
	2nd step: Integrating the corridor extensions in Serbia, Hungary, and Romania in all relevant parts of the IP. The essential elements of the ETC analysis are to be added. Bottleneck Analysis and Investment Plan: to be kept in the IP until the workplan of the European Coordinator is made available. These data shall be updated/added only regarding the above new lines/extensions. Results of the consultation with the AGs on the infrastructure development and investment needs for rail freight are to be added (Art. 19 of RFC Regulation). Objectives and targets: the operational priorities from Art. 19 of the revised TEN-T Regulation are to be added. Measures how to improve performance and how to reach the operational priorities. The views and assessment of the advisory groups with respect to corridor development (Art. 9 (1.) (e) of RFC Regulation).	by 18 July 2026
	3rd step: References to the workplan of the European Coordinator are to be added, which document is planned to be made available in July 2026. Investment Plan to be deleted due to being part of the workplan of the European Coordinator expectedly as of the above date.	by the end of 2026
New Transport Market Study along the lines of	Incl. observed and expected changes in the traffic on the Corridor, as a	by the end of March 2025

the ETC Rhine-Danube (ETC analysis)	consequence of its being established, covering the different types of traffic, both regarding the transport of freight and the transport of passengers	

Measures for the further development of the Corridor:

The Corridor will continue with activities for the further development of rail freight traffic as follows.

a) Cross-border cooperation:

Primarily, such activities comprise the strengthening of cross-border cooperation between neighbouring IMs, the RUs using the border sections concerned, and the terminals operating at and feeding the border sections concerned. The aim is to remove barriers at the borders, thus create an as efficient, fast, and seamless crossing of trains at the borders as possible. To this end, IMs, RUs, and terminals are working in close cooperation with each other. Regular monitoring and meetings are conducted to jointly identify the obstacles, create concrete improvement measures, and ultimately to implement them. An important indicator for assessing the quality of international rail freight traffic at the borders is the KPI measuring the dwell time.

Massive work needs to be done on monitoring and reducing the dwell times at these borders:

- Passau – Schärding (DB InfraGO – ÖBB Infra)
- Lőkösháza – Curtici (MÁV – CFR)
- Rajka - Rusovce (GYSEV – ZSR)

In case of need, strengthening cross-border cooperation on further border sections will be considered, too, depending on the dwell time and the number of international freight trains per border.

In order to complement the above activities, upon the request of the Advisory Group, an analysis of cross-border procedures should be conducted along the Corridor and a to-do list should be delivered in order to improve the processes, thus to increase international rail freight business. This activity should start in 2024.

b) Coordination of procedures in traffic management

Furthermore, in order for a further optimised coordination of traffic management between the IMs, the terminals, as well as the RUs, the Corridor participates in the Rail Collaborative Decision-Making (hereinafter referred to as R-CDM) project coordinated by RailNetEurope.

c) Coordination of planned temporary capacity restrictions

Upon the request of the RU Advisory Group, improvement actions should be defined by identifying best practices.

4.1 Coordination of Planned Temporary Capacity Restrictions

The currently applicable processes are described in chapter 4.4 of the CID.

As an additional measure for further development, the following IMs along the Corridor started using the TCR tool operated by RNE in 2023: SNCF Réseau, MÁV, SZCZ, ZSR. This tool

provides for a user-friendly overview via a digital map displaying the TCRs uploaded by the IMs. Implemention of the usage of the tool is ongoing by the other IMs.

4.2 Corridor OSS

The tasks of the C-OSS, the legal background, and the related documentation are described in section 4.2 of the CID.

4.3 Capacity Allocation Principles

The currently applicable process including the first step of the alignment of RFC Rhine-Danube which incorporates the partial transition of RFC OEM into the is described in detail in Chapter 4.3 of the CID

RFC OEM will be dissolved by the end of March 2025. To ensure a smooth transition and continuous C-OSS service, Reserve Capacity for timetable 2025 was offered by RFC RD also for those lines of RFC OEM which will be transited into RFC RD.

For the PaP offer for timetable 2026, RFC RD will publish PaPs according to the new ETC alignment:

- New lines from German harbours via Bad Schandau/Decin to Czechia which were previously managed by RFC OEM and RFC North-Sea Baltic
- Taking over RFC OEM lines in Hungary and Romania

All in all,RFC RD will publish and manage capacity on former RFC OEM lines except in Bulgaria and Greece.

4.4 Applicants

The currently applicable processesare described in point 4.3.2 of the CID.

4.5 Traffic Management

IMs coordinate international traffic with neighbouring IMs on a bilateral level. In this manner, they ensure that all traffic on the network is managed in the most optimal way.

Detailed rules and procedures regarding traffic management along the Corridor are described in Chapter 4.5 of the CID.

4.6 Traffic Management in Event of Disturbance

The communication procedure and the available tools are described in Chapter 4.5.3 of the CID.

4.7 Quality Evaluation

The provisions of Article 19 of the Regulation set requirements regarding the quality evaluation of rail freight services on the Corridor.

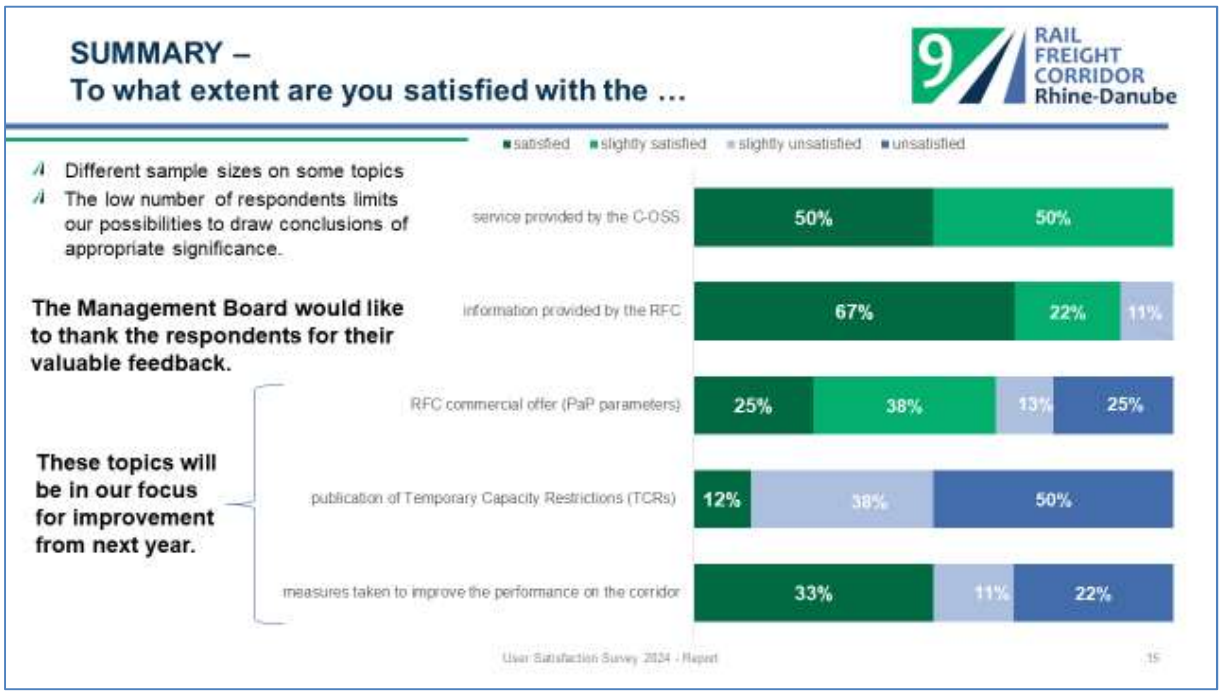
The performance of the Corridor is measured through key performance indicators listed in Chapter 5 and targeted customer satisfaction surveys mentioned in Chapter 4.7.2.

4.7.1 Performance Monitoring Report

According to Article 19 (2) of the Regulation the MB monitors the performance of rail freight services on the Corridor and publishes the results once a year.

4.7.2 User Satisfaction Survey

According to Article 19 of the Regulation the quality of service on the Corridor is also measured through user satisfaction surveys conducted on a yearly basis. Inputs for this survey are delivered by the RAG/TAG members. The results are published on the website of the Corridor. The Corridor prepares an action plan in order to find solutions for the top areas in which most of the respondents request improvement. The summary of the results of the latest survey conducted in 2024 is displayed below.



4.8 Corridor Information Document

The Corridor Information Document is published by the 2nd Monday of January every year together with the PaP catalogue and is kept regularly up-to-date. It complies with the Corridor Information Document Common Texts and Structure of RailNetEurope. It is published on the website of the Corridor (https://rfc-rhine-danube.eu/cid-books/), as well as in the CIP (https://cip.rne.eu).

5 Objectives and Performance of the Corridor

The objectives of the Corridor have been harmonised with the objectives of RFC Orient/East-Med and the two corridors are closely cooperating with each other in order to achieve them.

In general, the objectives of the Corridor are as follows:

- Increasing the modal share of rail freight,
- Improving procedures and facilitating accessibility of railways, and
- Providing better, more reliable services.

The Corridor aims to reach these objectives by

- Attracting customers with the services of the C-OSS, providing easier access for customers in order to reduce the drawback of different national systems.
- Facilitating solving issues that need higher level attention especially when out of the transport sector.
- Continuous improvement of processes concerning the operation of the railway infrastructure.

In particular, the objectives specific to the core processes capacity management and train performance management are described below. Furthermore, the objectives and targets will be revised in 2025 in line with the revised TEN-T Regulation.

Punctuality:

Improving the punctuality of freight trains running on the Corridor is essential in order to increase the share of rail in the model split. Therefore, one of the Corridor's focal points is to undertake effective measures to further enhance Train Performance Management (hereinafter referred to as TPM) including setting of quality targets and thereby shifting the focus of TPM activities from monitoring to management of punctuality.

Generally, the punctuality of a train is measured on the basis of comparisons between the time planned in the timetable of a train identified by its train number and the actual running time at certain measuring points. A measuring point is a specific location on the route, where the trains running data is recorded. The comparison should always be done with an internationally agreed timetable for the whole train run.

Punctuality is calculated as the percentage of punctual trains out of the total number of trains.

The calculation is done for two thresholds: 30 minutes and 15 minutes.

The codified reasons for delay, in accordance with UIC leaflet 450-2, is used for continuous and systematic monitoring. The monthly punctuality reports are uploaded to the website of the Corridor.

Dwell time:

Besides punctuality, another factor requiring high attention is the dwell time of international freight trains at the borders and the reduction of this dwell time, with special regard to the critical border sections – facing both long dwell time and a high number of trains. In order to facilitate the objective of operational efficiency and seamless crossing of the borders, this particular factor needs continuous cooperation between both IMs and RUs in removing operational barriers.

Target:

- 120 minutes on average where currently above this target,
- further decrease annually where below 120 minutes.

Strengthening cross-border cooperation:

In order to facilitate the above objectives regarding punctuality and dwell time, the Corridor promotes cross-border cooperation groups comprising neighbouring IMs, RUs, and eventually terminals regarding the critical border sections. Further information about the continuous at the border sections concerned can be found in chapter 4.2 Measures for the further development of the Corridor.

More information about train performance management can be found in Chapter 6 of the CID and in the TPM Handbook published on the website of the Corridor.
In general, the Corridor uses regular performance reports, analyses them, and the results are used as basis for potential improvement actions. In particular, more detailed monitoring, specifically needed at the border sections on which cross-border cooperation groups have been set up, is done as well.

Capacity:

The C-OSS handles exclusively the capacity products on the Corridor (Pre-arranged Paths (hereinafter referred to as PaPs), Reserve Capacity etc.). PaPs for the annual timetable are provided by the IMs/AB to the C-OSS. The PaPs are based on standard parameters for rail freight and previously coordinated between the IMs/AB at the borders so to enable for attractive running times. The path catalogue of PaPs is published by the C-OSS by the 2nd Monday of January of each year for the next timetable period. Reserve Capacity on the Corridor is available from October of each year on, to allow for ad-hoc path applications. The offer of the C-OSS is displayed in the IT-application PCS (Path Coordination System) provided by RNE. According to the Regulation, the aim is to offer capacity via the C-OSS is to have “one face to the customer” for international path requests along the Corridor and at the end harmonized path offers across at least one border. Furthermore, the decision on the PaP pre-allocation is done by the C-OSS by the end of April for the entire international PaP segment on basis of one harmonized allocation rule. As a result, the RUs will get an earlier information about the PaP pre-allocation.

KPIs:

To measure the fulfillment of the above objectives and steer performance, the MB has adapted the following KPIs, which are commonly applicable to all other Corridors.

Name of KPI	Calculation formula	Source of data	Timing of calculation	Target
Volume of requested capacity (PaPs)	Km*days requested	PAMT report in PCS	At X-8	Increase four-year moving average by 4.5% each year
Volume of pre-booked capacity (PaPs)	Km*days (pre-booking phase)	PAMT report in PCS	At X-7.5	Increase four-year moving average by 4.5% each year
Ratio of pre-booked capacity – PaPs (to the volume of capacity offered at x-11)	Km*days offered	PAMT report in PCS	At X-7.5	increase ratio each year

Average planned speed of PaPs	Average of the planned commercial speed of the PaPs on the O/D pair concerned per direction	PAMT report in PCS	At X-11	when classified into four categories (divided by 30, 40 and 50 km/h), at least one category step-up each year
Punctuality at origin	The share of all RFC-related trains at RFC entry with a delay less than, or equal to, the threshold compared to all RFC-related trains at RFC entry.	TIS	At the end of January after the timetable year concerned	difference of the two not exceeding 10%
Punctuality at destination	The share of all RFC-related trains at RFC exit with a delay less than, or equal to, the threshold compared to all RFC-related trains at RFC exit.	TIS	At the end of January after the timetable year concerned	
Number of Trains crossing a border along the RFC	Total number of train runs having a RA on selected pairs of border points	TIS	At the end of January after the timetable year concerned	annual increase of 4.5%
Train kilometres of Trains crossing a Border along the RFC	Sum of O/D distances of all trains crossing a border along the RFC	TIS	At the end of January after the timetable year concerned	annual increase of 4.5%
Dwell times in border sections – planned dwell	Average planned dwell time of all international freight trains crossing the RFC border in the main measuring points, where border crossing related procedures usually occurs	TIS	At the end of January after the timetable year concerned	- 120 minutes on average where currently above this target, - further decrease annually where below 120 minutes.
Dwell times in border sections – real dwell	Average real dwell time of all international freight trains crossing the border along the RFC in the main	TIS	At the end of January after the timetable year concerned	- 120 minutes on average where currently above this target,

	measuring points, where border crossing related procedures usually occurs			- further decrease annually where below 120 minutes.

Upon the request of the RU Advisory Group, the Corridor will investigate the feasibility of the following proposed KPI in 2024: real commercial speed of the trains which later use the PaPs and RC during the active timetable year.

Besides the above KPIs, the Corridor measures the quality of services and monitors the achievement of the objectives via the annual user satisfaction survey, too, the results of which are published on its website and in the CIP.

On the one hand, the above KPIs will be published in the yearly performance monitoring reports published on the website of the Corridor. On the other hand, a yearly customer satisfaction survey is conducted. The reports are published on the website of the Corridor and in the CIP.

6 Investment Plan

6.1 Capacity Management Plan

The Corridor's Capacity Management Plan can be found in Annex 6.1.a.

6.2. List of Projects

The members of the Infrastructure Working Group have elaborated a list of projects, which is composed of all projects foreseen for development, modernisation, upgrade, and renewal of the railway infrastructure along the whole the Corridor.

The list of planned infrastructure development projects along the Corridor can be found in Annex 6.2.

This latest update of the projects allows us to follow-up the realization of the Corridor-related investments run in our Member States. The projects have different categoric types, there are renewal of tracks, signalling system, bridges, and other elements. Each project will achieve benefits in the following area:

- Maintenance, modernization of the track → ensure better infra parameters
- Electrification → ensure TEN-T parameter
- Safety and Security (ETCS implementation) → ensure interoperability
- Bridge renewal → ensure better connection
- Switches renewal

Thanks to these investments we are able to cease bottlenecks and make better quality of our infrastructure services, increase the commercial speed, and develop our performance.

We also monitor and follow up analyzes and outcomes made in connection with the CNC Work Plan, what are the main developments and focuses on the investment planning.

Last but not least, we give a regular update for our customers about the planned Corridor-related investments at our TAG/RAG meetings.

6.3 Deployment Plan

The ERTMS Deployment Plan of the Corridor can be found in Annex 6.3.

6.4 Reference to Union Contribution

The Corridor has benefited from EU co-financing for several years.

Currently, the Corridor is granted with CEF Technical Assistance for the period of July 2022 – December 2024. The grant agreement includes a specific list of deliverables which are listed in chapter 4 of this document.

