European Commission

Baltic Adriatic

Fifth Work Plan of the European Coordinator

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List of acronyms and abbreviations

Alpine crossings	Semmering base tunnel and Koralm railway line and tunnel in Austria
AGS	Annual Growth Strategy
Art.	Article
ASFINAG	Autobahnen- und Schnellstraßen-Finanzierungs-Aktiengesellschaft/Motorway and Highway Infrastructure Manager
AT	Austria
BAC	Baltic-Adriatic Corridor
CEF	Connecting Europe Facility
CEMT	Conférence Européenne des Ministres des Transports/ European Conference of Ministries of Transport
CINEA	European Climate, Infrastructure and Environment Executive Agency
CNC	Core Network Corridor
CNG	Compressed Natural Gas
CZ	Czechia
DARS	Družba za avtoceste v Republiki Sloveniji/ Motorway Infrastructure Manager
DG MOVE	Directorate-General for Mobility and Transport
EC	European Commission
EDG	European Green Deal
EEAS	European External Action Service
EETS	European Electronic Toll Systems
EIB	European Investment Bank
ERTMS	European Rail Traffic Management System
ERTMS EDP	European Rail Traffic Management System European Deployment Plan
ETCS	European Train Control System
EU	European Union
ICT	Information Communication Technologies
IT	Italy
ITS	Intelligent Transport System
KPI	Key Performance Indicator
LNG	Liquefied Natural Gas
MFF	Multiannual Financial Framework
MoS	Motorways of the Sea
MS	Member State
PL	Poland
RFC	Rail Freight Corridor
RFC B-A	Rail Freight Corridor Baltic-Adriatic
RIS	River Information Services
RRF	Recovery and Resilience Facility
RRT	Rail-Road Terminal
SDM	Sesar Deployment Manager
SESAR	Single European Sky ATM Research
SI	Slovenia
SK	Slovakia
SSMS	Sustainable and Smart Mobility Strategy
TEN-T	Trans-European Transport Network
TENtec	European Commission's Information System to coordinate and support the Trans-European Transport Network Policy
VTMIS	Vessel Traffic Management and Information System
WP	Work Plan

1. Towards the Fifth Baltic-Adriatic Corridor Work Plan

1.1. Introduction

My first three years as the European Coordinator for the Baltic-Adriatic Corridor were marked by several events that denote this period as a transition phase for our social and work lives, for the Corridor, and more generally for the European policy on mobility and transport. This is my second Work Plan and like the first one, adopted in June 2020, it has been elaborated during the SARS-CoV-2 pandemic. Since 2020, governments and societies in Europe and worldwide have been implementing several actions to counter the transmission and the effects of this disease to our health and the economy. Experts are generally optimistic about the set of policy measures put in place to sustain recovery and, in doing so, building back better to a green and sustainable future. Yet, the performance of transport operations and logistic chains continue to be significantly affected by the persistence of the pandemic. Although we are unable to assess how the economy and society of tomorrow will be, it is becoming evident that structural changes are ongoing and, for some sectors, jobs, technologies and practices may not return to their pre-pandemic trends.

There is also a general consensus among the political and scientific communities that we are still lagging behind in tackling climate change. The policy direction in which we are headed is however clear. In 2018, the European Commission published the long-term decarbonisation strategy – *A Clean Planet for All* – setting the target to become the first climate neutral continent by 2050. In the following year, the *European Green Deal* (EGD), asserted to include the climate neutrality objective and outlined the actions to reach this goal. For transport, which accounts for a quarter of the total greenhouse gas emissions of the EU, achieving the objective of climate neutrality will require a 90% reduction of the emissions of the sector by 2050 (compared to 1990 levels). In order to achieve this ambitious target, in December 2020, the European Commission presented the *Sustainable and Smart Mobility Strategy* (SSMS), replacing the *White Paper* of 2011. According to the Strategy, the modal share of sustainable transport modes should increase significantly: short sea shipping and inland waterways transport should go up by 25% in 2030 (50% in 2050) and rail freight by 50% in 2030 (100% in 2050). The strategy identifies more than 80 legislative initiatives in 10 key areas of action, including the revision of Regulation (EU) 1315/2013 on the trans-European transport network (TEN-T).

On 14 December 2021, the European Commission adopted a legislative proposal for a revised Regulation for the development of the trans-European transport network (TEN-T). The proposal is the result of a comprehensive evaluation of the existing legal framework, extensive Member States and stakeholder consultation and an in-depth assessment of the impacts of the changes proposed. The revised TEN-T Regulation shall contribute to the objectives of the EGD and of the SSMS. The proposal is accompanied by an update of the 2013 TEN-T planning methodology, a report on the implementation of TEN-T during the years 2018 and 2019 as well as a communication on the extension of the TEN-T network to the EU neighbouring third countries.

In order to adequately address the objectives of the EGD and SSMS, the revision of the TEN-T Regulation aims at reinforcing the contribution of the TEN-T to the decarbonisation and digitalisation objectives of transport policy. In particular, the revised TEN-T Regulation makes sure that the appropriate infrastructure basis to alleviate congestion and reducing GHG emissions is provided. To that end, the revised TEN-T Regulation includes firm incentives to shift transport demand towards more sustainable forms of transport. The aim is two-fold: a) to increase the number of passengers travelling by rail through the development of a competitive and seamless high speed rail network throughout Europe; and b) to shift a substantial amount of freight onto rail, inland waterways, and short sea shipping.

The overall objective is to develop and complete a competitive and interoperable TEN-T network at highest standards, which is gradually developed in three steps: the core network by 2030, the extended core network by 2040 and the comprehensive network by 2050.

To that end, the revised TEN-T Regulation introduces a number of new or reinforced infrastructure requirements, which promote the development of infrastructure of sustainable forms of transport.

With regards to rail transport, the proposal foresees the requirement to enable the P400 loading gauge on the entire network and the extension of existing core network requirements to the entire comprehensive network (22.5 tons axle load, 740 m train length) or to the extended core network (100 km/h line speed). In addition, a minimum line speed of 160km/h is introduced for passenger lines of the core and the extended core network and the installation of ERTMS on the entire network by 2040 while decommissioning existing national class B systems is made mandatory. In terms of waterborne transport, the revised Regulation defines a "good navigation status" through minimum requirements (2.5 m navigable channel depth and 5.25 m height under bridges) that shall be complemented by specific requirements per river-basin. Short sea shipping shall be promoted in a wider perspective by integrating all components of the maritime dimension into a new concept called European Maritime Space. In the field of road transport, the focus is on improving the quality of roads as to increase road safety and to augment the number of rest areas and safe and secure parking along the TEN-T network. Finally, the proposal for a revised Regulation foresees an increase in the number of multimodal freight terminals along the TEN-T in order to promote multimodality as well as the inclusion of all EU urban nodes of at least 100.000 inhabitants into the network, thereby also ensuring that each NUTS-2 region is represented by an urban node. For the latter, the requirement to implement a Sustainable Urban Mobility Plan (SUMP) and the development of transhipment facilities (multimodal freight terminals and passenger hubs) is imposed.

In order to achieve the targets and to fulfil the objectives of the EGD and the SSMS an intermediary deadline of 2040 is proposed to be introduced for the new standards on the core network and for advancing the existing standards to the comprehensive network, notably the deployment of ERTMS.

One major new element will be the integration of the nine core network corridors with the eleven rail freight corridors in a common set of "European Transport Corridors". The alignment of these new corridors will be defined in the TEN-T Regulation and will thus repeal the existing alignment of corridors in the Regulation (EU) 1153/2021 on the Connecting Europe Facility II (CEF II). While striving for maximum stability of the existing TEN-T network, this merger brings certain changes such as the identification of an extended core network which will fully integrate into the corridors.

Similarly, the current system of European Coordinators shall be reinforced. Based on their work plans which shall be elaborated every four years, the Commission shall adopt an implementing act for each work plan, setting clear milestones to be implemented by the respective Member States. The elaboration of the work plans shall be complemented by annual status reports. Last but not least, the role of European Coordinators as observers in single entities for the implementation of cross-border projects shall be institutionalised.

The proposal is now being negotiated with the European Parliament and the Council, with a possible agreement and entry into force of the Regulation in the course of 2023.

By the time the revised TEN-T Regulation is foreseen to be in place, several additional legislative initiatives are also foreseen to become adopted in view of the SSMS. This will contribute to increasing the effectiveness of the EU policy on mobility and transport, providing for transport decarbonisation and climate change mitigation, while supporting economic growth and jobs creation.

The proposal for the new TEN-T Regulation follows the adoption in July 2021 of Regulation (EU) 1153/2021 (CEF II). The CEF II Regulation extended the alignment of the Baltic-

Adriatic Corridor to Kraków, in Poland and to Ancona, in Italy. The Regulation also lists the critical corridor rail and road cross-border sections as identified in the previous versions of the Work Plan, extending the section between Poland and Czechia from Ostrava to Brno and the section between Trieste (IT) and Divača (SI) to Venezia and Ljubljana. The missing links on the Corridor are also listed in the CEF 2 Regulation. This concerns the Alpine crossings in Austria and the Koper – Divača railway line in Slovenia.

The Baltic-Adriatic Corridor has been so far very successful in securing and absorbing the funds made available under the CEF. In total, 123 actions have been co-funded by the CEF for a total EU financial support of EUR 2.54 billion. I encourage the Corridor Member States and all the Members of the Corridor Forum to continue working together with the European Climate, Infrastructure and Environment Executive Agency (CINEA), the European Investment Bank (EIB), national institutional banks as well as private investors to identify the best funding and financing solutions for the implementation of the projects required for the completion of a green, resilient and compliant Corridor by 2030. At present, nearly 500 projects are planned or ongoing, corresponding to an overall investment volume of nearly EUR 90 billion of which only 40% has secured financing. Of these projects, 180 initiatives address the Work Plan priorities. With an overall budget of about EUR 50 billion, only half of the projects have currently secured financing.

Over the course of the past years, it has become evident that project implementation is affected by low financial and technical project maturity. Delays due to the spread and persistence of the Covid-19 pandemic add to already lengthy planning procedures adversely affecting the timely realisation of projects. This is an issue which could be even more critical for cross-border projects. To support economic recovery in this difficult times, the European Union made a significant amount of resources available for the 2021-2027 Multiannual Financial Framework. Notwithstanding the difficulties associated with the current crisis, deadlines for the completion of the Core Network are not foreseen to be extended as part of the ongoing revision of the TEN-T Regulation. Corridor projects are needed to both implement the TEN-T policy and boost economic development. Mature initiatives should thus be given priority and greater attention should be paid to the timely preparation of projects, in particular, projects with significant European added value. The recent Directive (EU) 2021/1187 on streamlining administrative measures for advancing the realisation of the TEN-T network is also of importance in that it will facilitate the implementation of relevant projects for the development and completion of the TEN-T.

This 5th Work Plan builds on the wealth of corridor analyses and consultation activities performed since 2014. Studies for the development of the Baltic-Adriatic Corridor were elaborated in 2014 and between 2015 and 2017. A third phase of studies, which is ongoing since June 2018, aims at updating the results of previous analyses. Such studies, elaborated by the corridor consultants team around tplan consulting (IT, PL) and their subcontractors Paradigma (AT), NDCON (CZ, SK) and the University of Maribor (SI), represent the technical basis of the Work Plans.

Since the adoption of the 4th Work Plan in 2020, I had the pleasure to organise a number of Coordinator Dialogues on the theme of Interoperability, Interconnectivity and Innovation, taking in important aspects of the TEN-T policy and discussing them with actors across all transport modes. In Bologna, Graz, Ljubljana, Ostrava, Szczecin and Venezia events were organised with the support of the local Corridor Regions, involving the representatives of the infrastructure managers of the rail and road links and airport, port, rail-road terminal(s) located therein, as well as representatives of the metropolitan areas and city councils. Another event was dedicated to the Association of the Polish Regions of the Baltic-Adriatic Corridor. Finally, a dialogue was organised conjointly with Prof. Kurt Bodewig – the European Coordinator for the Motorways of the Sea– and Mathieu Grosch – the European Coordinator of the Orient East Mediterranean Corridor – about Smart and Sustainable Strategies, linking Motorways of the Sea with the Orient-East Med & Baltic-Adriatic corridors in the East Mediterranean Sea, involving the Corridor Member States and ports located in the Adriatic basin.

Most of these events were not possible to carry out in person due to the Covid-19 pandemic. Nonetheless they proved extremely valuable, as they went beyond the consultations of the Corridor Forum and reached local stakeholders and hence a wider audience that became acquainted with the functioning of the Corridor. These events add up to the sixteen Corridor Forum meetings, four working group meetings of 'Ports and Rail-Road Terminals' and three working group meetings of 'Regions, urban nodes and macroregions', that were organised since 2014. On top of these meetings, several visits to projects and stakeholders have been performed, including the organisation of cross-border dialogues. In 2021, the European Year of Rail, I also had the opportunity to travel along the Baltic-Adriatic Corridor, on a special train that criss-crossed the European Union from 2 September to 7 October 2021, stopping in over 100 cities in 26 countries, to promote rail transport. On these occasions, and particularly at the Corridor Forum Meetings, the results of the Baltic-Adriatic Corridor studies and the priorities of the Work Plan were discussed and agreed with the Member States, railway and road infrastructure managers, ports, airports, rail-road terminals, regions, and the four macroregional strategies crossed by the Baltic-Adriatic Corridor. Last but not least I would like to mention the fruitful cooperation in place since 2014 with the Rail Freight Corridor Baltic-Adriatic (RFC B-A), that allows us to look at the development of the Corridor under the lenses of its actual operation.