7 Cooperation with Other Corridors and RNE

7.1 Cooperation with the RFC Network and RNE

To ensure coordination of the main processes and achieve harmonisation to the extent possible, the Corridor will continue actively participating on the following common platforms:

- RFC Network
- C-OSS Community

In addition, the Corridor will continue contributing to the work of the joint high level and working groups comprising all 11 RFCs, aiming at further harmonising processes and documents to the extent possible:

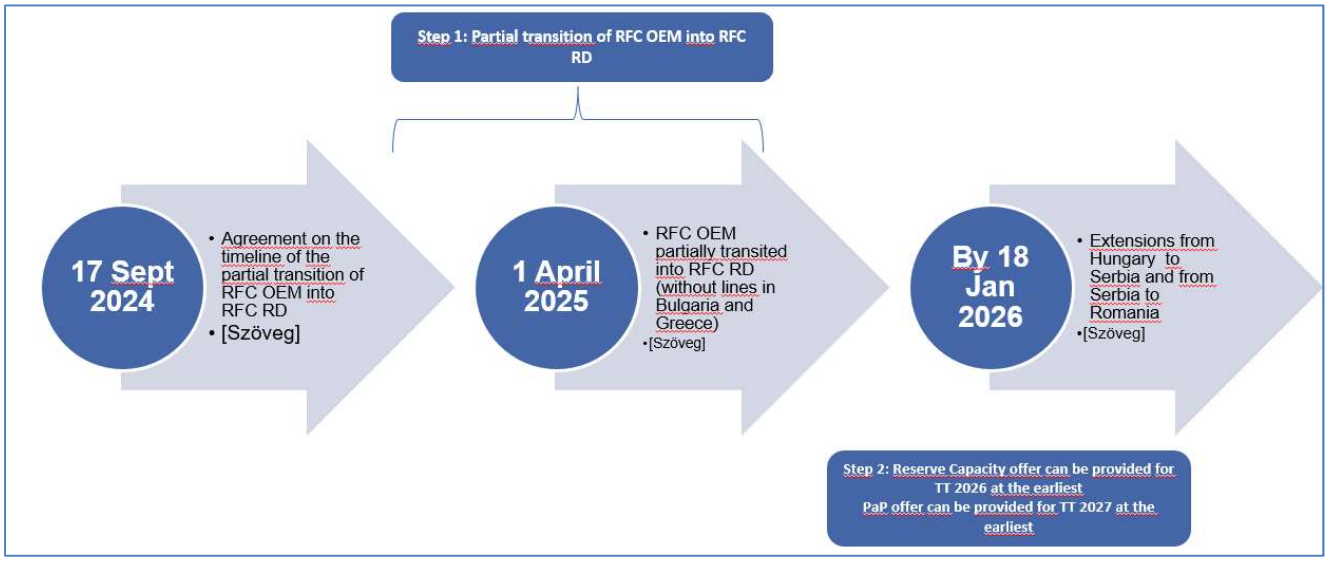
- RNE Network Statement and Corridor Information Document Working Group
- RNE Performance Management Working Group
- RNE/RFC High Level Group
- RFC KPI Coordination Group
- RFC User Satisfaction Survey Group

Furthermore, the Corridor will continue participating in the following common projects, too, both of which are coordinated by RNE:

- Transport Market Study
- Rail Collaborative Decision-Making
- Revision of the Handbook for International Contingency Management

7.2 Transition into the new RFC RD

The transition of RFC RD into the new RFC RD aligned with the ETC RD will be implemented in a step-wise approach as demonstrated in the following picture.



The first step of the transition will be implemented as early as possible, which is greatly facilitated by the close cooperation and joint activities having done with RFC OEM in the past three years.

The detailed timeline of the second step of the implementation, in particular the extensions in Hungary, Romania and to Serbia is to be defined and agreed with the IMs concerned: CFR, MÁV, and Serbian Railways.

Annexes

No.	Title
6.1.a	Capacity Management Plan
6.1.b	List of Congested Lines
6.2	List of Projects
6.3	Deployment Plan

The annexes include data for the initial lines of the Corridor, as well as for those lines which are transferred from RFC OEM to this Corridor. Therefore, these data are not fully in line yet with the geographical routing of the European Transport Corridor Rhine-Danube. The full geographical alignment of the data will be completed in the 2nd step of the update of this Implementation Plan scheduled by July 2025.

Germany

IM	Section		Bottleneck	Reasons	Suggestions How to Remove Bottlenecks			
	From	To			Project Name and Description	End Date	Costs in mil. of Euro	Financial Sources
DB InfraGO	Bad Schandau	Wilhelmshaven	No electric traction (only between Oldenburg and Wilhelmshaven)	No electric traction	ABS Oldenburg - Wilhelmshaven (electrification)	2023	818	State budget
DB InfraGO	Bremen	Bremerhaven	Capacity	More capacity for passenger- and freight trains is needed in this relation	ABS/NBS Hamburg/Bremen – Hannover	Beyond 2030	n/a	State budget
DB InfraGO	Berlin/ Magdeburg	Hamburg	n/a	n/a	n/a	n/a	n/a	n/a
DB InfraGO	Dresden	Rostock	n/a	n/a	ABS Berlin - Dresden; ABS Berlin - Rostock	2028	n/a	State budget
DB InfraGO	Kehl	Appenweier	Travel time	Agreement between DE/FR to reduce travel time	ABS Kehl - Appenweier	2028	79	State budget
DB InfraGO	Wendlingen	Ulm	Capacity	More capacity for passenger- and freight trains is needed in this relation	NBS Wendlingen - Ulm	2025	11903	State budget
DB InfraGO	Ulm	Augsburg	Capacity	More capacity for passenger- and freight trains is needed in this relation	ABS/NBS Ulm - Augsburg	Beyond 2030	1907	State budget
DB InfraGO	Nürnberg	Schirnding	No electrification	Not electrified	ABS Nürnberg - Marktredwitz - Border DE/CZ (- Cheb)	Beyond 2030	1195	State budget
DB InfraGO	Markt Schwaben	Freilassing	Capacity	Not electrified and more capacity for freight trains is needed between Munich and AT	ABS Müchen - Mühldorf - Freilassing	Beyond 2030	2323	State budget

Austria

IM	Section		Bottleneck	Reasons	Suggestions How to Remove Bottlenecks			
	From	To			Project Name and Description	End Date	Costs in mil. of Euro	Financial Sources
ÖBB Infrastruktur	Břeclav	Wien	Less capacity	Capacity optimization required	ÖBB Infrastruktur	Břeclav	Wien	Less capacity
ÖBB Infrastruktur	Wien	Hegyeshalom	Missing link	Operational disposition necessary	ÖBB Infrastruktur	Wien	Hegyeshalom	Missing link
ÖBB Infrastruktur	Salzburg	Attnang-P.	Track length	Capacity optimization required	ÖBB Infrastruktur	Salzburg	Attnang-P.	Track length
ÖBB Infrastruktur	Salzburg	Steindorf bei Strasswalchen	2 track section on a predominant 4 track route	Timetable based capacity overload	ÖBB Infrastruktur	Salzburg	Steindorf bei Strasswalchen	2 track section on a predominant 4 track route
ÖBB Infrastruktur	Wels	Linz	2 track section on a predominantly 4 track route	Timetable based capacity overload	ÖBB Infrastruktur	Wels	Linz	2 track section on a predominant 4 track route
ÖBB Infrastruktur	Linz	Enns	Only a short 2 track section between Linz Hbf and Linz Kleinmünchen on a predominantly 4 track route	Timetable based capacity overload	ÖBB Infrastruktur	Linz	Enns	Only a short 2 track section between Linz Hbf and Linz Kleinmünchen on a predominant 4 track route
ÖBB Infrastruktur	Wien	Bruck a. d. Leitha	Track length	Capacity optimization required	ÖBB Infrastruktur	Wien	Bruck a. d. Leitha	Track length
ÖBB Infrastruktur	Wien	Bruck a. d. Leitha	Track length	Capacity optimization required	ÖBB Infrastruktur	Wien	Bruck a. d. Leitha	Track length
ÖBB Infrastruktur	Parndorf	Kittsee	Single track line	Capacity optimization required	ÖBB Infrastruktur	Parndorf	Kittsee	Single track line
ÖBB Infrastruktur	Wien	Ebenfurth	Handling capacity increase required	Less capacity	ÖBB Infrastruktur	Wien	Ebenfurth	Handling capacity increase required

ÖBB Infrastruktur	Wien	Ebenfurth	Train movements in Ebenfurth necessary to reach GYSEV line	Missing connection link between Vienna and Sopron	ÖBB Infrastruktur	Wien	Ebenfurth	Train movements in Ebenfurth necessary to reach GYSEV line

Czech Republic

IM	Section		Bottleneck	Reasons	Suggestions How to Remove Bottlenecks			
	From	To			Project Name and Description	End Date	Costs in mil. of Euro	Financial Sources
SZCZ	Praha	Česká Třebová	Line capacity consumption	5:00-20:00 capacity over 100 %	Modernisation of the line Velký Osek Kanín - Hradec Králové - Choceň, HSL project	2030	n/a	n/a
SZCZ	Velký Osek	Choceň	Capacity, max. speed 80 km/h between Újezd u Chocně – Choceň, Axle load C3 (20t) between Hradec Králové – Týniště nad Orlicí	Single track, level-crossings	Modernisation of the line Velký Osek Kanín - Hradec Králové - Choceň, HSL project	2030	n/a	n/a
SZCZ	Brodek u Přerova	Přerov	Capacity	Mutual interference of oncoming trains in the direction Olomouc - Hranice na Moravě with trains Přerov - Olomouc	Reconstruction of railway station Přerov	2027	n/a	n/a
SZCZ	Choceň	Uhersko	Unsatisfactory current state of the infrastructure	Unsatisfactory current state of the infrastructure	Removing selected bottlenecks on pre-identified sections on the Core Network Corridors	2031	n/a	Co-financed by the EIB
SZCZ	Lipník nad Bečvou	Drahotuše	Unsatisfactory current state of the infrastructure	Unsatisfactory current state of the infrastructure	Removing selected bottlenecks on pre-identified sections on the Core Network Corridors	2027	n/a	Co-financed by the EIB
SZCZ	Polom	Suchdol nad Odrou	Unsatisfactory current state of the infrastructure	Unsatisfactory current state of the infrastructure	Removing selected bottlenecks on pre-identified sections on the Core Network Corridors	2029	n/a	Co-financed by the EIB
SZCZ	Plzeň-Jižní Předm.	Furth im Wald/Česká Kubice	Axle load C3 (20t), not electrified, max.speed 80 km/h between Česká Kubice – st.border	n/a	Modernisation of the line Plzeň - Domažlice - Česká Kubice - st.border	2030	n/a	Co-financed by the EU
SZCZ	Poříčany	Nymburk st.3	Axle load C3 (20t), Max. speed 70 km/h between Nymburk město – Nymburk st. 3	n/a	Modernisation and double track in line Poříčany - Nymburk (under HSR Praha-Běchovice - Poříčany project)	2031	n/a	n/a
SZCZ	Kolín	Pardubice	P/C 72/391	n/a	n/a	n/a	n/a	n/a

IM	Section				Suggestions How to Remove Bottlenecks			
	From	To	Bottleneck	Reasons	Project Name and Description	End Date	Costs in mil. of Euro	Financial Sources
SZCZ	Kralupy nad Vltavou	Nelahozeves	P/C 47/360, clearance GB	n/a	Kralupy nad Vltavou	Nelahozeves	P/C 47/360, clearance GB	n/a
SZCZ	Praha-Libeň	Praha-Malešice	Max. speed 75-80 km/h, capacity	n/a	Praha-Libeň	Praha-Malešice	Max. speed 75-80 km/h, capacity	n/a
SZCZ	Děčín-Prostřední Žleb	Děčín východ	Max. speed <60 km/h	n/a	Děčín-Prostřední Žleb	Děčín východ	Max. speed <60 km/h	n/a
SZCZ	Polepy	Liběchov	Max. speed 80-90 km/h	n/a	Polepy	Liběchov	Max. speed 80-90 km/h	n/a
SZCZ	Golčův Jeníkov	Okrouhllice	Max. speed 70-85 km/h	n/a	Golčův Jeníkov	Okrouhllice	Max. speed 70-85 km/h	n/a
SZCZ	Havlíčkův Brod	Pohled	Max. speed 85 km/h	n/a	Havlíčkův Brod	Pohled	Max. speed 85 km/h	n/a
SZCZ	Brno-Královo Pole	Brno-Hl.n.	Max. speed 95 km/h	n/a	Brno-Královo Pole	Brno-Hl.n.	Max. speed 95 km/h	n/a
SZCZ	Praha	Česká Třebová	Line capacity consumption	5:00-20:00 capacity over 100 %	Praha	Česká Třebová	Line capacity consumption	5:00-20:00 capacity over 100 %
SZCZ	Velký Osek	Choceň	Capacity, max. speed 80 km/h between Újezd u Chocně – Choceň, Axle load C3 (20t) between Hradec Králové – Týniště nad Orlicí	Single track, level-crossings	Modernisation of the line Velký Osek Kanín - Hradec Králové - Choceň, HSL project	2030	n/a	Velký Osek
SZCZ	Brodek u Přerova	Přerov	Capacity	Mutual interference of oncoming trains in the direction Olomouc - Hranice na Moravě with trains Přerov - Olomouc	Reconstruction of railway station Přerov	2027	n/a	Brodek u Přerova
SZCZ	Choceň	Uhersko	Unsatisfactory current state of the infrastructure	Unsatisfactory current state of the infrastructure	Removing selected bottlenecks on pre-identified sections on the Core Network Corridors	2031	n/a	Choceň
SZCZ	Lipník nad Bečvou	Drahotuše	Unsatisfactory current state of the infrastructure	Unsatisfactory current state of the infrastructure	Removing selected bottlenecks on pre-identified sections on the Core Network Corridors	2027	n/a	Lipník nad Bečvou

SZCZ	Polom	Suchdol nad Odrou	Unsatisfactory current state of the infrastructure	Unsatisfactory current state of the infrastructure	Removing selected bottlenecks on pre-identified sections on the Core Network Corridors	2029	n/a	Polom
SZCZ	Plzeň-Jižní Předm.	Furth im Wald/Česká Kubice	Axle load C3 (20t), not electrified, max.speed 80 km/h between Česká Kubice – st.border	n/a	Modernisation of the line Plzeň - Domažlice - Česká Kubice - st.border	2030	n/a	Plzeň-Jižní Předm.
SZCZ	Poříčany	Nymburk st.3	Axle load C3 (20t), Max. speed 70 km/h between Nymburk město – Nymburk st. 3	n/a	Modernisation and double track in line Poříčany - Nymburk (under HSR Praha-Běchovice - Poříčany project)	2031	n/a	Poříčany
SZCZ	Kolín	Pardubice	P/C 72/391	n/a	n/a	n/a	n/a	Kolín
SZCZ	Hranice na Moravě	Horní Lideč/Lúky pod Makytou	P/C 67/391, max.speed <100 km/h in some segments	n/a	n/a	n/a	n/a	Hranice na Moravě
SZCZ	Schirnding/Cheb	Cheb	Not electrified	n/a	n/a	n/a	n/a	Schirnding/Cheb
SZCZ	Odb Závodiště	Praha-Libeň/Praha-Běchovice	Max. speed 75-80 km/h, capacity	n/a	Doubling of the line Branický bridge - Praha-Krč - Spořilov, Doubling of the line odb. Spořilov - Praha-Zahradní Město, Modernisation of the line Praha-Libeň - Praha-Malešice	2028	n/a	Odb Závodiště
SZCZ	Výh Polanka n.Odrou/Ostrava-Svinov	Ostrava-Kunčice	Max. speed 80 km/h	n/a	Optimization of line Ostrava-Svinov - Ostrava-Kunčice	2029	n/a	Výh Polanka n.Odrou/Ostrava-Svinov

Slovakia

IM	Section		Bottleneck	Reasons	Suggestions How to Remove Bottlenecks			
	From	To			Project Name and Description	End Date	Costs in mil. of Euro	Financial Sources
ŽSR	Púchov	Považská Teplá	Reduced Capacity	Tracks	Púchov - Považská Teplá: railway modernisation to 160 km/h	2022	n/a	CEF
ŽSR	Žilina zr.st	Žilina	Reduced speed	Tracks	Modernisation of railway node Žilina	2024	n/a	CEF
ŽSR	Liptovský Mikuláš	Štrba	Reduced weight of the train, additional loco is required	Geological character of the landscape	Modernisation of railway line Žilina – Košice	2030	n/a	CEF
ŽSR	Štrba	Poprad-Tatry	Reduced weight of the train, additional loco is required	Geological character of the landscape	Modernisation of railway line Žilina – Košice, implementation phase Poprad-Tatry – Lučivná	2024	n/a	CEF
ŽSR	Košice	Košice nákl.st.	Reduced length of the trains	Character of the Košice nákl.st. station	n/a	Beyond 2030	n/a	n/a
ŽSR	Nižná Myšľa	Ruskov	Reduced weight of the train, additional loco is required	Geological character of the landscape	n/a	Beyond 2030	n/a	n/a
ŽSR	Ruskov	Kuzmice	Reduced weight of the train, additional loco is required	Geological character of the landscape	n/a	Beyond 2030	n/a	n/a
ŽSR	Čierna nad Tisou	Čop (UA)	Reduced Capacity	Customs inspections on the wide gauge track	Out of competence	Beyond 2030	n/a	n/a
ŽSR	Kúty border	Devínska Nová Ves	Reduced speed and lack of capacity	Trucks, bridges	Modernisation of section Devínska Nová Ves - Kúty (CZ border)	expected by 2024	n/a	CEF
ŽSR	Bratislava	Bratislava Lamač	2. tunel tube Bratislava Lamač - Bratislava hl.st	Unsatisfactory condition	Modernisation of Bratislava´s tunel - tube 2	expected by 2023	n/a	n/a
ŽSR	Bratislava Nové Mesto	Komárno	Lack of capacity	No electrification, only one line operation, strong passsenger + freight transport, connection to intermodal terminal	Local measures to increase capacity	after 2030	n/a	n/a
ŽSR	Bratislava	Bratislava	Reduced speed and lack of capacity within Bratislava´s stations	Unsatisfactory condition	Node Bratislava - phase 1 - study	expected by 2030	n/a	n/a