I would like to thank all the institutions that have been involved in the activities that contributed to the development of the Baltic-Adriatic Corridor. They have made it possible to achieve remarkable progresses in the implementation of the TEN-T Regulation in the wider framework of the EU policies for mobility and transport. In this respect, I would also like to express my gratitude to my advisory team at the European Commission and to the European Investment Bank for their efforts in making the Corridor implementation happen.

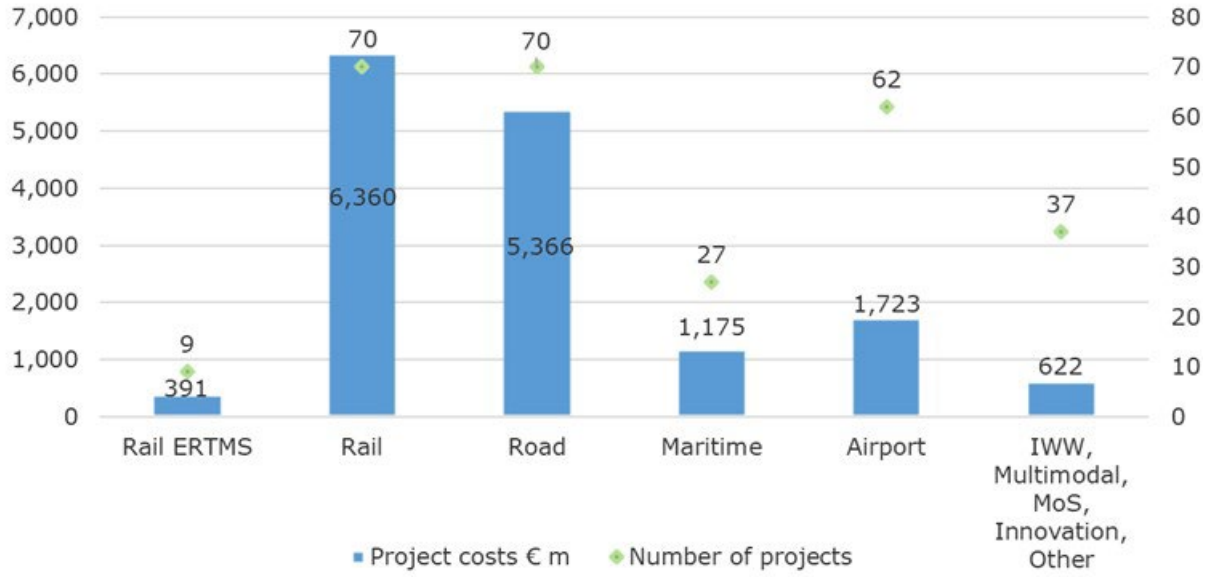
The current transitional situation requires even more effort and commitment from all of us to continue the work of implementing the Corridor, to tackle the difficulties associated with the Covid-19 pandemic and to proceed at full speed towards the implementation of policies to support the EGD. Let’s keep working together in shaping the future of the TEN-T to provide for a more sustainable, resilient and prosperous Europe.

1.2. Achievements along the Corridor

Since the entry into force of Regulation (EU) 1315/2013 in 2014, remarkable efforts have been made in the development of the Baltic-Adriatic Corridor. More than 760 projects have been identified by stakeholders, with a total of EUR 103.45 billion worth of investments. For over 660 investments, worth EUR 80.1 billion, implementing activities have already started. Out of these, 275 initiatives were completed by mid 2021, at an overall budget of EUR 15.6 billion. Figure 1 overleaf provides the main statistics for the projects finalised by mid 2021, by transport mode.

The Work Plan priorities are well addressed by the projects completed by end of June 2021. These include the preparatory works for the critical rail cross-border sections between Poland, Czechia and Slovakia, and several modernisation works of the national railway lines in these Member States. Among these projects, we find the Eastern branch of the Corridor in Poland, between Gdynia and Warszawa, railway line 447 between Warszawa Włochy and Grodzisk Mazowiecki, also in Poland, some sections and stations on the railway line Brno - Břeclav in Czechia, railway line section Nové Mesto nad Váhom – Púchov in Slovakia as well as railway line Zidani Most – Celje in Slovenia. Railway works were also completed at the core urban nodes of Łódź, Poznań, Wien and Bologna. Projects that will improve interconnectivity at core urban nodes, including airport connections by rail, were finalised in Gdańsk, Łódź, Ostrava, Wien and Bologna. Furthermore, ERTMS deployment projects were completed in Poland, Czechia, Slovakia, Austria and Slovenia.

Figure 1: Total number and costs of completed projects by category



Source: Baltic-Adriatic corridor study consortium

The list of finalised investments also includes works for the development of the road cross-border sections between Katowice and Žilina (particularly on the Slovak side) and between Brno and Wien (particularly on the Austrian side), studies for the improvement of the last mile connections of the ports in Poland; road last mile connection works at the port of Gdańsk; road and rail last mile connections to the port of Świnoujście; reconstruction of the Stary Most Bridge in Bratislava; improvement of the existing road infrastructure interconnecting to the port of Trieste; road last mile connection works and interconnection by railway to the Fusina Terminal at the Venezia port; and reconstruction of the existing track between Koper and Divača, improving accessibility by railway to the port of Koper.

Other relevant concluded projects relate to the completion of the construction of two new rail-road terminals in Žilina Teplička and Wien Inzersdorf, replacing the existing terminals in Žilina and Wien Nordwestbahnhof; recently completed modernisation of Ostrava – Paskov rail-road terminal and the upgrade of Interporto Padova; enlargement and modernisation of the existing rail-road terminal in Přerov; and expansion of container terminals at the ports of Gdańsk, Gdynia and Vienna; enlargement of the airports in Warszawa, Łódź, Katowice, Szczecin, Poznań, Wrocław, Venezia, Bologna and Ljubljana; modernisation and upgrading of the corridor road network in Poland, Czechia, Slovakia, Austria and Italy, as well as completion of ITS projects in Slovakia, Austria, and Slovenia. Finally, multi-country and cross-corridor CEF supported initiatives in the road sector were also finalised for the promotion of telematic applications (including ITS and C-ITS) and alternative clean fuels.