Hungary

IM	Section		Bottleneck	Reasons	Suggestions How to Remove Bottlenecks			
	From	To			Project Name and Description	End Date	Costs in mil. of Euro	Financial Sources
MÁV	Kelenföld	Ferencváros	Lack of capacity	Reconstruction, modernization of the track	Southern ring railway. In order to develop a railway connection between Kelenföld and Ferencváros stations, construction of three-tracks connection and new suburban stops	2028	975	Cohesion fund/IKOP, CEF
MÁV	Békéscsaba	Lőkösháza	Lack of capacity	Reconstruction, modernization of the track	Preparation of the construction of 2nd track between Békéscsaba and Lőkösháza. ETCS L2 installation.	2025	5,23	CEF
MÁV	Almásfűzítő	Komárom	Lack of capacity	Reconstruction, modernization of the track	Preparing for elimination of bottlenecks on the MÁV network. Almásfüzitő - Komárom railway line section.	2022	n/a	Cohesion fund/IKOP
MÁV	Kelenföld	Budaörs	Lack of capacity	Reconstruction, modernization of the track (preparation project)	Preparing for congestion on the MÁV network. Kelenföld - Budaörs railway line section.	2025	n/a	Cohesion fund/IKOP
MÁV	Szajol	Debrecen	Lack of ETCS	ETCS Implementation	ETCS 2 installation between Szajol and Debrecen	2025	n/a	Cohesion fund/IKOP
MÁV	Nagykáta	Újszász	Lack of capacity	Reconstruction, modernization of the track	Nagykáta - Újszász railway track section.	2028	n/a	Cohesion fund/IKOP
GYSEV	Rajka	Hegyeshalom	Capacity, speed, axle load	Single track; max. 100 km/h track speed; max. 21 t axle load; track conditions deteriorating	Reconstruction, modernization of the track Preparation finished in Q4 2019, to be tendered	2027	n/a	EU (CEF, Coh. Found)
GYSEV	Sopron	Győr	Capacity, speed, axle load	Single track line; max. 100 km/h track speed; max. 21 t axle load; at least hourly regular interval commuter trains; every two hours Intercity trains; no ETCS/ERTMS	Reconstruction, modernization of the track Phase 0: Sopron - Harka 2nd track 2023 -2025, Phase 2B: Sopron - Harka 3rd track 2028 -2033	2027	n/a	EU (CEF, Coh. Found)
GYSEV	Sopron	Győr	Capacity, speed, axle load	Single track line; max. 100 km/h track speed; max. 21 t axle load; at least hourly regular interval commuter trains; every two hours Intercity trains; no ETCS/ERTMS	Reconstruction, modernization of the track Phase 2B: Sopron - Harka - Fertőboz new double track alignment	Beyond 2030	n/a	EU (CEF, Coh. Found)
GYSEV	Sopron	Győr	Capacity, speed, axle load	single track line; max. 120 km/h track speed; max. 21 t axle load; at least hourly regular interval commuter trains; every two hours nterCity trains; no ETCS/ERTMS	Reconstruction, modernization of the track Phase 2A: (Fertőboz) - Pinnye - Csorna partiallydouble track	Beyond 2030	n/a	EU (CEF, Coh. Found)
GYSEV	Sopron	Győr	Capacity, speed, axle load	Single track line; max. 100 km/h track speed; max. 21 t axle load; at least hourly regular interval commuter trains; every two hours Intercity trains; no ETCS/ERTMS	Reconstruction, modernization of the track Phase 2A: (Fertőboz) - Pinnye - Csorna partiallydouble track	Beyond 2030	n/a	EU (CEF, Coh. Found)

GYSEV	Sopron	Győr	Capacity, speed, axle load	Single track line; max. 100 km/h track speed; max. 21 t axle load; at least hourly regular interval commuter trains; every two hours Intercity trains; no ETCS/ERTMS	Reconstruction, modernization of the track Phase 2A: (Fertőboz) - Pinnye - Csorna partiallydouble track	Beyond 2030	n/a	EU (CEF, Coh. Found)
GYSEV	Sopron	Győr	Capacity, speed, axle load	Single track line; max. 120 km/h track speed; max. 21 t axle load; high density of passenger trains at least hourly regular interval commuter trains; every hours Intercity trains; no ETCS/ERTMS	Reconstruction, modernization of the track Phase 1 of Győr - Sopron upgrade: prioirity project: single track, capacity problems, new 2nd track	Beyond 2030	n/a	EU (CEF, Coh. Found)

Romania

IM	Section		Bottleneck	Reasons	Suggestions How to Remove Bottlenecks			
	From	To			Project Name and Description	End Date	Costs in mil. of Euro	Financial Sources
CFR	Border HU/RO	Curtici	- Rehabilitated corridor section equipped with ERTMS-ETCS Level 2/GSM-R, which is not in operation; - Long waiting time in Curtici station. - The double track open line does not continue in Hungary.	- Trains are not handed over on trust (ATTI); - The Curtici station is not fully equipped with electronic interlocking system; - The Curtici station is not equipped with an electronic gauge control gate; - The border crossing operational rules between CFR and MAV are not harmonized (e.g. the buffer wagons); - The Intergovernmental Railway Agreement Romania-Hungary is not updated (harmonization of the control performed by the state authorities); - Commissioning of ERTMS/GSM-R is under preparation.	Equipping of Curtici station with an electronic gauge control gate	Proposals	Proposals	Proposals
CFR	Border HU/RO	Curtici	- Rehabilitated corridor section equipped with ERTMS-ETCS Level 2/GSM-R, which is not in operation; - Long waiting time in Curtici station. - The double track open line does not continue in Hungary.	- Trains are not handed over on trust (ATTI); - The Curtici station is not fully equipped with electronic interlocking system; - The Curtici station is not equipped with an electronic gauge control gate; - The border crossing operational rules between CFR and MAV are not harmonized (e.g. the buffer wagons); - The Intergovernmental Railway Agreement Romania-Hungary is not updated (harmonization of the control performed by the state authorities); - Commissioning of ERTMS/GSM-R is under preparation.	Harmonization of the border crossing operational rules between CFR and MAV	Proposals	Proposals	Proposals
CFR	Border HU/RO	Curtici	- Rehabilitated corridor section equipped with ERTMS-ETCS Level 2/GSM-R, which is not in operation; - Long waiting time in Curtici station. - The double track open line does not continue in Hungary.	- Trains are not handed over on trust (ATTI); - The Curtici station is not fully equipped with electronic interlocking system; - The Curtici station is not equipped with an electronic gauge control gate; - The border crossing operational rules between CFR and MAV are not harmonized (e.g. the buffer wagons); - The Intergovernmental Railway Agreement Romania-Hungary is not updated (harmonization of the control performed by the state authorities); - Commissioning of ERTMS/GSM-R is under preparation.	Updating of the Intergovernmental Railway Agreement between Romania and Hungary	Proposals	Proposals	Proposals
CFR	Border HU/RO	Curtici	- Rehabilitated corridor section equipped with ERTMS-ETCS Level 2/GSM-R, which is not in operation; - Long waiting time in Curtici station. - The double track open line does not continue in Hungary.	- Trains are not handed over on trust (ATTI); - The Curtici station is not fully equipped with electronic interlocking system; - The Curtici station is not equipped with an electronic gauge control gate; - The border crossing operational rules between CFR and MAV are not harmonized (e.g. the buffer wagons); - The Intergovernmental Railway Agreement Romania-Hungary is not updated (harmonization of the control performed by the state authorities); - Commissioning of ERTMS/GSM-R is under preparation.	Commissioning the ERTMS-ETCS Level 2/GSM-R within the rehabilitation project	2023	257,259	SOPT 2007-2013 (Cohesion Funds) + State Budget
CFR	Border HU/RO	Curtici	- Rehabilitated corridor section equipped with ERTMS-ETCS Level 2/GSM-R, which is not in operation; - Long waiting time in Curtici station.	- Trains are not handed over on trust (ATTI); - The Curtici station is not fully equipped with electronic interlocking system; - The Curtici station is not equipped with an electronic gauge control gate; - The border crossing operational rules between CFR and MAV are not harmonized (e.g. the buffer wagons);	Equipping of Curtici station with an electronic gauge control gate	Proposals	Proposals	Proposals

			- The double track open line does not continue in Hungary.	- The Intergovernmental Railway Agreement Romania-Hungary is not updated (harmonization of the control performed by the state authorities); - Commissioning of ERTMS/GSM-R is under preparation.				
CFR	Curtici	Km 614 (Radna)	Rehabilitated corridor section equipped with ERTMS-ETCS Level 2/GSM-R, which is not in operation.	- Commissioning of ERTMS-ETCS Level 2/GSM-R is under preparation.	Commissioning the ERTMS-ETCS Level 2/GSM-R within the rehabilitation project	2023		
CFR	Km 614 (Radna)	Simeria	Corridor section under rehabilitation, with ERTMS-ETCS Level 2/GSM-R under construction.	Rehabilitation of the railway line Border – Curtici – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h: Section 2: km 614 - Gurasada and Section 3: Gurasada - Simeria - The rehabilitation works are under execution; - Maximum train length (632 m - Deva station).	Rehabilitation of Km 614 (Radna) - Simeria line section at corridor level	2025	1965,12 (Eligible costs are only for works)	LIOP 2014-2020 (Cohesion Funds) + State Budget
CFR	Simeria	Coșlariu	Corridor section under rehabilitation, with ERTMS-ETCS Level 2/GSM-R under construction.	Rehabilitation of the railway line Brașov – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h, Section Coșlariu - Simeria - The rehabilitation works are finalized, works for ERTMS are ongoing phase; - Maximum train length (600 m).	Rehabilitation of Simeria - Coșlariu line section at corridor level	2023	54,009 (Eligible costs are only for works)	SOPT 2007-2013 (Cohestion Funds) LIOP 2014-2020 (Cohesion Funds) + State Budget
CFR	Coșlariu	Sighișoara	Corridor section under rehabilitation, with ERTMS-ETCS Level 2/GSM-R under construction.	Rehabilitation of the railway line Brașov – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h, Section Sighișoara - Coșlariu - The rehabilitation works are under execution; - Maximum train length (600 m); - Speed restrictions.	Rehabilitation of Coșlariu - Sighișoara line section at corridor level	2023	59,36 (Eligible costs are only for works)	SOPT 2007-2013 (Cohestion Funds) LIOP 2014-2020 (Cohesion Funds) + State Budget
CFR	Sighișoara	Brașov	Corridor section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	Rehabilitation of the railway line Brașov – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h, Section Sighișoara - Brașov - The rehabilitation works are in the tendering/awarding stage; - Maximum train length (600 m); - Speed restrictions.	Rehabilitation of Sighișoara - Brașov line section at corridor level	2025	1285,81 (Eligible costs are only for works)	CEF (Cohestion Funds) + State Budget
CFR	Brașov	Predeal	Corridor section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	Feasibility Study for the modernization of the railway infrastructure Predeal - Brașov - Maximum train length (640 m); - Maximum tonnage permitted on the line section; - Traffic restrictions for oversized transports due to existing tunnels.	Rehabilitation of Brașov - Predeal line section at corridor level	2024	1046 (Eligible costs are estimated for works. The FS cost is 25,8 mil euro)	CEF (Cohestion Funds) + State Budget - for the feasibility study TP 2021-2027 (Cohesion Funds) + State Budget - for works
CFR	Predeal	Constanța	Rehabilitated corridor section equipped with ERTMS-ETCS Level 1/GSM-R, which is not in operation.	Implementation of the measures necessary for the operation of the ERTMS system on the Predeal-Bucuresti-Constanța railway section and the extension of the GSM-R system on the primary railway transport network" - Feasibility study - The Feasibility Study for solution of commissioning ERTMS/GSM-R on Predeal-București-Constanța line section is on going; - Scarce capacity on Ploiești Triaj - Brazi line section; - Tonnage restrictions on Fetești - Saligny (2.200 t).	Commissioning the ERTMS/GSM-R (ETCS Level 1 or possible migration to ETCS Level 2) on Predeal - București - Constanța line section	2028	200 (Costs are estimated for works.The FS cost is 0,89 mil euro)	LIOP 2014-2020 (Cohestion Funds) + State Budget - for the feasibility study Unidentified financing source for works
CFR	Arad	Timișoara	Corridor section not rehabilitated and without	Modernization of the railway line section Arad - Caransebeș - Detailed designs for works for the line rehabilitation (Lot Arad - Ronaț and Lot Ronaț - Timișoara Est) are ongoing	Rehabilitation of Arad - Timișoara line section at corridor level	2026	681,85	NRRP + State Budget

			ERTMS-ETCS Level 2/GSM-R.	- Single track line; - Speed restrictions.				
CFR	Timișoara	Caransebeș	Corridor section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	Modernization of the railway line section Arad - Caransebeș - Detailed design works for the line rehabilitation (lot Timisoara Est - Lugoj) is on going and 1 lot Lugoj - Caransebeș is in procurement phase; - Single-track line; - Speed restrictions.	Rehabilitation of Timișoara - Caransebeș line section at corridor level	2026	736,87	NRRP + State Budget
CFR	Caransebeș	Craiova	Corridor section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	Rehabilitation of the railway line section Caransebeș - Craiova - Works are in procurement phase - Single track line (Caransebeș - Strehaia); - Speed restrictions; - Tonnage restrictions (Balota 1.000 t).	Rehabilitation of Caransebeș - Craiova line section at corridor level	2026	2188,36	TP + State Budget
CFR	Craiova	București (Pajura Hm) (Pajura Hm)	Corridor section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	- The works contracts for removal of speed restrictions in punctual sections are on going; - Speed restrictions; - Track I closed on Malu Mare - Banu Mărăcine line section for rehabilitation works.	Removal of the speed restrictions on Craiova - București (Pajura Hm) line section	2026	85,48682563	NRPP
CFR	Craiova	București (Pajura Hm) (Pajura Hm)	Corridor section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	- The Feasibility Stady for rehabilitation is under elaboration; - Speed restrictions.	Rehabilitation of Craiova - București (Hm Pajura) line section at corridor level	2025	836 (Is an estimated cost for works)	CEF + State Budget
CFR	Ploiești Triaj	Buzău	Line section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	- The contract for the Feasibility study of the railway line Ploiesti - Buzău - Focșani is ongoing. Project preparation on going - Maximum train length permitted on the line section (Valea Călugărească - Buzău 650 m).	Rehabilitation of Ploiești Triaj - Buzău - Focșani line section	2023	1612,55	Cohesion funds + State Budget
CFR	Buzău	Fetești	Line section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	- The project for rehabilitation has not been promoted yet; - Speed limitations and restrictions; - Maximum train length permitted on the line section (540 m).	Rehabilitation of Buzău - Fetești line section	2029	516	n/a
CFR	Simeria	Filiași	Line section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	- The works contracts for removal of speed restrictions in punctual sections are on going; - Single track line (Livezeni - Tg. Jiu); - Maximum train length permitted on the line section (600 m); - Tonnage restrictions (Tg, Cărbunești 2.000 t).	Rehabilitation of Simeria - Petroșani - Filiași line section	2026	11,3563969	NRPP
CFR	Coșlariu/Pod Mureș	Cluj	Line section not rehabilitated and without ERTMS-ETCS Level 2/GSM-R.	- The Feasibility Stady for rehabilitation is under elaboration.	Rehabilitation of Coșlariu/Pod Mureș - Teiuș - Cluj line section	2029	562 (Costs are estimated for works.The FS cost is 22,93 mil euro)	CEF (Cohestion Funds) + State Budget - for the feasibility study unidentified financing sources - for works

Congested Lines: Romania

IM	Section From	Section To
CFR	Vinţu de Jos	Coşlariu
CFR	Micăsasa	Coşlariu
CFR	Vinţu de Jos	Simeria
CFR	Simeria	Glogovăţ
CFR	Braşov	Sighişoara

Congested lines have not been declared by the IMs in the other countries along the Corridor.