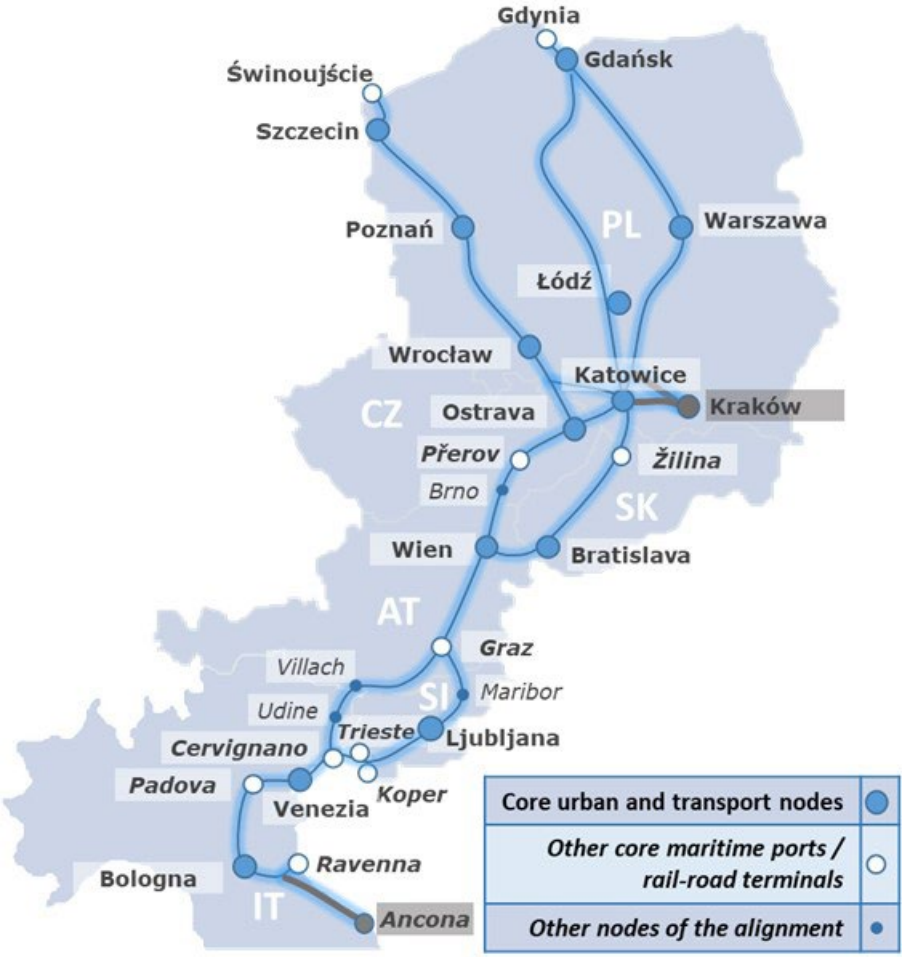
In addition to the initiatives already completed by mid 2021, other relevant projects under completion and of importance to the Work Plan priorities are worth mentioning. These include railway modernisation works on line Warszawa Zachodnia – Skierniewice (Miedniewice), and on railway line E59, between Wrocław and Poznań, and near Łódź, in Poland, as well as on railway line Poljčane – Slovenska Bistrica in Slovenia. Works have been also completed as part of ongoing projects at the cross-border section between Maribor and the state border with Austria, in Slovenia. These resulted in the achievement of the axle load standard on the entire national network and ERTMS deployment on 95% of the Slovenian network. Finally, the construction of the S3 express road between Szczecin and Legnica in Poland has been also finalised in 2021. Last but not least, the first Italian LNG bunkering terminal was inaugurated at the port of Ravenna in the Autumn of 2021.

2. Characteristics of the Baltic-Adriatic Corridor

2.1. The new alignment under CEF 2

The alignment and infrastructure of the Baltic-Adriatic Core Network Corridor are legally defined by Regulations (EU) 1315/2013 (*TEN-T Regulation*) and 1316/2013 (*CEF 1 Regulation*). Recently, Regulation (EU) 1153/2021 (*CEF 2 Regulation*) extended the Corridor to Kraków in Poland and to Ancona in Italy. Crossing six Member States (Poland, Czechia, Slovakia, Austria, Italy and Slovenia), the corridor connects the Baltic ports of Gdynia/Gdańsk and Szczecin/Świnoujście with the following ports in the Adriatic basin, namely; Sistema Portuale del Mare Adriatico Orientale – Porto di Trieste (hereinafter Port of Trieste), Sistema Portuale del Mare Adriatico Settentrionale – Porti di Venezia e Chioggia (hereinafter Port of Venezia), Sistema Portuale del Mare Adriatico Centro-Settentrionale – Porto di Ravenna (hereinafter – Port of Ravenna), Sistema Portuale del Mare Adriatico Centrale – Porto di Ancona (hereinafter – Port of Ancona), Port of Koper.

Figure 2: Alignment of the Baltic-Adriatic Corridor



Source: Baltic-Adriatic corridor study consortium; Note: Corridor extensions introduced by the CEF 2 Regulation are highlighted in grey

The Baltic-Adriatic Corridor interconnects the core urban nodes of Szczecin, Gdańsk, Poznań, Wrocław, Łódź, Warszawa, Katowice, Kraków, Ostrava, Bratislava, Wien, Venezia, Bologna and Ljubljana as well as the airports, ports and rail-road terminals located therein.

A total of 29 regions are crossed by the Baltic-Adriatic Corridor, which are also encompassed in the European Union strategies for the Baltic Sea Region (EUSBSR), the Danube Region (EUSDR), the Alpine Region (EUSALP) and Adriatic and Ionian Region (EUSAIR).

The Corridor involves 9 rail and 7 road cross-border sections as reported in Table 1 below.

Table 1: Cross-border sections of the Baltic-Adriatic Corridor

Border		Railway	Road
PL	CZ	Opole (PL) – Ostrava (CZ) – Brno (CZ)	Gliwice (Sosnica J. E040/E075) (PL) – Ostrava (CZ)
PL	CZ	Katowice (PL) – Ostrava (CZ) – Brno (CZ)	
CZ	AT	Břeclav (CZ) – Wien (Stadlau) (AT)	Brno (CZ) – Wien (Schwechat) (AT)
PL	SK	Katowice (PL) – Žilina (SK)	Katowice (PL) – Žilina (Brodno) (SK)
SK	AT	Bratislava (SK) – Wien (Inzersdorf) (AT), via Petržalka (SK) - Kittsee (AT)	Bratislava (Petržalka) (SK) – Wien (Schwechat) (AT)
SK	AT	Bratislava (SK) – Wien (Stadlau) (AT), via Devínska Nová Ves (SK) – Marchegg (AT)	
AT	IT	Villach (AT) – Udine (IT)	Villach (AT) – Udine (IT)
AT	SI	Graz (AT) – Maribor (SI)	Graz West (AT) – Maribor Pesnica (SI)
IT	SI	Venezia (IT) - Trieste (IT) - Divača (SI) – Ljubljana (SI)	Trieste (IT) - Divača (SI)