Germany

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters										
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Planned	DB InfraGO	Kehl	Appenweier	Principal line	ABS Kehl - Appenweier	ETCS Implementation	Speed increase	n/a	n/a	n/a	2028	79	state budget	160	22,5	740	Electrified	Level 2	1435 mm	P/C 410/80
Under Construction	DB InfraGO	Karlsruhe	Offenburg	Principal line	Line upgrade / new line Karlsruhe – Basel (StA 1)	Other	Construction of a new tunnel near Rastatt incl. ETCS	n/a	n/a	n/a	2025	1332	state budget	200	22,5	740	Electrified	Level 2	1435 mm	P/C 410/80
Planned	DB InfraGO	Mannheim	Karlsruhe	Principal line	New line / Line upgrade Mannheim – Karlsruhe	Other	New construction of 2 new tracks	n/a	n/a	n/a	Beyond 2030	open	state budget	200	22,5	740	Electrified	Level 2	1435 mm	P/C 410/80
Planned	DB InfraGO	Frankfurt	Mannheim	Diversionary line	New line Frankfurt - Mannheim	Other	New line	n/a	n/a	n/a	Beyond 2030	2183	state budget	250	22,5	740	Electrified	Level 2	1435 mm	P/C 410/80
Under Construction	DB InfraGO	Wendlingen	Ulm	Principal line	NBS Wendlingen - Ulm	Other	New construction of this line increases capacity on the existing freight traffic line between Stuttgart and Ulm	n/a	n/a	n/a	2025	11903	state budget	250	22,5	740	Electrified	Level 2	1435 mm	P/C 410/80
Planned	DB InfraGO	Ulm	Augsburg	Principal line	ABS/NBS Ulm - Augsburg	Other	Partly new construction	n/a	n/a	n/a	Beyond 2030	1907	state budget	250	22,5	740	Electrified	Level 2	1435 mm	P/C 410/80
Planned	DB InfraGO	Nürnberg	Schirnding	Principal line	ABS Nürnberg - Marktredwitz - Border DE/CZ (- Cheb)	Electrification	n/a	n/a	n/a	n/a	Beyond 2030	1195	state budget	160	22,5	740	Electrified	Level 2	1435 mm	P/C 410/80
Planned	DB InfraGO	Markt Schwaben	Freilassing	Diversionary line	ABS Müchen - Mühldorf - Freilassing	Electrification	Double tracks	n/a	n/a	n/a	Beyond 2030	2323	state budget	160	22,5	740	Electrified	Level 2	1435 mm	P/C 410/80
Planned	DB InfraGO	München - Trudering	Rosenheim	Principal line	München - Rosenheim (- Kiefersfelden - Border DE/AT)	Other	Partly 2 new tracks	n/a	n/a	n/a	Beyond 2030	open	state budget	250	22,5	740	Electrified	Level 2	1435 mm	P/C 410/80
Under Construction	DB InfraGO	dto.	dto.	Principal line	740 m-program	Other	Single projects to increase capacity on RFC-RHD	n/a	n/a	n/a	2029	up to 618	state budget	n/a	n/a	740	n/a	n/a	n/a	n/a
Planned	DB InfraGO	Siegelsdorf	Fürth	Principal line	ABS Burgsinn – Gemünden – Würzburg – Nürnberg	Other	Third track between Siegeldorf - Fürth	n/a	n/a	12	Beyond 2030	n/a	BVWP	n/a	22,5	740	n/a	Level 2	1435 mm	P/C 410/80
Planned	DB InfraGO	Regensburg	Grenze D/CZ	Principal line	ABS Nürnberg – Schwandorf/München – Regensburg – Furth im Wald – Grenze D/CZ (Abschn. Regensb. – Grenze D/CZ)	Electrification	Speed increase	n/a	n/a	12	Beyond 2030	n/a	BVWP	160	22,5	740	n/a	Level 2	1435 mm	P/C 410/80

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters										
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Under Construction	DB InfraGO	Oldenburg	Wilhelmshaven	Principal line	ABS Oldenburg - Wilhelmshaven	Electrification	Elimination bottleneck	3	2003	12	2022	818	BVWP	120	22,5	740	15 kV AC	n/a	1435 mm	P/C 410/80
Under Construction	DB InfraGO	Uelzen	Stendal	Principal line	ABS Uelzen - Stendal	Other	Completion of double track-line	11	2013	12	2030	272	BVWP	160	22,5	740	15 kV AC	n/a	1435 mm	P/C 410/80
Under Construction	DB InfraGO	Berlin	Dresden	Principal line	ABS Berlin - Dresden	Other	Speed increase 200 km/h	11	2001	12	2028	802	BVWP	200	22,5	740	15 kV AC	n/a	1435 mm	P/C 410/80
Planned	DB InfraGO	Dresden	Grenze D/CZ	Principal line	NBS Dresden - Prag	Other	New line	n/a	n/a	12	Beyond 2030	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Under Construction	DB InfraGO	dto.	dto.	Principal line	740 m-program	Other	Single projects to increase capacity on RFC-OEM	n/a	n/a	n/a	2029	up to 618	state budget	n/a	n/a	740	n/a	n/a	n/a	n/a
Planned	DB InfraGO	Bremerhaven	Hannover	Principal line	ABS/NBS Hamburg/Bremen – Hannover	Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Under Construction	DB InfraGO	Berlin	Rostock	Principal line	ABS Berlin - Rostock	Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Austria

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters									
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Under construction	ÖBB Infrastruktur	Salzburg	Steindorf bei Strasswalchen	Principal line	Attnang-P. - Salzburg; upgrade	740m sidings in some stations	Capacity raise	n/a	n/a	n/a	2029	170	State (Rahmenplan 2024 - 2029)	160	22,5 / D4	740	15 kV AC	Level 2	GA, G1, G2	P/C 80/410
planned	ÖBB Infrastruktur	Steindorf bei Strasswalchen	Attnang-P.	Principal line	Neumarkt K. - Salzburg; 4 track upgrade; (planning only)	reconstruction, modernization of the track	Speed raise, capacity raise	n/a	n/a	n/a	2040	3672	State (Rahmenplan 2024 - 2029)	250	22,5 / D4	740	15 kV AC	Level 2	GA, G1, G2	P/C 80/410
Under construction	ÖBB Infrastruktur	Wels	Linz	Principal line	Wels Terminal	Train formation yard redesign	n/a	n/a	n/a	n/a	2027	53	State (Rahmenplan 2024 - 2029)	n/a	n/a	n/a	n/a	n/a	GA, G1, G2	n/a
Under construction	ÖBB Infrastruktur	Wels	Linz	Principal line	Linz - Wels; 4 track upgrade	reconstruction, modernization of the track	Speed raise, capacity raise	n/a	n/a	n/a	2031	1533	State (Rahmenplan 2024 - 2029)	230	22,5 / D4	740	15 kV AC	Level 2	GA, G1, G2	P/C 80/410
Under construction	ÖBB Infrastruktur	Linz	Enns	Principal line	Linz Kleinmünchen - Linz Hbf; 4 track upgrade	reconstruction, modernization of the track	Capacity raise	n/a	n/a	n/a	2033	538	State (Rahmenplan 2024 - 2029)	160	22,5 / D4	740	15 kV AC	Level 2	GA, G1, G2	P/C 80/410
Under construction	ÖBB Infrastruktur	Wien Süßenbrunn	Bernhardsthal	Principal line	Süßenbrunn - Bernhardsthal; Line Upgrade	Line upgrade, speed increase up to 200km/h, block densification for capacity increase	n/a	n/a	n/a	n/a	2032	1204	State (Rahmenplan 2024 - 2029)	160/200	22,5 / D4	740	15 kV AC	Level 2	GA, G1, G2	P/C 80/410
Under construction	ÖBB Infrastruktur	Wien	Ebenfurth	Principal line	Wien Süd, Terminal, Stage 2	Handling capacity increase of transport units	n/a	n/a	n/a	n/a	2026	23	State (Rahmenplan 2024 - 2029)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Under construction	ÖBB Infrastruktur	Wien	Bruck a. d. Leitha	Principal line	Gramatneusiedl; station upgrade	740m sidings, station entering and leaving faster	Capacity raise	n/a	n/a	n/a	2025	87	State (Rahmenplan 2024 - 2029)	140	22,5 / D4	740	15 kV AC	Level 2	GA, G1, G2	P/C 80/410
Under construction	ÖBB Infrastruktur	Wien	Bruck a. d. Leitha	Principal line	Himberg; station upgrade	740m sidings	Capacity raise	n/a	n/a	n/a	2027	56	State (Rahmenplan 2024 - 2029)	140	22,5 / D4	740	15 kV AC	Level 2	GA, G1, G2	P/C 80/410
Planned	ÖBB Infrastruktur	Wien	Bruck an der Leitha	Principal line	missing link (loop)	Direct connection (airport) link from VIE to Bruck an der Leitha	n/a	n/a	n/a	n/a	2033	1879	State (Rahmenplan 2024 - 2029)	250	22,5 / D4	740	15 kV AC	Level 2	n/a	P/C 80/410
planned	ÖBB Infrastruktur	Parndorf	Kittsee	Principal line	2 track upgrade	Double track upgrade	Capacity raise	n/a	n/a	n/a	2038	224	State (Rahmenplan 2024 - 2029)	160	22,5 / D4	740	15 kV AC	Level 2	GA, G1, G2	P/C 80/410
planned	ÖBB Infrastruktur	Wien	Ebenfurth	Principal line	Junction Ebenfurth	Bypass	Connection optimization	n/a	n/a	n/a	2030	404	State (Rahmenplan 2024 - 2029)	100	22,5 / D4	740	15 kV AC	Level 2	n/a	P/C 80/410

Czech Republic

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters										
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Under construction	SZCZ	Praha-Libeň	Kolín	Principal line	ETCS Kralupy n.Vlt. - Praha - Kolín	ETCS Implementation	ETCS deployment in line Praha - Kolín	n/a	2020	n/a	2023	n/a	Co-financed by the EU	>120	D4	700	3 kV DC	-	GC	P/C 80/410
Planned	SZCZ	Praha-Libeň	Praha-Hostivař	Principal line	Modernisation of the line Praha-Libeň - Praha-Malešice, Doubling of track Praha-Malešice – Praha-Hostivař	Reconstruction, modernization of the track	Line modernisation, construction of a 2nd track and of a new tunnel, which will allow a higher capacity.	n/a	2025	n/a	2028	n/a	n/a	61-80	D3	695	3 kV DC	-	GC	P/C 80/410
Under construction	SZCZ	Odb Tunel (Praha-Radotín)	Beroun	Principal line	New double-track line Praha-Smíchov - Beroun	Reconstruction, modernization of the track	Construction of a new double-track line and a 24,7km long tunnel that will also be connected to HSL in the future.	n/a	2028	n/a	2035	n/a	n/a	61-80	D3	680	3 kV DC	-	GC	P/C 78/402
Planned	SZCZ	Ejpovice	Plzeň	Principal line	Higher speed in line Ejpovice (except) - Plzeň (except)	Reconstruction, modernization of the track	Modification of traction and interlocking equipment, higher max.speed.	n/a	2027	n/a	2027	n/a	n/a	>120	D4	700	25 kV AC	-	GC	P/C 78/402
Planned	SZCZ	Plzeň	Česká Kubice - st.border	Principal line	Modernisation of the line Plzeň - Domažlice - Česká Kubice - st.border	Reconstruction, modernization of the track	The existing line will be optimized and electrified. The current lines Stod - Holýšov and Blížejov - Domažlice will be replaced by a new double-track line counting with max. speed 200 km/h.	n/a	2024	n/a	2030	n/a	Co-financed by the EU	61-80	C3	660	-	-	GC	P/C 78/402
Under construction	SZCZ	Praha Vysočany	Čelákovice	Diversionary line	Optimization of line Praha Vysočany – Mstětice – Čelákovice	Reconstruction, modernization of the track	The project will improve technologic state of the line and therefor max. speed.	n/a	2020	n/a	2025	n/a	Co-financed by the EU	81-100	D3	729	3 kV DC	-	GC	P/C 80/410
Planned	SZCZ	Lysá nad Labem	Kolín	Diversionary line	Modernisation of the line Kolín - Všetaty - Děčín (Kolín - Nymburk hl.n. - Lysá nad Labem - Mělník)	Reconstruction, modernization of the track	Complex line reconstruction will include a construction of 3rd track between Libice nad Cidlinou and Odb. Babín, Nymburk hl.n. and Lysá nad Labem, and Všetaty and Mělník, a prolongation of tracks for freight trains of 740m in some stations, and a construction of	n/a	2025	n/a	2033	n/a	n/a	101-120	D4	680	3 kV DC	-	GC	P/C 80/410

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters										
										End										
		From	To					Month	Year	Month	Year	Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
							direct connection to Hradec Králové.													
Planned	SZCZ	Poříčany	Nymburk	Diversionary line	Modernisation and double track in line Poříčany - Nymburk (under HSR Praha-Běchovice - Poříčany project)	Reconstruction, modernization of the track	2nd track will be constructed between Poříčany and Nymburk.	n/a	2026	n/a	2031	n/a	n/a	81-100	C3	689	3 kV DC	-	GC	P/C 80/410
Planned	SZCZ	Velký Osek-Kanín	Choceň	Diversionary line	Modernisation of the line Kanín - Chlumec nad Cidlinou - Hradec Králové - Týniště nad Orlicí - Choceň	Reconstruction, modernization of the track	Diversionary line between Velký Osek and Choceň is a single-track line. A second track will be constructed, 5 level-crossings will be replaced by alternatives. This will allow higher capacity and higher max. speed.	n/a	2026	n/a	2030	n/a	n/a	61-80	C3	680	3 kV DC	Level 2	GC	P/C 80/410
Planned	SZCZ	Choceň	Ústí nad Orlicí	Principal line	Construction of a new line Choceň - Ústí nad Orlicí	Reconstruction, modernization of the track	Construction of a new line between Choceň and Ústí nad Orlicí parallel to the existing line in order to increase capacity. The line will be shorter and counts with max. spped 200 km/h.	n/a	2030	n/a	2034	n/a	n/a	>120	D4	700	3 kV DC	Level 2	GC	P/C 80/410
Under construction	SZCZ	Pardubice	Pardubice	Principal line	Modernisation of the Pardubice railway junction	Reconstruction, modernization of the track	The project's scope is mainly an increase of max. speed up to 160 km/h and an improvement of conditions for passage of 740 m long trains. Traction, signalling and interlocking equipment will be modernized.	n/a	2020	n/a	2024	n/a	Co-financed by the EU	>120	D4	700	3 kV DC	-	GC	P/C 80/410
Under construction	SZCZ	Pardubice	Choceň	Principal line	Reconstruction of the line Pardubice - Uhersko - Choceň	Reconstruction, modernization of the track	Max. speed will increase up to 200 km/h.	n/a	2029	n/a	2034	n/a	n/a	>120	D4	700	3 kV DC	Level 2	GC	P/C 80/410
Planned	SZCZ	Česká Třebová	Česká Třebová	Principal line	Modernisation of the Česká Třebová railway junction	Reconstruction, modernization of the track	The project will allow an increase of the max. speed, traction and signalling and interlocking equipment will be reconstructed.	n/a	2024	n/a	2031	n/a	n/a	<=60	D4	678	3 kV DC	Level 2	GC	P/C 80/410
Planned	SZCZ	Brodek u Přerova	Výh. Dluhonice	Principal line	Reconstruction of railway station Přerov	Reconstruction, modernization of the track	An off-grade crossing will eliminate mutual interference of oncoming trains in	n/a	2025	n/a	2027	n/a	n/a	>120	D4	700	3 kV DC	Level 2	GC	P/C 80/410

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters									
										End									
		From	To					Month	Year	Month	Year	Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
							the direction Olomouc - Hranice na Moravě with trains Přerov - Olomouc.													
Planned	SZCZ	Ostrava-Svinov	Ostrava-Kunčice	Principal line	Optimization of line Ostrava-Svinov - Ostrava-Kunčice	Reconstruction, modernization of the track	Max. speed will increase up to 120 km/h.	n/a	2026	n/a	2029	n/a	n/a	61-80	D4	700	3 kV DC	-	GB,GC	P/C 80/410
Planned	SZCZ	Ostrava-hl.n.	Ostrava-Svinov	Principal line	Modernization of the Ostrava railway junction	Reconstruction, modernization of the track	Complex line reconstruction, 3rd track between Ostrava hl.n. and Ostrava-Svinov, a new crossing → higher capacity.	n/a	2028	n/a	2034	n/a	n/a	>120	D4	700	3 kV DC	Level 2	GC	P/C 80/410
Planned	SZCZ	Děčín východ	Děčín východ	Principal line	Reconstruction of the raiway station Děčín východ dolní nádraží	Reconstruction, modernization of the track	Overal recontruction of the railway station, optimization of the number of tracks, release of certain areas. It will enable operation of trains with length up to 740m, easify works related to the change of operators in border crossing station and allow creation of a new industrial zone.	n/a	2026	n/a	2028	n/a	n/a	<=60	D4	695	3 kV DC	-	GC	P/C 80/410
Planned	SZCZ	Praha-Holešovice	Praha-Libeň	Principal line	Reconstruction of the line Praha-Libeň - Praha-Holešovice	Reconstruction, modernization of the track	Reconstruction of trucks and bridges, establishment of new signalling equipment and traction lines.	n/a	2025	n/a	2026	n/a	n/a	81-100	D4	695	3 kV DC	-	GC	P/C 78/402
Planned	SZCZ	Kralupy nad Vltavou	Nelahozeves	Principal line	Reconstruction of Nelahozeves tunnels, modernisation of railway station Kralupy nad Vltavou	Reconstruction, modernization of the track	Modernization of tracks in Kralupy nad Vltavou railway station, reconstruction of line Kralupy nad Vltavou - Nelahozeves including Nelahozeves tunnels. It will improve operational liability and safety, UIC GC gauge and code P/C 80/410 for combined transport will be met.	n/a	2026	n/a	2029	n/a	n/a	>120	D4	695	3 kV DC	-	GB	P/C 47/360