Source: Baltic-Adriatic corridor study consortium

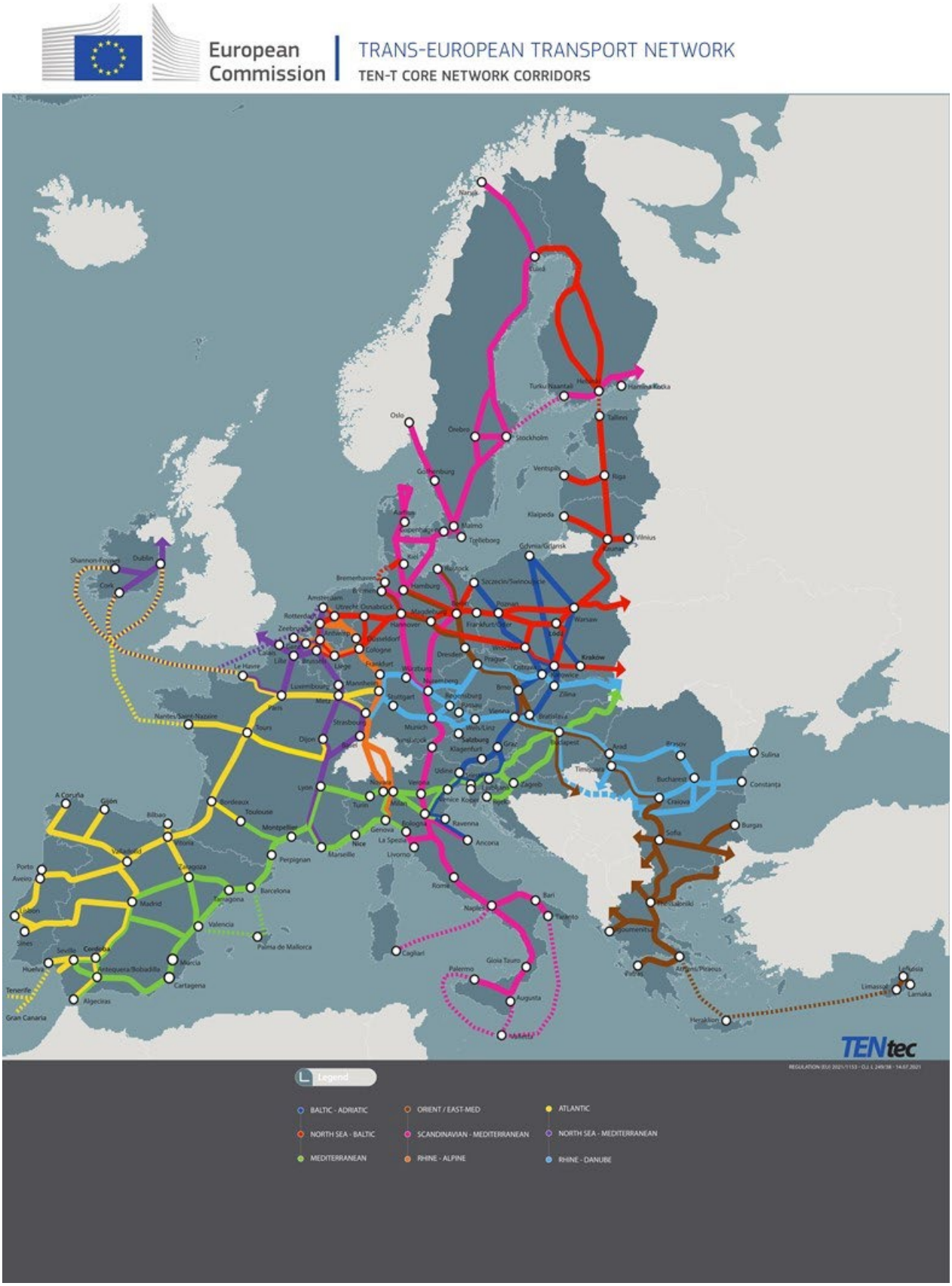
Further to the maritime ports in the Baltic and Adriatic basins, the multimodal corridor infrastructure comprises the inland waterway ports of Bratislava and Wien and a total of 26 core classified rail-road terminals. Most of them are located in Poland: three in Warszawa (Główna Towarowa, Warszawa Praga, Pruszków), two by Łódź (Łódź Olechów, Stryków), one near Katowice (Sławków), one by Kraków (Karpiel Brzesko), four around Poznań (Clip Logistics, Metrans Poznań Gądki, Poznań Franowo, Loconi Poznań), three in Wrocław (Metrans Wrocław, Brzeg Dolny, Kąty Wrocławskie). Three additional rail-road terminals are located in Czechia: two in Ostrava (Paskov, Šenov) and one by Přerov. Two more exist in Slovakia, that is, in Žilina and Bratislava. Two rail-road terminals are furthermore located in Austria by Wien (Inzersdorf) and Graz (Graz Werndorf). Four core terminals are finally located in Italy, namely, in Cervignano, Padova, Bologna and Jesi (near Ancona); and one in Slovenia by Ljubljana.

The alignment of the Baltic-Adriatic Corridor does not involve inland waterway links, but intersects with the inland waterway core network in the core ports of Bratislava and Wien as well as in the ports of Szczecin, Świnoujście, Trieste, Venezia, Ravenna, which are also classified as inland waterway logistic nodes.

Concerning the possible future Corridor alignment and infrastructure that may reflect an updated configuration of the functioning of the Corridor, it is worth mentioning other rail-road terminals in operation or under development along the Corridor, as indicated by the Forum Members as relevant for the development of multimodal and combined transport. These comprise the new rail-road terminals in Tczew, Warszawa (Loconi), Brwinów, Łódź (Łódź-Chojny, Kutno, Radomsko), Poznań (Kórnik), Přerov. Additional terminals are present in the Masovian Voivodship (Mława) as well as in the Katowice area (Sosnowiec Południowy, Dąbrowa Górnicza); and in the comprehensive nodes of Gliwice (Gliwice, Śląskie Centrum Logistyki), Bydgoszcz, Brno, Villach-Sud, Rovigo, Maribor. Fernetti, close to Trieste is also worth mentioning, together with Pordenone, the latter located on the comprehensive railway line between Udine, Treviso and Venezia, part of the Baltic-Adriatic Rail Freight Corridor. A new terminal is under construction in Ostrava Mošnov, nearby the airport, which is expected to open for traffic in July 2022. Another one is planned for construction in Sežana, which will serve as a hinterland terminal to the port of Koper.

Referring to the core logistic and transport nodes of the Baltic-Adriatic Corridor, the Italian ports of Monfalcone and Chioggia are finally worth considering, as the ports both functionally and administratively belong to the Ports of Trieste and Venezia. The airports of Modlin (PL) and Treviso (IT) are also relevant as part of the system of airports of Warszawa and Venezia. Expected to replace the existing airport in Warszawa, the Solidarity Transport Hub is finally worth mentioning. The project is currently at the planning stage.

Figure 3: Alignment of the core network corridors map including CEF2 extensions



Source: Directorate General for Mobility and Transport, European Commission

The alignment of the BA Corridor intersects directly with five other Core Network Corridors:

- The ***North Sea – Baltic Corridor*** interconnects and overlaps with the Baltic-Adriatic Corridor in Poland. The Kraków, Łódź, Warszawa, Wrocław, Poznań and Szczecin urban nodes and their airports and rail-road terminals are common to both corridors. The following sections are common to the two corridors: railway sections Warszawa – Mszczonów / Szeligi, Świnoujście – Szczecin, Wrocław – Jelcz – Opole – Katowice, Wrocław – Opole – Kędzierzyn Koźle and Idzikowice – Zawiercie – Katowice; road sections Warszawa – Stryków, Świnoujście – Szczecin, Legnica – Wrocław – Katowice – Kraków. Finally the BA Corridor intersects with the following sections of the North Sea-Baltic corridor in Poland: IWW section Widuchowa – Oder River estuary part of the Świnoujście/Szczecin – Berlin IWW cross-border link; section Kraków – UA Border in Medyka.
- The ***Rhine – Danube Corridor*** interconnects and overlaps with the Baltic-Adriatic Corridor in Czechia between Ostrava / Přerov and Žilina as well as in Austria and in Slovakia between Wien and Bratislava. The Ostrava, Bratislava and Wien urban nodes, their airports and rail-road terminals are common to the two corridors as well as the Přerov and Žilina rail-road terminals and the Bratislava and Wien Inland Ports.
- The ***Orient – East-Mediterranean Corridor*** interconnects and overlaps with the Baltic-Adriatic Corridor in Czechia: section Brno – Břeclav; and between Czechia and Austria as well as between Slovakia and Austria: overlapping railway sections Břeclav – Wien and Wien – Bratislava. The Bratislava and Wien urban nodes and their airports, inland ports and rail-road terminals are common to the two corridors.
- The ***Mediterranean Corridor*** interconnects and overlaps with the Baltic-Adriatic Corridor for most of its extension in Italy (from Trieste to Ravenna), and in Slovenia (Ljubljana – Pragersko to Koper); as well as between Italy and Slovenia: overlapping cross-border section Venezia – Trieste – Divača – Ljubljana. The Venezia, Bologna and Ljubljana urban nodes and airports, as well as the Trieste, Venezia, Ravenna and Koper ports, and the Cervignano, Padova, Bologna and Ljubljana rail-road terminals, are common to the two corridors.
- The ***Scandinavian – Mediterranean Corridor*** interconnects and overlaps with the Baltic-Adriatic Corridor in Italy, sections Bologna – Ancona. The Bologna urban node, airport and rail-road terminal as well as the Ancona port and rail-road terminal are common to the two corridors.

2.2. Infrastructure compliance with the TEN-T requirements

In order to ensure the interoperability and the proper functioning of the TEN-T, a number of infrastructure requirements for the Core Network are set out in the TEN-T Regulation to be achieved by 2030. With respect to these standards, key performance indicators (KPIs) have been defined for all nine core network corridors. The infrastructure KPI values for the Baltic-Adriatic Corridor are presented in Table 2 for all transport modes for 2020.

Table 2: Infrastructure KPIs of the Baltic-Adriatic Corridor (status at the end of 2020)

Mode	Key performance indicator	Unit	2020
Rail network	**Electrification**	%	99%
	Track gauge 1435mm	%	100%
	ERTMS implementation	%	34%
	Line speed (>=100km/h)	%	76%
	Axle load (>=22.5t)	%	96%
	Train length (740m) *	%	48%
Road network	**Express road/motorway**	%	89%
	Availability of alternative clean fuels	No.	n.a.
Airports	**Connection to rail by 2050 (Warsaw, Wien)**	%	100%
	Open accessibility to at least one terminal **	%	100%
	Availability of alternative clean fuels	%	0%

Mode	Key performance indicator	Unit	2020
Seaports	Connection to rail	%	100%
	Connection to IWW CEMT IV (5 Seaports connected to IWW)	%	100%
	Availability of alternative clean fuels	%	44%
	Open accessibility to at least one terminal **	%	100%
	Facilities for ship-generated waste	%	100%
IWW ports	Class IV waterway connection	%	100%
	Connection to rail	%	100%
	Availability of alternative clean fuels	%	0%
	Open accessibility to at least one terminal **	%	100%
RRTs	Capability for Intermodal (unitised) transhipment	%	100%
	740m train terminal accessibility *	%	38%
	Electrified train terminal accessibility	%	81%
	Open accessibility to at least one terminal **	%	81%

*Source: Baltic-Adriatic corridor study consortium; Notes: 1) KPIs data refer to December 2020; 2) The elaboration of the KPIs of the rail and road networks is based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of the corridor links of the rail network of 4,472 km, of which 3,855 km classified as freight or mixed passengers and freight railway lines; and 3,795 km of roads; 3) ERTMS figures were elaborated by the ERTMS Deployment Management Team. According to the criteria adopted in the ERTMS Deployment Plan (EDP), percentages refer to the length of the sections where ETCS is already in operation, i.e. where an authorisation of the trackside by the national safety authority has been issued; 4) *In Austria and Slovenia 740 meters long trains are possible to be operated on the corridor lines under normal railway operation conditions; 5) **Availability of one terminal open to all operators and application of transparent charges; 6) Compared to the situation at the end of 2020, works have been completed in 2021 along the itinerary of the S3 expressway between Szczecin and Legnica, in Poland, as well as at the railway cross-border section between Maribor and the state border with Austria. An LNG bunkering terminal was also finalised in the port of Ravenna in Autumn 2021. The completion of these works result in an increase of the following Corridor KPIs: railway network [ERTMS implementation (from 34.1% to 34.5%), axle load (from 96.0 to 96.4)] – road network [express road/motorway (from 89.0% to 91.0%)] – seaports [availability of alternative clean fuels (from 44.4% to 55.6%)]*

With regard to the characteristics of the rail and road infrastructure, the availability of alternative clean fuels at transport nodes and interconnectivity to rail-road terminals, compliance issues are thus still persisting. These are detailed below for each transport mode.