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters										
										End										
		From	To					Month	Year	Month	Year	Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
Planned	SZCZ	Lovosice	Ústí nad Labem	Principal line	Optimization of the line Lovosice - Prackovice nad Labem - Ústí nad Labem	Reconstruction, modernization of the track, ETCS Implementation	Overal optimization of the line, preparation for ETCS and for conversion of traction system to 25kV.	n/a	2026	n/a	2028	n/a	n/a	101-120	D4	695	3 kV DC	-	GC	P/C 80/410
Planned	SZCZ	Ústí nad Labem	Ústí nad Labem	Principal line	Reconstruction of bridges in km 518,498 a 518,962 of the line Praha Masarykovo n. - Děčín hl. n.	Reconstruction, modernization of the track	Reconstruction of bridges in premises of railway station Ústí nad Labem sever.	n/a	2023	n/a	2024	n/a	n/a	101-120	D4	695	3 kV DC	-	GC	P/C 80/410
Planned	SZCZ	Bad Schandau/Děčín	Kralupy nad Vltavou	Principal line	ETCS state border Germany - Dolní Žleb - Kralupy n Vlt.	ETCS Implementation	ETCS deployment in line Děčín - st.border - Kralupy nad Vltavou	n/a	2024	n/a	2026	n/a	Co-financed by the EU	101-120	D4	695	3 kV DC	-	GB, GC	P/C 47/360, P/C 78/402
Under construction	SZCZ	Kralupy nad Vltavou	Kolín	Principal line	ETCS Kralupy n.Vlt. - Praha - Kolín	ETCS Implementation	ETCS deployment in line Kralupy nad Vltavou - Praha-Libeň (- Praha Terminál Uhříněves) - Kolín	n/a	2020	n/a	2023	n/a	Co-financed by the EU	61-80	D4	695	3 kV DC	-	GB, GC	P/C 78/402, P/C 80/410
Planned	SZCZ	Kolín	Děčín východ	Principal line	Modernisation of the line Kolín - Všetaty - Děčín východ (except)	Reconstruction, modernization of the track	Complex line reconstruction (3rd track between Libice nad Cidlinou - Odb. Babín, Nymburk hl.n. - Lysá nad Labem, and Všetaty - Mělník; reconstruction of signalling and interlocking equipment on segments Mělník – Litoměřice and Ústí nad Labem Střekov – Děčín východ; prolongation of tracks for freight trains of 740m in some stations; construction of direct connection to Hradec Králové).	n/a	2025	n/a	2033	n/a	n/a	61-80	D4	680	3 kV DC	-	GB, GC	P/C 80/410
Under construction	SZCZ	Děčín východ	Děčín Prostřední Žleb	Principal line	Optimization of the line Děčín východ (except) - Děčín-Prostřední Žleb (except)	Reconstruction, modernization of the track	Reconstruction of the excisting 265m long bridge crossing the Elbe river.	n/a	2021	n/a	2023	n/a	Co-financed by the EU	<=60	D4	695	3 kV DC	-	GB, GC	P/C 80/410

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters										
										End										
		From	To					Month	Year	Month	Year	Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
Planned	SZCZ	Kolín	Čáslav	Diversionary line	Reconstruction of the line Kolín - Kutná Hora - Čáslav	Reconstruction, modernization of the track	Reconstruction of the line, elimination of the existing crossing of trains in direction Praha - Kutná Hora and Praha - Pardubice - Kolín, higher max. speed between Kutná Hora and Čáslav.	n/a	2025	n/a	2030	n/a	n/a	81-100	D4	674	3 kV DC, 25 kV AC	-	GC	P/C 57/381
Planned	SZCZ	Leština u Světlé	Okrouhlice	Diversionary line	Modernisation of the line Leština u Světlé - Světlá nad Sázavou - Okrouhlice	Reconstruction, modernization of the track	Complex line reconstruction (reconstruction of signalling and interlocking equipment, higher max. speed).	n/a	2027	n/a	2029	n/a	n/a	61-80	D4	674	25 kV AC	-	GC	P/C 57/381
Planned	SZCZ	Havlíčkův Brod	Žďár nad Sázavou	Diversionary line	Modernisation of the line Havlíčkův Brod - Pohled - Přibyslav - Sázava u Žďáru - Žďár nad Sázavou	Reconstruction, modernization of the track	Complex line reconstruction (reconstruction of signalling and interlocking equipment, higher max. speed).	n/a	2023	n/a	2035	n/a	n/a	61-80	D4	674	25 kV AC	-	GC	P/C 57/381
Planned	SZCZ	Vlkov u Tišnova	Křižanov	Diversionary line	Reconstruction of the line Vlkov u Tišnova - Křižanov	Reconstruction, modernization of the track	Complex line reconstruction	n/a	2023	n/a	2024	n/a	n/a	81-100	D4	674	25 kV AC	-	GC	P/C 57/381
Planned	SZCZ	Tišnov	Brno Maloměřice	Diversionary line	Reconstruction of the line Tišnov - Kuřim (except) - Brno Maloměřice	Reconstruction, modernization of the track	Complex line reconstruction, new traction power, signalling and interlocking equipment.	n/a	2023	n/a	2026	n/a	n/a	81-100	D4	674	25 kV AC	-	GC	P/C 57/381
Planned	SZCZ	Zaječí	Břeclav	Principal line	Modification to railway infrastructure in line Rakvice - Břeclav for the introduction of max. speed of 200 km/h	Reconstruction, modernization of the track	Max. speed will increase up to 200 km/h.	n/a	2028	n/a	2030	n/a	n/a	>120	D4	720	25 kV AC	Level 2	GC	P/C 80/410
Planned	SZCZ	Brno	Kolín	Diversionary line	ETCS Brno - Havlíčkův Brod - Kolín	ETCS Implementation	ETCS deployment in line Brno - Havlíčkův Brod - Kolín	n/a	n/a	n/a	n/a	n/a	n/a	61-80	D4	674	3 kV DC, 25 kV AC	-	GC	P/C 57/381
Planned	SZCZ	Havířov	Český Těšín	Principal line	Optimization of line Havířov - Albrechtice u Českého Těšína - Český Těšín	Reconstruction, modernization of the track	Complex line modernisation, max. speed will increase up to 140 km/h between Albrechtice u Českého Těšína and Český Těšín.	n/a	2023	n/a	2030	n/a	n/a	81-100	D4	700	3 kV DC	-	GB	P/C 80/410

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters									
										End									
		From	To					Month	Year	Month	Year	Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
Under construction	SZCZ	Přerov	Česká Třebová	Principal line	ETCS Přerov - Česká Třebová	ETCS Implementation	ETCS deployment in line Přerov - Česká Třebová	n/a	2018	n/a	2023	n/a	Co-financed by the EU	>120	D4	700	3 kV DC	-	GC	P/C 80/410
Under construction	SZCZ	Beroun	Cheb	Principal line	ETCS Beroun - Plzeň - Cheb	ETCS Implementation	ETCS deployment in line Plzeň - Cheb	n/a	2019	n/a	2023	n/a	Co-financed by the EU	101-120	D3,D4	640	25 kV AC	-	n/a	P/C 78/402
Planned	SZCZ	Praha-Vysočany	Lysá nad Labem	Diversionary line	ETCS Milovice - Praha hl.n.	ETCS Implementation	ETCS deployment in line Milovice - Lysá nad Labem - Praha-Vysočany - Praha hl.n.	n/a	2024	n/a	2026	n/a	Co-financed by the EU	81-100	D3	729	3 kV DC	-	GC	P/C 80/410
Under construction	SZCZ	Dětmarovice	Mosty u Jablunkova	Principal line	ETCS Mosty u Jablunkova - Dětmarovice	ETCS Implementation	ETCS deployment in line Dětmarovice - Mosty u Jablunkova.	n/a	2022	n/a	2023	n/a	Co-financed by the EU	101-120	D4	700	3 kV DC	-	GC	P/C 80/410

Slovakia

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters									
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Planned	ŽSR	Čadca	Krásno nad Kysucou (outside)	Principal line	Modernisation of railway corridor State border CZ/SK – Čadca – Krásno nad Kysucou, section Čadca - Krásno nad Kysucou (outside)	Modernization - project documentation phase	n/a	1	2022	3	2025	n/a	n/a	140	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400
Under construction	ŽSR	state border CZ/SK	Čadca (outside)	Principal line	Modernisation of railway corridor State border CZ/SK – Čadca – Krásno nad Kysucou, section state border CZ/SK - Čadca (outside)	Reconstruction, modernization of the track	n/a	12	2021	12	2023	n/a	CEF	up to 160	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400
Under construction	ŽSR	Žilina	Žilina	Principal line	Modernisation of railway node Žilina	Reconstruction, modernization of the tracks and platforms	n/a	12	2020	12	2023	n/a	CEF	up to 120	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400
Under construction	ŽSR	Žilina	Varín	Principal line	Modernization - Žilina - Varín	Reconstruction, modernization of the tracks and platforms	n/a	12	2020	12	2023	n/a	CEF	160	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400
Completed	ŽSR	Púchov	Považská Teplá	Principal line	Púchov - Považská Teplá: railway modernisation to 160 km/h	Reconstruction, modernization of the track	n/a	9	2016	12	2022	n/a	CEF	160	22,5	740	25 kV AC	Level 1	n/a	P/C 70/400
Planned	ŽSR	Bratislava	Bratislava	Principal line	Rail Node Bratislava - Works	Reconstruction, modernization of the track	Complex solution for rail node Bratislava	1	2026	12	Beyond 2030	TBD	n/a	n/a	n/a	n/a	n/a	n/a	n/a	P/C 70/400
Partly completed	ŽSR	Púchov	Lúky pod Makytou (CZ)	Principal line	Komplex reconstruction of tracks	Reconstruction, modernization of the track	n/a	n/a	2020	12	2025	n/a	State budget	90	22,5	740	25 kV AC	n/a	n/a	P/C 70/400
Under construction	ŽSR	Poprad - Tatry	Lučivná	Principal line	Modernisation of railway line Žilina – Košice, implementation phase Poprad-Tatry – Lučivná	Reconstruction, modernization of the track	n/a	6	2020	12	2023	n/a	CEF	160	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters										
		From	To					Month	Year	End Month	End Year	Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
Under construction	ŽSR	Varín	Čierna nad Tisou	Principal line	Implementation of GSM-R into ZSR infrastucture, section of Varin - Kosice - Cierna nad Tisou state border	GSM-R implementation	n/a	3	2017	12	2023	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Planned	ŽSR	State border AT/SK	Devínska Nová Ves	Diversionary line	Electrification border AT/SK - Devínska Nová Ves	Electrification and bridge reconstruction	n/a	n/a	2023	12	2024	n/a	CEF	120	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400
Planned	ŽSR	State border AT/SK	Devínska Nová Ves	Diversionary line	Construction of 2. line between state border AT/SK - Devínska Nová Ves including the modernization of station.	n/a	n/a	TBD	TBD	12	2030	n/a	n/a	120	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400
Under construction	ŽSR	CZ/SK Kúty	Kúty (outside)	Principal line	Reconstruction, modernization of the track	n/a	n/a	n/a	2020	12	2024	n/a	CEF	200	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400
Under construction	ŽSR	Malacky (outside)	Devínska Nová Ves	Principal line	Reconstruction, modernization of the track	n/a	n/a	n/a	2020	12	2024	n/a	CEF	200	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400
Planned	ŽSR	Kúty	Malacky	Principal line	Reconstruction, modernization of the track	Project documentation phase	n/a	n/a	n/a	12	2023	n/a	CEF	200	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400
Under construction	ŽSR	Boleráz	Smolenice	Diversionary line	Modernisation	Track and platform renewal, substructure improvement	n/a	5	2022	12	2023	n/a	EF	90	22,5	720	25 kV AC	n/a	n/a	P/C 70/400
Under construction	ŽSR	Trnovec nad Váhom	Tvrdošovce	Principal line	Reconstrucion of the track	Reconstruction, modernization of the track	n/a	3	2022	11	2023	n/a	n/a	140	22,5	700	25 kV AC	n/a	n/a	P/C 70/400
Under construction	ŽSR	Nové Zámky	Palárikovo	Principal line	Track renewal and substructure improvement	Track renewal and substructure improvement	n/a	7	2022	5	2023	n/a	n/a	140	22,5	700	25 kV AC	n/a	n/a	P/C 70/400
Planned	ŽSR	Bratislava Petržalka	Rusovce SK/HU	Principal line	Reconstruction, modernization of the track	n/a	n/a	n/a	n/a	12	2030	TBD	n/a	100	22,5	740	25 kV AC	Level 2	n/a	P/C 70/400

Under construction	ŽSR	Bratislava	Bratislava Lamač	Principal line	Tunel reconstrucion	2. tunel tube Bratislava Lamač - Bratislava hl.st	n/a	8	2022	6	2023	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Hungary

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters										
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Completed	MÁV	Almásfűzítő	Komárom	Principal line	Preparing for elimination of bottlenecks on the MÁV network. Almásfüzitő - Komárom railway line section.	Reconstruction, modernization of the track (Planning, licensing).	Increasing speed	12	2019	12	2022	n/a	Cohesion fund/IKOP	160	22,5	750	25 kV AC	Level 1	GC	P/C 80/410
Under construction	MÁV	Ferencváros	Kelenföld	Principal line	Southern Ring Railway	Third and partial fourth track	Increasing capacity		2023		2028		Cohesion fund/ IKOP, CEF2	80	22,5	750	25 kV AC	Level 2	GC	P/C 80/410
Under preapartion	MÁV	Kelenföld	Törökbálint	Principal line	Preparing for congestion on the MÁV network. Kelenföld - Budaörs railway line section.	Reconstruction, modernization of the track (Planning, preparation project).	Increasing capacity	12	2019	n/a	2025	n/a	Cohesion fund/IKOP	120/140	22,5	750	25 kV AC	Level 1	GC	P/C 80/410
Under construction	MÁV	Szajol	Debrecen	Principal line	ETCS 2 installation between Szajol and Debrecen	ETCS Implementation	ETCS L2 installation	2	2019	9	2023	n/a	Cohesion fund/IKOP	160	22,5	750	25 kV AC	Level 2	GC	P/C 80/410
Completed	MÁV	Püspöladány	Biharkeresztes border	Diversionary line	Elimination of bottlenecks and electrification	Other	Increasing speed, electrification	8	2017	8	2023	185,4	Cohesion fund/IKOP	160	22,5	750	25 kV AC	n/a	GC	P/C 80/410
Completed	MÁV	Nagykáta	Újszász	Principal line	Preparation of modernization of Nagykáta - Újszász railway track section.	Reconstruction, modernization of the track (Planning, licensing).	Increasing speed and axle load	12	2019	9	2023	n/a	Cohesion fund/IKOP	120	22,5	750	25 kV AC	n/a	GC	P/C 80/410
Planned	MÁV	Nagykáta	Újszász	Principal line	Modernization of Nagykáta - Újszász railway track section.	Reconstruction, modernization of the track	Increasing speed and axle load		2026		2028	167	Cohesion fund/IKOP 2	120	22,5	750	25 kV AC	n/a	GC	P/C 80/410