Rail

The Baltic-Adriatic Corridor is continuous and in operation, except from the missing links at the Alpine crossings in Austria. Currently under construction, the two links encompass 142.1 km of new railway lines (i.e. the Koralmbahn line section Wettmannstätten-Grafenstein within the wider section Graz – Klagenfurt and the Semmering Base Tunnel within the Gloggnitz – Mürzzuschlag section). Also under construction is the 48 km long second track Koper – Divaça. Aimed at adding capacity to the the existing line in operation, this section is also classified in Regulation (EU) 1153/2021 as a missing link of the Corridor. The BA Corridor in operation includes 4,472 km of 1435 mm standard gauge railway infrastructure and it is already fully at standard with reference to this parameter.

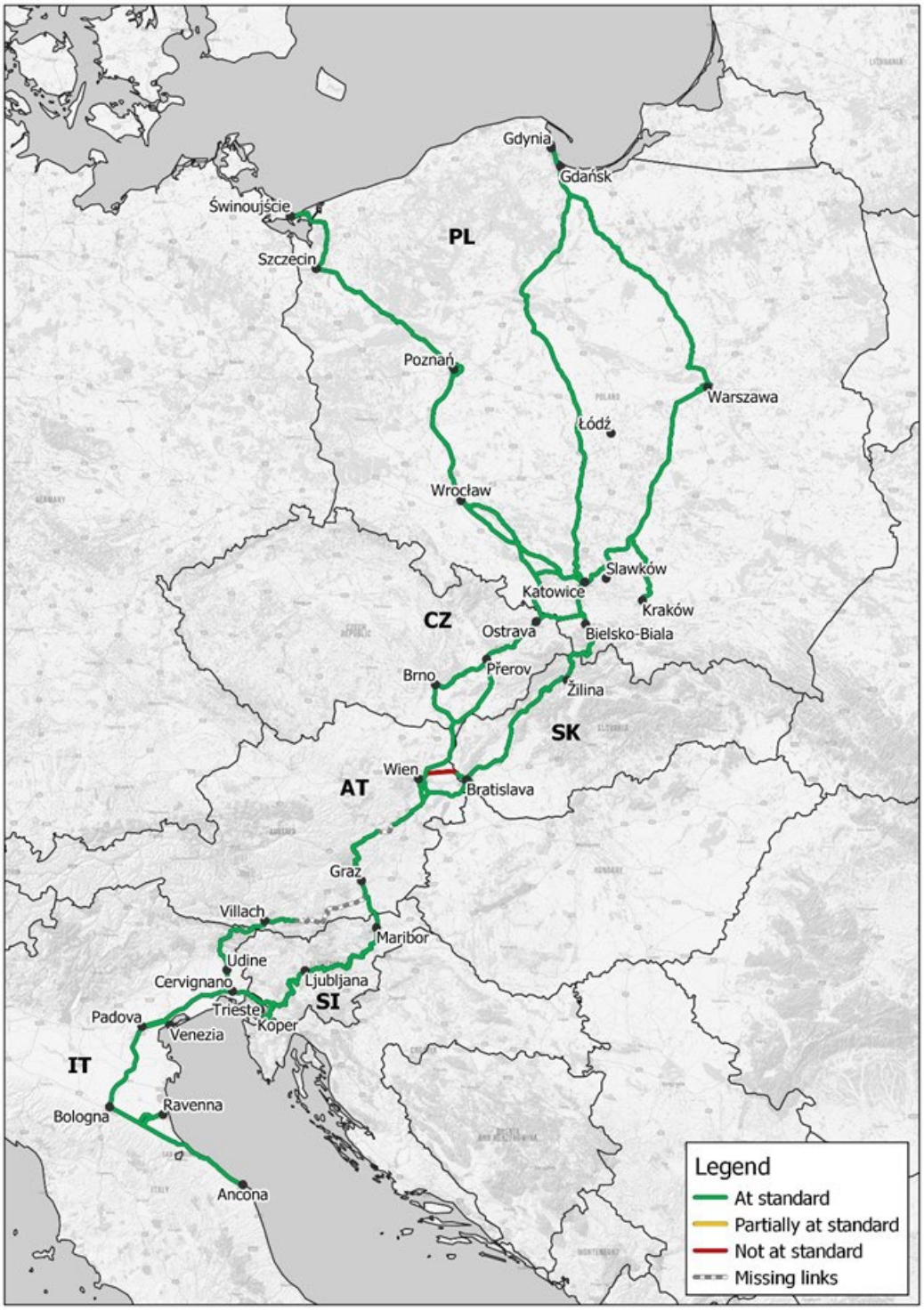
As regards *electrification* (Figure 4), with reference to passenger, freight and mixed use lines, the railway infrastructure along the corridor is also almost entirely electrified with the exception of the diesel passenger cross-border sections between Bratislava and Wien.

With respect to *axle load* (Figure 5), the corridor is mostly at standard (22.5 t). Some corridor sections (4% of the total corridor railway infrastructure) are still not at standard in Poland (several sections on the lines Czechowice-Dziedzice – Zwardoń, Chorzów – Katowice, Wrocław – Jelcz – Opole, Kiekrz – Luboń near Poznań).

In terms of the maximum permitted *length of trains* (Figure 6), there are limitations at several corridor sidings and links which affect the operation of 740 meter long trains in Poland, Czechia, Slovakia and Italy. In Austria and Slovenia, 740 meter long trains can be operated on the Corridor lines under normal railway operation conditions (*operational compliance*).