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters									
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Completed	MÁV	Gyoma	Békéscsaba	Principal line	Modernisation of signaling system between Gyoma and Békéscsaba; Békéscsaba railway station, installation of Ferencváros - Lőkösháza ETCS 2 train control system (III/I. Phase B.) - phased project	Other	Modernisation of signaling system	10	2016	12	2023	51,4	Cohesion fund/IKOP	120	22,5	750	25 kV AC	Level 2	GC	P/C 80/410
Under construction	MÁV	Békéscsaba	Lökösháza	Principal line	Contruction of 2nd track between Békéscsaba and Lőkösháza	Reconstruction, modernization of the track	Increasing speed, ETCS L2 installation	9	2021	6	2025	5,23	CEF	160	22,5	750	25 kV AC	Level 2	GC	P/C 80/410
planned	GYSEV	Rajka s.b.	Hegyeshalom	Principal line	Modernization, upgrade of railway infrastructure	Reconstruction, modernization of the track	CEF 2 proposal under evaluation	n/a	2025	n/a	2027	n/a	EU (CEF, Coh. Found)	100/120	22,5	750	25 kV AC	Level 1	n/a	P/C 70/400
planned	GYSEV	Sopron-Rendező	Harka	Principal line	Modernization, upgrade of railway infrastructure	Reconstruction, modernization of the track	Phase 0: Sopron - Harka 2nd track 2025 -2027	n/a	2023	n/a	2027	n/a	EU (CEF, Coh. Found)	80/100	22,5	750	25 kV AC	n/a	n/a	P/C 70/400
planned	GYSEV	Harka	Pinnye	Principal line	Modernization, upgrade of railway infrastructure	Reconstruction, modernization of the track	Phase 2B: Sopron - Harka - Fertőboz new double track alignment	n/a	n/a	n/a	Beyond 2030	n/a	EU (CEF, Coh. Found)	160	22,5	750	25 kV AC	Level 2	n/a	P/C 70/400
planned	GYSEV	Pinnye	Fertőszentmiklós	Principal line	Modernization, upgrade of railway infrastructure	Reconstruction, modernization of the track	Phase 2A: (Fertőboz) - Pinnye - Csorna partially double track	n/a	n/a	n/a	Beyond 2030	n/a	EU (CEF, Coh. Found)	160	22,5	750	25 kV AC	Level 2	n/a	P/C 70/400
planned	GYSEV	Fertőszentmiklós	Petőháza	Principal line	Modernization, upgrade of railway infrastructure	Reconstruction, modernization of the track	Phase 2A: (Fertőboz) - Pinnye - Csorna partially double track	n/a	n/a	n/a	Beyond 2030	n/a	EU (CEF, Coh. Found)	160	22,5	750	25 kV AC	Level 2	n/a	P/C 70/400
planned	GYSEV	Petőháza	Csorna	Principal line	Modernization, upgrade of railway infrastructure	Reconstruction, modernization of the track	Phase 2A: (Fertőboz) - Pinnye - Csorna partially double track	n/a	n/a	n/a	Beyond 2030	n/a	EU (CEF, Coh. Found)	160	22,5	750	25 kV AC	Level 2	n/a	P/C 70/400
planned	GYSEV	Csorna	Győr	Principal line	Modernization, upgrade of railway infrastructure	Reconstruction, modernization of the track	Phase 1 of Győr - Sopron upgrade: prioirity project: single track, capacity problems, new 2nd track	n/a	n/a	n/a	Beyond 2030	n/a	EU (CEF, Coh. Found)	160	22,5	750	25 kV AC	Level 2	n/a	P/C 70/400

Status	IM	Section		Category	Project name	Specification	Note	Start		End		Reached parameters								
		From	To					Month	Year	Month	Year	Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
Under construction	GYSEV	Sopron	Győr	Principal line	Modernization, upgrade of railway infrastructure	GSM-R implementation	Phase II of Hungarian GSM-R network	n/a	2019	n/a	2023-2024	n/a	EU	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Romania

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters										
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Under construction	CFR	Km 614 (Radna)	Bârzava	Principal line	Rehabilitation of the railway line Border – Curtici – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h: Section 2: km 614 - Gurasada and Section 3: Gurasada - Simeria	Modernization of the existing conventional electrified double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Works for infrastructure and suprastructure	7	2017	4	2024	434,45	LIOP 2014-2020 (Cohesion Funds) + State Budget		22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Bârzava	Ilteu	Principal line	Rehabilitation of the railway line Border – Curtici – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h: Section 2: km 614 - Gurasada and Section 3: Gurasada - Simeria	Modernization of the existing conventional electrified double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Works for infrastructure and suprastructure	7	2017	5	2025	453,35	LIOP 2014-2020 (Cohesion Funds) + State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Ilteu	Gurasada	Principal line	Rehabilitation of the railway line Border – Curtici – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h: Section 2: km 614 - Gurasada and Section 3: Gurasada - Simeria	Modernization of the existing conventional electrified double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Works for infrastructure and suprastructure	12	2017	9	2025	403,20	LIOP 2014-2020 (Cohesion Funds) + State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Gurasada	Simeria	Principal line	Rehabilitation of the railway line Border – Curtici – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h: Section 2: km 614 - Gurasada and Section 3: Gurasada - Simeria	Modernization of the existing conventional electrified double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Works for infrastructure and suprastructure	9	2017	1	2024	674,13	LIOP 2014-2020 (Cohesion Funds) + State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters									
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Under construction only for ERMTS lot	CFR	Simeria	Sighișoara	Principal line	*Rehabilitation of the railway line Brașov – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h, Section Simeria - Coșlariu *Rehabilitation of the railway line Brașov – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h, Section Sighișoara - Coșlariu	Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	ERTMS level 2	11	2014	12	2025	113,37	SOPT 2007-2013 (Cohesion Funds) LIOP 2014-2020 (Cohesion Funds) + State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Sighișoara	Cața	Principal line	Rehabilitation of the railway line Brașov – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h, Section Sighișoara - Brașov	Modernization of the existing conventional electrified double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Works for infrastructure and suprastructure	4	2020	12	2027	676,62	CEF (Cohesion Funds)+ State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Apața	Brașov	Principal line																
Under construction	CFR	Cața	Apața	Principal line	Rehabilitation of the railway line Brașov – Simeria, component part of the IV European corridor for the trains circulation with a maximum speed of 160 km/h, Section Sighișoara - Brașov	Modernization of the existing conventional electrified double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Works for infrastructure and suprastructure	11	2020	12	2026	609,19	CEF (Cohesion Funds)+ State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Constanța	Constanța Port	Principal line	Modernization of the railway infrastructure in Constanța Port - stage I, Valu lui Traian	Modernization of the railway infrastructure in Valu lui Traian Marshalling Yard and in the related railway station, including infrastructure modernization, electrification, introducing the centralized electronic signalization and other auxiliary works	The works are in procurement phase.	4	2024	10	2026	86,97	CEF (Cohesion Funds)+ State Budget	100	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters									
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Under tendering	CFR	Constanța	Constanța Port	Principal line	Modernization of the railway infrastructure in Constanța Port - stage II	Improving the local railway connections of the Port of Constanta, consisting of: o Valu lui Traian - Palas connection line, including crossing bridge; o Doubling the access line to Constanta Port Ferry Boat; o Modernization of the railway station related to Agigea Lock on Danube-Black Sea Channel.	The application for financing investment is under evaluation phase at CINEA.	n/a	n/a	n/a	n/a	189,52	CEF + State Budget (proposalunder evaluation)	100	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/376
Under tendering	CFR	Constanța	Constanța Port	Principal line	Modernization of the railway infrastructure in Constanța Port - stage III	Modernization of the line device in the Constanța Port Zone A, Constanța Port Zone B, Constanța Port Mol V, Constanța Port Ferry Boat stations, access line to Constanța Port Ferry Boat, Agigea Sud station	Is under preparation the application for financing the investment	n/a	n/a	n/a	n/a	695,00	CEF (Cohesion Funds) + State Budget (to be proposed)	100	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/377
Under construction	CFR	Arad	Rontaț Marshalling Yard	Principal line	Modernization of the railway line section Arad - Caransebeș	Modernization of the existing conventional electrified single/double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Detailed design under preparation. After its approval works will start	12	2022	12	2026	292,29	NRRP+State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters									
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Under construction	CFR	Rontaț Marshalling Yard	Timișoara Est	Principal line	Modernization of the railway line section Arad - Caransebeș	Modernization of the existing conventional electrified single/double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Detailed design under preparation. After its approval works will start	12	2022	12	2026	389,56	NRRP+State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Timișoara Est	Lugoj	Principal line	Modernization of the railway line section Arad - Caransebeș	Modernization of the existing conventional electrified single/double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Detailed design under preparation. After its approval works will start	12	2022	12	2026	292,84	NRRP+State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Lugoj	Caransebeș	Principal line	Modernization of the railway line section Arad - Caransebeș	Modernization of the existing conventional electrified single/double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	The contract for design and works execution is under re-evaluation phase (the procurement procedure was contested)	1	2024	12	2027	444,04	NRRP+State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
In procurement	CFR	Caransebeș	Craiova	Principal line	Rehabilitation of the railway line section Caransebeș - Craiova	Modernization of the existing conventional electrified single/double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	The tender documentation for the acquisition of works are in preparation.	12	2023	12	2030	2188,36	TP 2021-2027 (Cohesion Funds) + State Budget	120/160	22,5 / C4	750	25 kV AC	Level 2	GB + GC	P/C 45/375

Status	IM	Section		Category	Project name	Specification	Note	Start		Reached parameters									
										End		Estimated Financial Requirements [mil. of EUR]	Financial Sources	Maximum speed [km*h-1]	Axle load [t] / Line category	Maximum Train Length [m]	Traction power	ETCS Level	Track clearance	Interm. Code
		From	To					Month	Year	Month	Year									
Under construction	CFR	Cluj-Napoca	Aghireș	Diversionary line	Electrification and rehabilitation of the railway line section Cluj - Oradea - Episcopia Bihor - Border RO/HU	Modernization of the existing conventional electrified single/double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Detailed design under preparation. After its approval works will start	1	2023	12	2026	327,61	NRRP + State Budget	80/120	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Aghireș	Poieni	Diversionary line	Electrification and rehabilitation of the railway line section Cluj - Oradea - Episcopia Bihor - Border RO/HU	Modernization of the existing conventional electrified single/double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Detailed design under preparation. After its approval works will start	1	2023	12	2026	312,10	NRRP + State Budget	80/120	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Poieni	Aleşd	Diversionary line	Electrification and rehabilitation of the railway line section Cluj - Oradea - Episcopia Bihor - Border RO/HU	Modernization of the existing conventional electrified single/double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Detailed design under preparation. After its approval works will start	1	2023	12	2026	430,41	NRRP + State Budget	80/120	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Aleşd	Border RO/HU	Diversionary line	Electrification and rehabilitation of the railway line section Cluj - Oradea - Episcopia Bihor - Border RO/HU	Modernization of the existing conventional electrified single/double track for increased speed; Implementation of electronic interlocking, ETCS-Level 2 and GSM-R	Detailed design under preparation. After its approval works will start	1	2023	12	2026	491,34	NRRP + State Budget	80/120	22,5 / C4	750	25 kV AC	Level 2	GC	P/C 45/375
Under construction	CFR	Simeria	Filiași	Diversionary line	Speed restrictions removal (quick wins) on Livezeni - Simeria line section	Removal of speed restrictions	Works for botttllenecks elimination (quick-wins)	11	2022	11	2024	11,49	NRRP + State Budget	100 km/h for freight trains	22,5 / C4	750	25 kV AC	-	n/a	n/a

France

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
1.	Strasbourg	Kehl (DE border)	Principal	5	2	NS + GSM-R	x		In operation										

Germany

				Line (current situation)						GSM-R		Status of GSM-R				ETCS			Status of ETCS				
												Under realization		Planned					Under realization			Planned	
No.	From	To	Type	From km	To km	Length of line (km)	Number of tracks	VZG	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	note	Start	Finalization
1	Kehl Grenze DE/FR	Appenweier	Principal	-0,704	13,9	14,604	2	4260	PZB	x							X		2026	2028			
2	Appenweier	Rastatt-Süd (via 4000)	Principal	138	102	36	2	4000	PZB	x							X		2026	2028			
3	Appenweier	Rastatt-Süd (via 4280)	Diversionary	138	102	36	2	4280	PZB;LZB	x							X			2026			
4	Rastatt-Süd	Rastatt	Principal	102	97	5	2	4000	PZB	x							X			2026			
5	Rastatt	Durmersheim (via 4020)	Principal	82,206	70,9	9	2	4020	PZB	x							X			2026			
6	Durmersheim	Karlsruhe	Principal	70,9	63,185	13	2	4020	PZB	x							X		after 2030	tbd			
7	Durmersheim	Karlsruhe	Principal	63,185	60,659	13	2	4020	PZB	x							X			2026		n.a.	n.a.
8	Rastatt	Ettlingen West (via 4000)	Diversionary	96,501	79,649	17	2	4000	PZB	x							X		after 2030	tbd			
9	Ettlingen West	Karlsruhe	Diversionary	79,649	73,381	6	2	4000	PZB	x							X		after 2030	tbd			
10	Karlsruhe	Bruchsal	Diversionary	73,381	51,633	22	2	4000	PZB	x							X		after 2030	tbd			
11	Bruchsal	Heidelberg	Diversionary	51,633	21	33	2	4000	PZB	x							X		after 2030	tbd			after 2030
12	Heidelberg	Mannheim	Diversionary	21	11,9	18	2	4000	PZB	x							X			2029		tbd	after 2030
13	Heidelberg	Mannheim	Diversionary	11,9	8,44	18	2	4000	PZB	x							X		after 2030	tbd		tbd	after 2030
14	Karlsruhe	Hockenheim	Principal	60,659	21,65	39	2	4020	PZB	x							X		after 2030	tbd	Corridor Rhine-Alpine/ HLN Mannheim-Karlsruhe		
15	Hockenheim	Mannheim	Principal	21,65	13,563	22	2	4020	PZB	x							X		after 2030	tbd	Corridor Rhine-Alpine/ HLN Mannheim-Karlsruhe		
16	Mannheim	Darmstadt	Principal	83,333	57,165	16	2	3601	PZB	x							X		2028	tbd	Corridor Rhine-Alpine		
17	Mannheim	Darmstadt	Principal	57,165	29,095	28		3601	ETCS								X						
18	Darmstadt	Frankfurt am Main	Diversionary	29,095	3,971	25	2	3601	PZB	x							X		after 2030	tbd	HLN Frankfurt-Heidelberg	tbd	
19	Mannheim	Groß Gerau	Diversionary	1,66	9,1	54	2	4010	PZB	x							X		after 2030	tbd	ETCS-Ausrüstung im Rahmen ESTW Riedbahn/		

				Line (current situation)						GSM-R		Status of GSM-R				ETCS			Status of ETCS				
												Under realization		Planned					Under realization			Planned	
No.	From	To	Type	From km	To km	Length of line (km)	Number of tracks	VZG	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	note	Start	Finalization
																					HLN Pilotstrecke		
20	Groß Gerau	Frankfurt am Main	Diversionary	9,1	69,4	25	2	4010	PZB;LZB	x							X			2024	ETCS-Ausrüstung im Rahmen ESTW Riedbahn/ HLN Pilotstrecke		
21	Groß Gerau	Frankfurt am Main	Diversionary	69,4	74,812	25	2	4010	PZB	x							X		after 2030	tbd	ETCS-Ausrüstung im Rahmen ESTW Riedbahn/ HLN Pilotstrecke		
22	Frankfurt am Main	Hanau	Diversionary	0	22	22	2	3660	PZB	x							X		after 2030	tbd			after 2030
23	Hanau	Aschaffenburg	Diversionary	22	42,549	20	2	3660	PZB	x							X		after 2030	tbd			after 2030
24	Aschaffenburg	Würzburg	Principal	89,326	0	89	2	5200	PZB	x							X		after 2030	tbd			after 2030
25	Gemünden	Waigolshausen	Principal	39,435	0	40	2	5230	PZB	x							X		after 2030	tbd			after 2030
26	Waigolshausen	Bamberg	Principal	0	17,4	17,4	2	5102	PZB	x							X		after 2030	tbd	some parts Bamberg - Ebelsbach-Eltmann		
27	Waigolshausen	Bamberg	Principal	17,4	68,223	51,8	2	5102	PZB	x							X		after 2030	tbd	some parts Bamberg - Ebelsbach-Eltmann		
28	Bamberg	Nürnberg	Principal	62,4	0	62	2	5900	PZB	x							X		after 2030	tbd			
29	Gemünden	Würzburg	Diversionary	0	0	0	2	1733	LZB;PZB	x							X						after 2030
30	Würzburg	Nürnberg	Diversionary			102	2	5910/5900	PZB;LZB	x							X		2028	2030	DSD Starterpaket Scan-Med/HLN Würzburg Nürnberg		

				Line (current situation)						GSM-R		Status of GSM-R				ETCS			Status of ETCS					
												Under realization		Planned					Under realization			Planned		
No.	From	To	Type	From km	To km	Length of line (km)	Number of tracks	VZG	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	note	Start	Finalization	
31	Nürnberg	Regensburg	Principal	100,569	0	101	2	5850	PZB	x							X		after 2030	tbd	ETCS-Ausrüstung Passau - Feucht / DSD ScanMed / HLN Nürnberg - Regensburg			
32	München	Marzling	Principal	0,017	45,47	44	2	5500	PZB	x							X		after 2030	tbd	DSD ScanMed			
33	Marzling	Hagelstadt	Principal	45,47	121,283	77	2	5500	PZB	x							X		after 2030	tbd		tbd	after 2030	
34	Hagelstadt	Regensburg	Principal	121,283	138,131	17	2	5500	PZB	x							X		2030	tbd	ETCS-Ausrüstung Passau - Feucht			
35	Regensburg	Passau	Principal			118	2/2	5500/5830	PZB	x							X		2028	tbd	ETCS-Ausrüstung Passau - Feucht	2019	2030	
36	Karlsruhe	Pforzheim	Principal	−4,625	26,262	31	2	4200	PZB	x							X		after 2030	tbd		tbd	after 2030	
37	Pforzheim	Mühlacker	Principal	26,262	38,903	13	2	4200	PZB	x							X		after 2030	tbd		tbd	after 2030	
38	Bruchsal	Mühlacker	Diversionary			33	2/2	4130/4800	PZB	x							X		after 2030	tbd		tbd	after 2030	
39	Mühlacker	Ludwigsburg	Principal			29	2	4800/4842	PZB	x							X		after 2030	tbd	DKS BS3 - some parts 20km Sersheim - Ludwigsburg			
40	Ludwigsburg	Stuttgart	Principal			14	2	4800/4720	PZB	x							X		2025	tbd	DKS BS 3			
41	Stuttgart	Ulm	Principal	6	96	90	2	4700	PZB	x							X		2025	tbd	NBS Wendlingen - Ulm bis 2022			
42	Ulm	Augsburg	Principal	85,8	0	86	2	5302	PZB;LZB	x							X		2027	tbd	Neuoffing - Augsburg DSD Starterpaket Scan-Med			
43	Augsburg	München	Principal	4,14	61,885	62	2	5503	PZB;LZB	x							X		after 2030	tbd	DSD Starterpaket Scan-Med			

Line (current situation)										GSM-R		Status of GSM-R				ETCS			Status of ETCS					
												Under realization		Planned					Under realization			Planned		
No.	From	To	Type	From km	To km	Length of line (km)	Number of tracks	VZG	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	note	Start	Finalization	
44	München	Mühldorf am Inn	Diversionary			85	2/2(1 on 43km)	5521/5531/5600	PZB	x							X		after 2030	tbd	some parts of DSD Starterpaket Scan-Med/ABS 38 München - Mühldorf - Freilassing / HLN Rosenheim - München			
45	Mühldorf am Inn	Freilassing	Diversionary	0	65,578	65	1	5723	PZB	x							X		after 2030	tbd	DSD ScanMed - some parts 37km Kirschweidach - Freilassing			
46	München	Rosenheim	Principal	0,016	64,874	65	2	5510	PZB	x							X		2027	tbd	some parts 58,2km München Süd - Rosenheim			
47	Rosenheim	Freilassing	Principal	0	81,711	82	2	5703	PZB	x							X			2027	HLN Rosenheim - Salzburg			
48	Nürnberg	Marktredwitz	Principal	0,002	124,206	124	2	5903	PZB	x							X		after 2030	tbd	some parts 55,8km Nürnberg - Neuhaus / DSD ScanMed			
49	Marktredwitz	Schirnding	Principal	124,206	138,28	14	2	5903	PZB	x							X		2025	tbd				
50	Regensburg	Schwandorf	Principal	0	42,6	43	2	5860	PZB	x							X		after 2030	tbd		tbd	after 2030	
51	Schwandorf	Furth im Wald	Principal	0	67,203	68	1	5800	PZB	x							X		after 2030	tbd		tbd	after 2030	

New sections																								
Line (current situation)										GSM-R		Status of GSM-R				ETCS			Status of ETCS					
												Under realization		Planned					Under realization			Planned		
No.	From	To	Type	From km	To km	Length of line (km)	Number of tracks	VZG	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	note	Start	Finalization	
1	Mannheim	Mannheim	Principal	105,759	107,913	2	1	3401	PZB	x							X		after 2030	tbd				
2	Mannheim	Mannheim	Principal	0	3,01	3	1	4030	PZB	x							X		after 2030	tbd				
3	Nürnberg	Nürnberg	Principal			20		5943/5950/5962/5963	PZB	X							X		after 2030	tbd				

New sections																									
Line (current situation)										GSM-R		Status of GSM-R				ETCS			Status of ETCS					
												Under realization		Planned					Under realization			Planned		
No.	From	To	Type	From km	To km	Length of line (km)	Number of tracks	VZG	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	note	Start	Finalization	
4	Marktredwitz	Mittereich	Principal	33,253	51,069	18	1	5050	PZB	x							X		after 2030	tbd				
5	Rostock	Rostock	Principal	9,14	5,022	4	1	6443	PZB	x							X		after 2030	tbd				
6	Rostock	Kavelstrof	Principal	0,187	13,909	14	1	6448	PZB	x							X		after 2030	tbd				
7	Kavelstrof	Neustrelitz	Principal	0,369	104,106	104	1	6325	PZB	x							X		2028	tbd				
8	Neustrelitz	Hohen Neuendorf	Principal	17,056	98,802	81	1	6088	PZB	x							X		2028	tbd				
9	Bergfelde	Bergfelde	Principal			6	2	6091/6092	PZB	x							X		after 2030	tbd				
10	Bergfelde	Karow	Principal	0	12,942	13	1	6087	PZB	x							X			2028				
11	Karow	Alt-Hohenschönhausen	Principal	0,84	8,895	9	1	6067	PZB	x							X			2028				
12	Alt-Hohenschönhausen	Wuhlheide	Principal	25	35,099	10	1	6080	PZB	x							X			2028				
13	Moabit	Friedrichshain	Principal			13	1	6170	PZB	x							X		after 2030	tbd				
14	Friedrichshain	Karlshorst	Principal	0,013	3,612	4	1	6140	PZB	x							X		after 2030	tbd				
15	Karlshorst	Karlshorst	Principal	6,32	8,795	2	1	6153	PZB	x							X			2028				
16	Karlshorst	Wuhlheide	Principal	-0,079	1,003	1	1	6150	PZB	x							X			2028				
17	Wuhlheide	Mahlow	Principal	27,863	44,185	17	1	6126	PZB	x							X		after 2030	tbd				
18	Mahlow	Mahlow	Principal	17,227	19,225	2	1	6138	PZB	x							X		after 2030	tbd				
19	Mahlow	Elsterwerda	Principal	18,972	124,563	115	1	6135	PZB	x							X		2029	tbd				
20	Elsterwerda	Dresden	Principal	0,26	50,36	50	1	6248	PZB	x							X		2029	tbd				
21	Großehain	Priestewitz	Principal	-0,258	5,021	5	1	6252	PZB	x							X		after 2030	tbd				
22	Großehain	Großehain	Principal	-0,017	1,614	2	1	6250	PZB	x							X		after 2030	tbd				
23	Zitzschewig	Zitzschewig	Principal			4	2	6249/6251	PZB	x							X		2029	tbd				
24	Dresden	Dresden	Principal			5	4	6239/6241/6244/6247/	PZB	x							X		after 2030	tbd				
25	Dresden	Grenze Tschechien	Principal	11,86	65,986	54	1	6240	PZB	x							X		2029	tbd				
26	Dresden	Zeithain	Principal	68,304	115,936	48	1	6363	PZB	x							X		after 2030	tbd				
27	Zeithain	Zeithain	Principal	140,87	144,396	4	1	6354	PZB	x							X		after 2030	tbd				
28	Zeithain	Falkenberg/Elster	Principal	111,495	142,007	31	1	6133	PZB	x							X		after 2030	tbd				
29	Falkenberg/Elster	Roßlau	Principal	147,871	233,543	88	1	6207	PZB	x							X		after 2030	tbd				
30	Roßlau	Roßlau	Principal	16,518	17,761	1	1	6415	PZB	x							X		after 2030	tbd				
31	Dessau	Zerbst/Anhalt	Principal	0	22,622	23	1	6411	PZB	x							X		after 2030	tbd				
32	Zerbst/Anhalt	Magdeburg	Principal	0,688	30,32	30	1	6410	PZB	x							X		after 2030	tbd				
33	Magdeburg	Haldensleben	Principal			26		6406/6408/6409	PZB	x							X		2028	tbd				
34	Magdeburg	Stendal	Principal	0	58,74	59	1	6402	PZB	x							X			2028				
35	Stendal	Uelzen	Principal	0	107,115	107	1	6899	PZB	x							X			2028				

New sections																								
Line (current situation)										GSM-R		Status of GSM-R				ETCS			Status of ETCS					
												Under realization		Planned					Under realization			Planned		
No.	From	To	Type	From km	To km	Length of line (km)	Number of tracks	VZG	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	note	Start	Finalization	
36	Uelzen	Moorburg	Principal	96,437	175,016	79	1	1720	PZB; LZB	x							X		2029	tbd				
37	Seevetal	Seevetal	Principal	18,971	21,808	3	1	1284	PZB	x							X		after 2030	tbd				
38	Moorburg	Moorburg	Principal	174,884	175,255	1	1	1293	PZB	x							X		after 2030	tbd				
39	Harburg	Wilhelmsburg	Principal	0,524	0,993	1	1	1253	PZB	x							X		after 2030	tbd				
40	Harburg	Hamburg	Principal	4,8	11,78	7	1	1255	PZB	x							X		after 2030	tbd				
41	Harburg	Billwerder	Principal	29,4	45,894	16	1	1280	PZB	x							X		2026	tbd				
42	Magdeburg	Eilsleben	Principal	133,682	171,676	38	1	6110	PZB	x							X		after 2030	tbd				
43	Eilsleben	Helmstedt	Principal	0	17,726	18	1	6400	PZB	x							X		after 2030	tbd				
44	Helmstedt	Braunschweig	Principal	3,361	38,813	35	1	1900	PZB	x							X		after 2030	tbd				
45	Braunschweig	Schwarzer Berg	Principal	52,613	57,045	5	1	1722	PZB	x							X		after 2030	tbd				
46	Braunschweig	Braunschweig	Principal			18	4	1902/1912/1913/1914	PZB	x							X		after 2030	tbd				
47	Braunschweig	Hannover	Principal	0	60,986	61	1	1730	PZB	x							X		2029	tbd				
48	Stiddin	Stiddin	Principal			4	2	1921/1922	PZB	x							X		after 2030	tbd				
49	Braunschweig	Wolfsburg	Principal	3,713	24,218	20	1	1956	PZB; LZB	x							X		after 2030	tbd				
50	Wolfsburg	Wolfsburg	Principal	17,391	20,021	3	1	6399	PZB; LZB	x							X		after 2030	tbd				
51	Wolfsburg	Lehrte	Principal	185,683	236,841	51	1	6107	PZB; LZB	x							X		2027	tbd				
52	Winkel	Winkel	Principal	-1,077	0,057	1	1	1962	PZB	x							X		after 2030	tbd				
53	Lehrte	Hannover	Principal	0	15,437	15	1	1734	PZB	x							X		after 2030	tbd				
54	Lehrte	Lehrte	Principal	15,461	16,374	1	1	1775	PZB	x							X		after 2030	tbd				
55	Lehrte	Wunstorf	Principal	0	43,307	43	1	1750	PZB	x							X		after 2030	tbd				
56	Hannover	Wunstorf	Principal	0	20,767	21	1	1700	PZB; LZB	x							X		after 2030	tbd				
57	Hannover	Seelze	Principal	7 983	11,5627	4	1	1705	PZB	x							X		after 2030	tbd				
58	Hannover	Hannover	Principal	-0,011	1,845	2	1	1705	PZB	x							X		after 2030	tbd				
59	Hannover	Hannover	Principal	1,845	3,802	2	1	1701	PZB	x							X		after 2030	tbd				
60	Hannover	Hannover	Principal	3,807	4,41	1	1	1702	PZB	x							X		after 2030	tbd				
61	Hannover	Hannover	Principal	4,41	5,95	1	1	1703	PZB	x							X		after 2030	tbd				
62	Wunstorf	Bremerhaven	Principal	21,401	194,15	173	1	1740	PZB	x							X		after 2030	tbd				
63	Bremen	Oldenburg	Principal	0	44,317	44	1	1500	PZB	x							X		after 2030	tbd				
64	Oldenburg	Wilhelmshaven	Principal	0	45,056	45	1	1522	PZB	x							X		after 2030	tbd				
65	Wilhelmshaven	Wilhelmshaven	Principal	0,089	5,868	6	1	1546	PZB	x							X		after 2030	tbd				

New sections																								
Line (current situation)										**GSM-R**		**Status of GSM-R**				**ETCS**			**Status of ETCS**					
												Under realization		**Planned**					**Under realization**			**Planned**		
No.	**From**	**To**	**Type**	**From km**	**To km**	**Length of line** (km)	**Number of tracks**	**VZG**	**Current train control system**	**Yes**	**No**	**Start**	**Finalization**	**Start**	**Finalization**	**L1**	**L2**	**L3**	**Start**	**Finalization**	**note**	**Start**	**Finalization**
66	Wilhelmshaven	Wilhelmshaven	Principal	-0,054	15,2	15	1	1552	PZB	x							X		after 2030	tbd			
67	Wilhelmshaven	Wilhelmshaven	Principal	0	0,466	1	1	1553	PZB	x							X		after 2030	tbd			
68	Wilhelmshaven	Wilhelmshaven	Principal	0	0,121	1	1	1554	PZB	x							X		after 2030	tbd			

Czech Republic

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
1	Česká Kubice st.hr.	Domažlice	Principal	16	1	-		x				2029							2029
2	Domažlice	Plzeň hl.n.	Principal	60	1	LS Plzeň - Stod		x				2029							2029
3	Cheb st.hr	Cheb	Principal	12,1	1	INDUSI/PZB	x							x					
4	Cheb	Plzeň hl.n.	Principal	105,9	1/2	LS	x							x					
5	Plzeň hl.n.	Beroun os.n.	Principal	64	2	LS	x							x					
6	Beroun os.n.	Praha - Radotín	Principal	29,2	2	-	x												2029
7	Praha - Radotín	Praha Krč	Principal	9,2	1/2	-	x												2030
8	Praha Krč	Praha Zahr.město	Principal	5,3	1	-	x												2030
9	Praha Zahr.město	Praha Malešice	Principal	4	1	LS	x												2027
10	Praha Malešice	Praha-Libeň	Principal	3,9	1	-	x							x					
11	Praha Malešice	Praha - Běchovice	Principal	4,3	2	LS	x							x					
12	Praha-Libeň	Český Brod	Principal	27,47	3	LS	x							x					
13	Český Brod	Kolín	Principal	29,27	3/2	LS	x							x					
14	Kolín	Česká Třebová	Principal	102	2	LS	x							x					
15	Poříčany	Nymburk hl.n.	Diversionary	15,7	1	-	x												2030
16	Praha-Libeň	Praha Vysočany	Diversionary	1,23	1	LS	x												2026
17	Praha Vysočany	Lysá nad Labem	Diversionary	29,1	2	-	x												2026
18	Lysá nad Labem	Nymburk hl.n.	Diversionary	15,3	2	LS	x												2030

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
19	Nymburk hl.n.	Velký Osek	Diversionary	15	2	LS	x												2030
20	Velký Osek	Kolín	Diversionary	9	2	LS	x												2030
21	Velký Osek	Hradec Králové	Diversionary	51	1	-		x				2030							2030
22	Hradec Králové	Choceň	Diversionary	45	1	-		x				2030							2030
23	Česká Třebová	Olomouc	Principal	110	2	LS	x							x					
24	Olomouc	Dluhonice	Principal	19	2	LS	x							x					
25	Dluhonice	Prosenice	Principal	8,8	2	LS	x							x					
26	Prosenice	Hranice na Moravě	Principal	20,4	2	LS	x							x					
27	Dluhonice	Přerov os.n.	Principal	3,4	2	LS	x							x					
28	Přerov os.n.	Přerov přednádraží	Principal	1,7		LS	x							x					
29	Přerov os.n.	Prosenice	Principal	7,9	2	LS	x							x					
30	Hranice na Moravě	Horní Lideč	Principal	63	2	LS*		x				2026							2030
31	Horní Lideč	Střelná st.hr.	Principal	7	2	LS		x				2026							2030
32	Hranice na Moravě	Ostrava hl.n.	Principal	55,4	2	LS	x							x					
33	Ostrava hl.n.	Dětmarovice	Principal	17,2	2	LS	x							x					
34	Dětmarovice	Český Těšín	Principal	21,1	2	LS	x							x					
35	Český Těšín	Mosty u Jablunkova	Principal	29,05	2	LS	x							x					
36	Mosty u Jablunkova	Mosty u Jabl. st. hr.	Principal	3,69	2	LS	x							x					
37	Výhybna Polanka n/O	Odbočka Odra	Principal	2,1	1	LS	x							x					

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
38	Ostrava Svinov	Odbočka Odra	Principal	3,64	1	LS	x							x					
39	Odbočka Odra	Odbočka Chotěbuz	Principal	32,03	2	LS	x												2028

*	to be precised in new Czech ERTMS National Implementation Plan conected to TSI CCS 2023
**	except section Hranice na Moravě - Hranice na Moravě město

New sections to be taken over from RFC OEM																			
Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
1	Česká Třebová	Brno hl.n.	Principal	89,98	2	LS + ERTMS	x							x					
2	Brno hl.n.	Modřice	Principal	6,53	2	LS	x												2030
3	Brno Maloměřice st.6	Brno dolní n.	Principal	6,72	2	LS	x												2030
4	Brno dolní n.	Brno Jih	Principal	3,31	2/1 zhl	LS	x												2030
5	Brno Jih	Modřice	Principal	2,29	1	-	x												2030
6	Modříce	Břeclav os.n.	Principal	53,91	2	LS + ERTMS	x							x					
7	Břeclav os.n.	Bernhardsthal st.hr.	Principal	5,14	2	INDUSI/PZB + ERTMS	x							x					
8	Břeclav os.n.	Lanžhot st.hr.	Principal	11,44	2	LS + ERTMS	x							x					
9	Kolín os.n.	Havlíčkův Brod	Principal	74,11	2	LS	x												2030
10	Havlíčkův Brod	Brno Maloměřice	Principal	115,99	2	LS	x												2030
11	Děčín st.hr.	Kralupy nad Vltavou	Principal	113,8	2	LS	x												2029

New sections to be taken over from RFC OEM																			
Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
12	Kralupy nad Vltavou	Praha Libeň	Principal	28,76	2	LS	x												2025
13	Děčín Prostřední Žleb	Kolín*	Principal	159,78	2	LS	x												2030

Slovakia

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
1	Čadca št.hr.	Žilina	Principal	37	2	ETCS L2 + GSM-R	x		In operation					x		In operation			
2	Lúky pod Makytou	Púchov	Principal	21	2	NS		x	-	-	TBD	2030				-	-	-	2030
3	Púchov	Považská Teplá	Principal	15	2	ETCS L1 + GSM-R	x		In operation				x			In operation			
3	Považská Teplá	Žilina	Principal	27	2	ETCS L1 + GSM-R			In operation				x			In operation			
4	Žilina	Vrútky (Varín)	Principal	21	2	NS		x	2022	2025	-	-		x		2022	2025	-	-
5	Vrútky	Liptovský Mikuláš	Principal	62	2	NS		x	2023	2025	-	-		x			-	TBD	2030
6	Liptovský Mikuláš (Lučivná)	Poprad	Principal	58	2	NS			2023	2025	-	-		x		2021	2024		
7	Poprad	Spišská Nová Ves	Principal	26	2	NS		x	2023	2025	-	-		x		-	-	TBD	2030
8	Spišská Nová Ves	Kysak	Principal	58	2	NS		x	2023	2025	-	-		x		-	-	TBD	2030
9	Kysak	Košice	Principal	16	2	NS		x	2023	2025	-	-		x		-	-	TBD	2030
10	Košice	Čierna nad Tisou	Principal	94	2	NS		x	2023	2025	-	-		x		-	-	TBD	2030
11	Čierna nad Tisou	Chop (SK-UA border)	Feeder	8	1	NS		x	-	-	TBD	TBD		x			-	TBD	TBD
12	Barca	Košice	Feeder	5	2	NS		x	-	-	2023	2025		x		-	-	TBD	2030
13	Barca	Haniska pri Košiciach	Connecting	6	2	NS		x	-	-	TBD	2050		x		-		TBD	2050
14	Výh. Slivník	Maťovce	Diversionary	55	1	NS	PZB	x	-	-	TBD	TBD		x		-	-	TBD	TBD
15	AT-SK border	Bratislava Petržalka	Principal	2	1	NS + GSM-R	x		In operation					x		-	-	TBD	2030
16	Bratislava Peržalka	Rusovce (SK-HU border)	Principal	14	1	NS + GSM-R	x		In operation					x		-	-	TBD	2030

New sections to be taken over from RFC OEM																			
Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
1	Břeclav (CZ-SK)	Kúty	Principal	18	2	NS		x	2020	2027				x		2020	2027		
2	Kúty	Devíska Nová Ves	Principal	51	2	NS		x	2020	2027				x		2020	2027		
3	Devínska Nová Ves	Bratislava hl.st	Principal	13	2	NS		x	2020	2027				x		2020	2027		
4	Bratislava hl.st.	Rusovce	Principal	28	2	NS		x				2030		x					2030
5	Bratislava hl.st.	Nové Zámky	Principal	91		NS + GSM-R	x		-	-	-		-	-	-				2050
6	Nové Zámky	Komárno	Principal	29	2	NS		x				2050		x					2050
7	Komárno	Komárom (HU)	Principal	5		NS		x				2050		x					2050
8	Nové Zámky	Štúrovo	Principal	44	2	NS		x				2050		x					2050
9	Štúrovo	Szob (SK-HU)	Principal	14	2	NS		x				2050		x					2050

10	Kúty	Trnava	Diversionary	69	1	NS		x	-	-	-	TBD	-	-	-				TBD
11	Trnava	Galanta	Diversionary	27	1 (section Sereď-Galanta - 2)	NS		x	-	-	-	TBD	-	-	-				TBD
12	Bratislava hl.st.	Dunajská Streda	Connecting	47	1	NS		x	-	-	-	TBD	-	-	-				TBD
13	Dunajská Streda	Komárno št.hr.	Connecting	53	1	NS		x	-	-	-	TBD	-	-	-				TBD

Austria

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
1	Salzburg	Hallwang E.	Principal	7,5	2	NS	X		In operation					X				2025	2028
2	Hallwang E.	Vöcklabruck	Principal	57,5	2	ETCS/NS	X		In operation					X				2025	2028
3	Vöcklabruck	Wels	Principal	35,2	2	ETCS/NS	X		In operation					X		2021	2023		
4	Passau Germany	Wels	Principal	79,6	2	ETCS/NS	X		In operation					X				2024	2027
7	Wels	Linz	Principal	21,5	2	NS	X		In operation					X		2021	2023		
8	Linz	St. Valentin	Principal	74,5	4	NS	X		In operation					X				2026	2029
9	St. Valentin	Knoten Rohr	Principal	175	4	NS	X		In operation					X				2027	2030
10	Knoten Rohr	St. Pölten	Principal	13,3	3	ETCS/NS	X		In operation					X				2023	2026
11	St. Pölten	Wien	Principal	66,4	2	ETCS/NS	X		In operation					X			x		
12	Wien	Gramatneusiedl	Principal	22,6	2	NS	X		In operation					X				2023	2026
13	Gramatneusiedl	Parndorf	Principal	32	2	NS	X		In operation					X		2021	2024		
15	Parndorf	Kittsee to border	Principal	21	1	NS	X		In operation					X		2021	2024		
16	Parndorf	Nickelsdorf to border	Principal	17	2	NS	X		In operation					X		2021	2024		
17	Wien	Ebenfurth	diversionary				X		In operation										
18	Ebenfurth	Sopron (HU)	diversionary																

Hungary – GYSEV

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
									Under realization		Planned					Under realization		Planned	
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	Start	Finalization
1	Hegyeshalom	Rajka	Principal	13	1	ETCS L1	x				n/a	n/a	x						
2	Ebenfurth	Sopron	Principal	30	1	INDUSI/PZB		x			n/a	n/a						n/a	n/a
3	Sopron	Győr	Principal	85	1	EVM		x			n/a	n/a						n/a	n/a

Hungary – MÁV

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS				Remark
									Under realization		Planned					Under realization		Planned		
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	Start	Finalization	
1	Hegyeshalom border AT/HU	Hegyeshalom	Principal	4,7	2	ETCS L1	x	-	-	-	-	-	x	-	-	-	-	-	-	
2	Hegyeshalom	Győr	Principal	46,5	2	ETCS L1, EVM	x	-	-	-	-	-	x	-	-	-	-	-	-	
3	Győr	Komárom	Principal	37,4	2	ETCS L1, EVM	x	-	-	-	-	-	x	-	-	2021	2024	-	-	
4	Komárom	Tata	Principal	20,1	2	ETCS L1, EVM	x	-	-	-	-	-	x	-	-	2021	2024	-	-	
5	Tata	Kelenföld	Principal	68,5	2	ETCS L1, EVM	x	-	-	-	-	-	x	-	-	2021	2024	-	-	
6	Kelenföld	Ferencváros	Principal	5,7	2	ETCS L2, EVM	x	-	-	-	-	-	-	x	-	-	-	-	-	
7	Ferencváros	Kőbánya felső	Principal	4,7	2	EVM	x	-	-	-	-	-	-	x	-	-	-	-	2030	
8	Kőbánya felső	Rákos	Principal	3,3	2	EVM	x	-	-	-	-	-	-	x	-	-	-	-	2030	
9	Rákos	Újszász	Principal	76,1	2	EVM	-	x	2018	-	-	-	-	x	-	-	-	-	2040	GSM-R project is paused for an uncertain period of time
10	Újszász	Szolnok	Principal	17,3	2	EVM	-	x	2018	-	-	-	-	x	-	-	-	-	2040	GSM-R project is paused for an uncertain period of time
11	Szolnok	Szajol	Principal	10,3	2	ETCS L1/L2, EVM	x	-	-	-	-	-	-	x	-	-	-	-	-	Szolnok station: ETCS L1

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS				Remark
									Under realization		Planned					Under realization		Planned		
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	Start	Finalization	
																				Szolnok(excl.) – Szajol: ETCS L2
12	Szajol	Békéscsaba	Principal	85,3	2	ETCS L2, EVM	x	-	-	-	-	-	-	x	-	-	-	-	-	
13	Békéscsaba	Lőkösháza	Principal	29	2	EVM	x	-	-	-	-	-	-	x	-	2021	2025	-	-	
14	Lőkösháza	Lőkösháza border HU/RO	Principal	2,7	2	without	x	-	-	-	-	-	x		-	2021	2025	-	-	
15	Szajol	Püspökladány	diversionary	67	2	ETCS L2, EVM	x	-	-	-	-	-	-	x	-	-	-	-	-	
16	Püspökladány	Biharkeresztes	diversionary	50,1	1	without	-	x	2018	-	-	-	-	x	-	-	-	-	2040	GSM-R project is paused for an uncertain period of time
17	Biharkeresztes	Biharkeresztes border HU/RO	diversionary	6,7	1	without	-	x	2018	-	-	-	-	x	-	-	-	-	2040	GSM-R project is paused for an uncertain period of time
18	Ferencváros	Soroksári út	diversionary	1,8	2	EVM	x	-	-	-	-	-	-	x	-	2021	2025	-	-	
19	Soroksári út	Soroksár	diversionary	7,1	1	EVM	x	-	-	-	-	-	-	x	-	2021	2025	-	-	
20	Soroksár	Soroksár-Terminál	diversionary	3,5	1	EVM	x	-	-	-	-	-	-	x	-	2021	2025	-	-	
21	Ferencváros	Kőbánya-Kispest	diversionary	5,1	2	ETCS L2, EVM	x	-	-	-	-	-	-	x	-	-	-	-	-	
22	Kőbánya-Kispest	Monor	diversionary	26,6	2	ETCS L2, EVM	x	-	-	-	-	-	-	x	-	-	-	-	-	
23	Monor	Szolnok	diversionary	63	2	ETCS L2, EVM	x	-	-	-	-	-	-	x	-	-	-	-	-	

New sections																				
Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS				Remark
									Under realization		Planned					Under realization		Planned		
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	Start	Finalization	
24	Szob border SK/HU	Szob	Principal	0,7	2	without	-	x	2018	-	-	-	-	x	-	-	-	-	2040	GSM-R project is paused for an uncertain period of time
25	Szob	Vác	Principal	29,5	2	EVM	-	x	2018	-	-	-	-	x	-	-	-	-	2040	GSM-R project is paused for an uncertain period of time
26	Vác	Rákospalota-Újpest	Principal	25,6	2	EVM	-	x	2018	-	-	-	-	x	-	-	-	-	2040	GSM-R project is paused for an uncertain period of time

New sections																						Remark
Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS						
									Under realization		Planned					Under realization		Planned				
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Start	Finalization	Start	Finalization	L1	L2	L3	Start	Finalization	Start	Finalization			
27	Rákospalota-Újpest	Angyalföld elágazás	Principal	3,3	1	without	-	x	2018	-	-	-	-	x	-	-	-	-	2040			GSM-R project is paused for an uncertain period of time
28	Angyalföld elágazás	Rákos elágazás	Principal	6,4	2	EVM	x	-	-	-	-	-	-	x	-	-	-	-	2040			
29	Rákos elágazás	Rákos	Principal	1,4	2	EVM	x	-	-	-	-	-	-	x	-	-	-	-	2040			
30	Rákos elágazás	Kőbánya felső kiágazás	Principal	0,5	2	EVM	x	-	-	-	-	-	-	x	-	-	-	-	2040			
31	Vác	Vácrátót	diversionary	8,9	1	without	-	x	2018	-	-	-	-	x	-	-	-	-	2040			GSM-R project is paused for an uncertain period of time
32	Vácrátót	Aszód	diversionary	24,5	1	without	-	x	-	-	-	2040	-	x	-	-	-	-	2040			
33	Aszód	Hatvan A elágazás	diversionary	11,7	2	EVM, ETCS L2	x	-	2018	2024	-	-	-	x	-	2018	2024	-	-			
34	Hatvan A elágazás	Újszász	diversionary	53,3	1	EVM	-	x	-	-	-	2040	-	x	-	-	-	-	2040			

Romania

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
1	Border RO/HU	Km.614	Principle	41,185	2	NS, ETCS L2 + GSM-R	x		In operation					x		In operation			
2	Km.614	Ilteu	Principle	78,499	2	NS	x		2018	2026				x		2018	2026		
	Ilteu	Gurasada	Principle	24,531	2	NS	x		2018	2027				x		2018	2027		
	Gurasada	Simeria	Principle	38,546	2	NS	x		2014	2026				x		2014	2026		
3	Simeria	Coșlariu	Principle	91,5	2	NS	x		2014	2026				x		2014	2026		
	Coșlariu	Sighișooara	Principle	72,5	2	NS	x		2014	2026				x		2014	2026		
4	Sighișoara	Cața	Principle	45,061	2	NS	x		2022	2029				x		2022	2029		
	Cața	Apața	Principle	45,721	2	NS	x		2022	2029				x		2022	2029		
	Apața	Brașov	Principle	37,83	2	NS	x		2022	2029				x		2022	2029		
5	Brașov	Predeal	Principle	26,236	2	NS	x				2025	2030		x				2025	2030
6	Predeal	Brazi	Principle	92,171	2	NS	x				2025	2029		x				2025	2029
	Brazi	Buftea	Principle	34,565	2	NS, ETCS L2 + GSM-R	x		In operation					x		In operation			
	Buftea	Chitila	Principle	7,436	2	NS	x				2025	2029		x				2025	2029
7	Chitila	Constanța	Principle	223,195	2	NS	x				2025	2029		x				2025	2029
8	Pajura	București Nord	Principle	5,46	3	NS	x				2025	2029		x				2025	2029
9	București Nord	București Băneasa	Principle	6,608	1	NS	x				2025	2029		x				2025	2029
10	Caransebeș	Lugoj	Principle	39,38	1	NS	x		2023	2028				x		2023	2028		
	Lugoj	Timișoara EST	Principle	53,91	1	NS	x		2023	2028				x		2023	2028		
	Timișoara EST	Ronat Triaj Gr. D	Principle	13,86	1	NS	x		2023	2028				x		2023	2028		
	Ronat Triaj Gr. D	Arad	Principle	54,86	1	NS	x		2023	2028				x		2023	2028		
11	Craiova	Filiași	Principle	37,975	2	NS	x				2025	2030		x				2024	2030
	Filiași	Igiroasa	Principle	44,265	2 (up to Strehaia-24 km)	NS	x				2025	2030		x				2024	2030
	Igiroasa	Drobeta Turnu Severin	Principle	31,632	1	NS	x				2025	2030		x				2024	2030
	Drobeta Turnu Severin	Băile Herculane	Principle	41,618	1	NS	x				2025	2030		x				2024	2030
	Băile Herculane	PO Poarta	Principle	32,637	1	NS	x				2025	2030		x				2024	2030
	PO Poarta	Craiova	Principle	37,16	1	NS	x				2025	2030		x				2024	2030

Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
12	Craiova	Chitila	Principle	202,862	2	NS	x		no planned date				x	x		no planned date			no planned date
13	Ploiești	Buzău	diversionary	71,47	2	NS	x				2024	2030		x				2024	2030
14	Buzău	Făurei	diversionary	40,459	2	NS	x				no planned date	no planned date		x				no planned date	no planned date
15	Făurei	Fetești	diversionary	89,07	2	NS	x				no planned date	no planned date		x				no planned date	no planned date
16	Simeria	Livezeni	diversionary	84,306	2	NS	x				no planned date	no planned date		x				no planned date	no planned date
17	Livezeni	Târgu Jiu	diversionary	48,058	1	NS	x				no planned date	no planned date		x				no planned date	no planned date
18	Târgu Jiu	Filiasi	diversionary	70,287	1	NS	x				no planned date	no planned date		x				no planned date	no planned date
19	Coșlariu	Cluj	diversionary	106,327	2	NS	x				2026	2030		x				2026	2030
20	Cluj	Aghireș	diversionary	30,41	2	NS	x		2023	2029				x		2023	2029		
	Aghireș	Poieni	diversionary	36,53	2	NS	x		2023	2029				x		2023	2029		
	Poieni	Aleșd	diversionary	52,74	1	NS	x		2023	2029				x		2023	2029		
	Aleșd	Border RO/HU	diversionary	46,74	2	NS	x		2023	2029				x		2023	2029		

New sections to be taken over from RFC OEM																		
Line (current situation)							GSM-R		Status of GSM-R				ETCS			Status of ETCS			
No.	From	To	Type	Length of line (km)	Number of tracks	Current train control system	Yes	No	Under realization		Planned		L1	L2	L3	Under realization		Planned	
									Start	Finalization	Start	Finalization				Start	Finalization	Start	Finalization
1	Craiova	Calafat	Principal	107	1	NS	x							no planned date	no planned date				