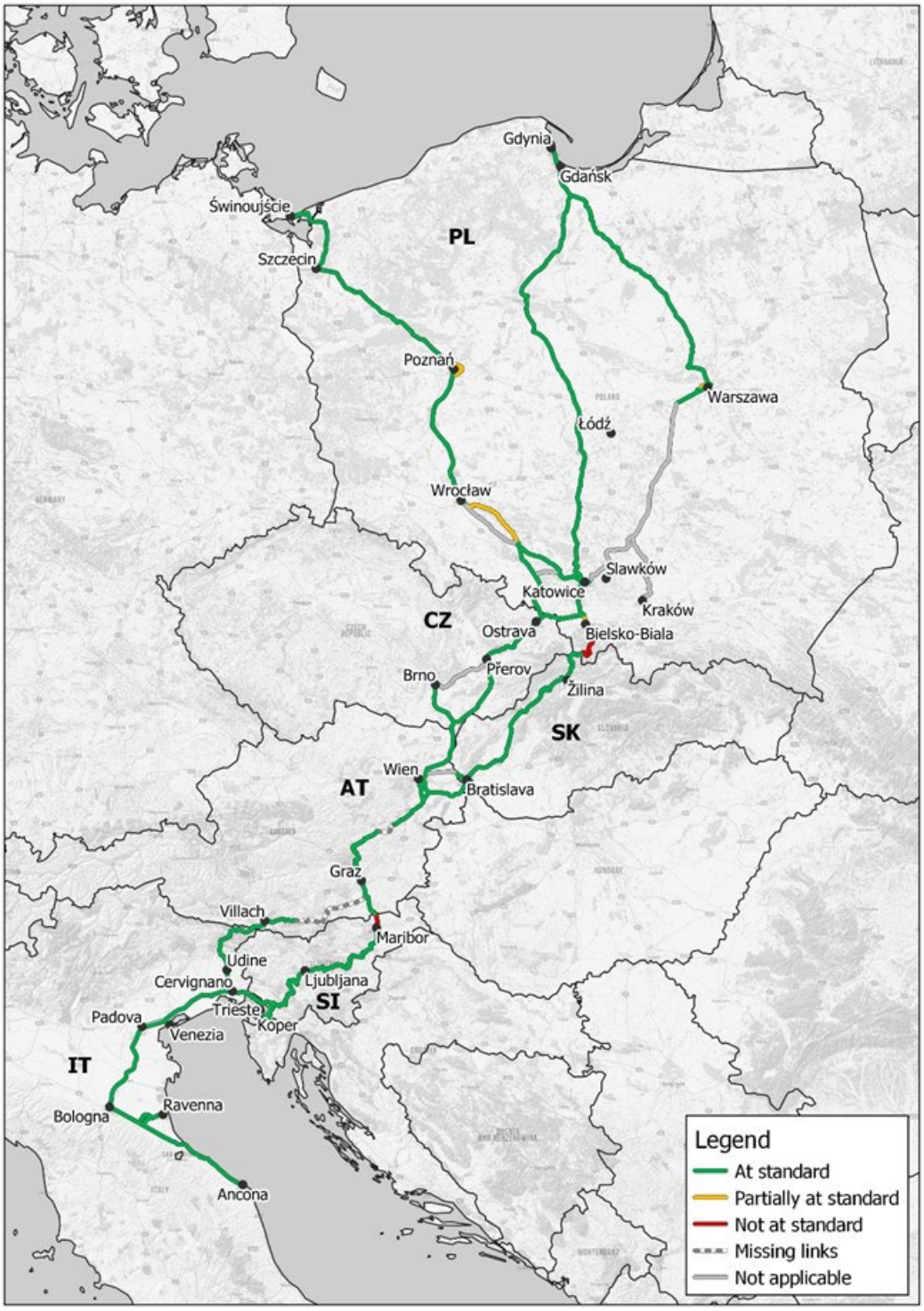
Regarding *Line speed* (Figure 7), 24% of the BA Corridor is also not at standard with bottlenecks particularly affecting the Polish and Slovenian networks, which calls for infrastructure modernisation.

Figure 4: Rail traction compliance map (status at the end of 2020)



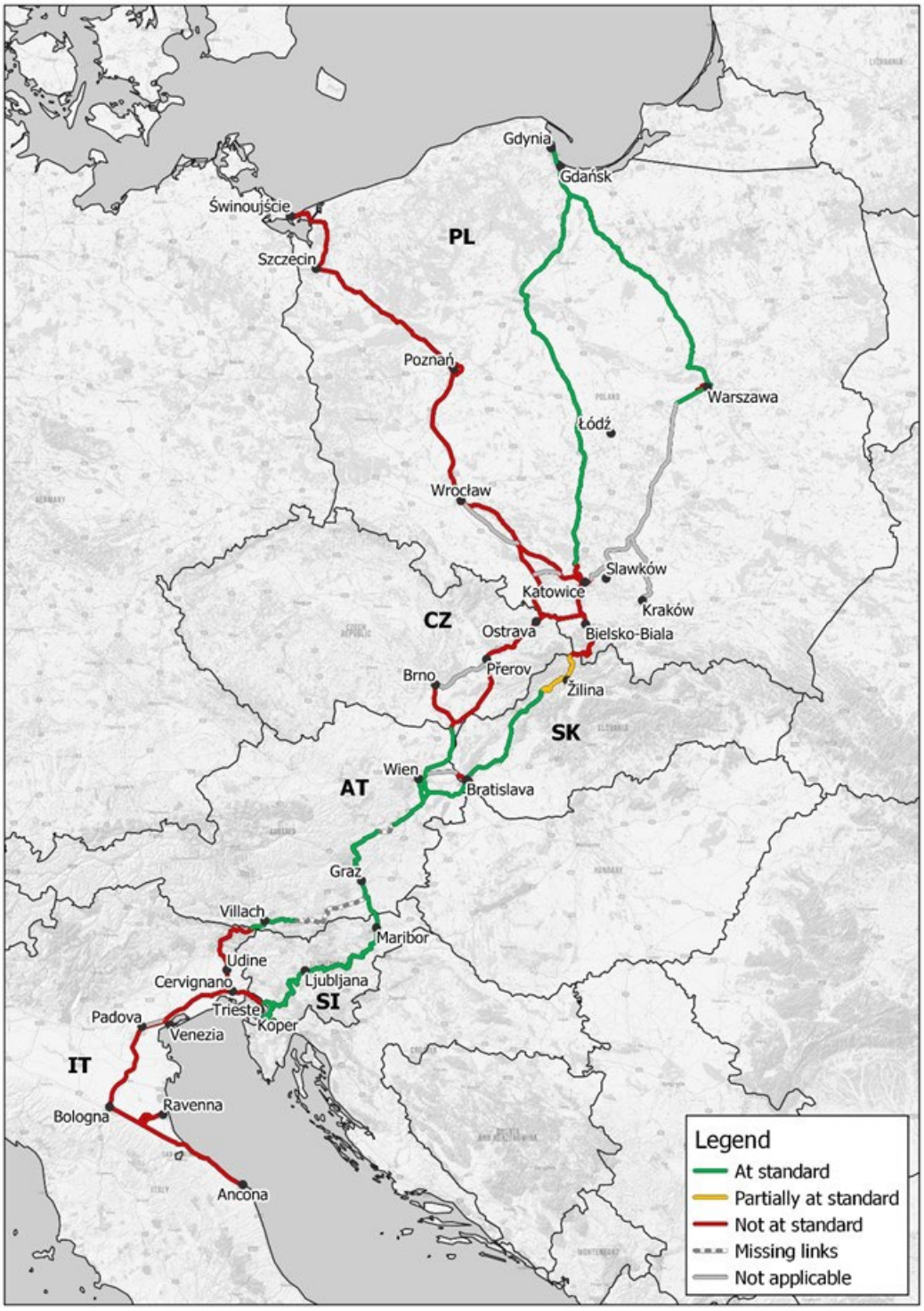
Source: BA Corridor study consortium elaboration based on TENtec data and sections; Notes: the map represents the electrification on the encoded TENtec sections excluding urban nodes; sections presenting a mix of 'at standard' and 'not at standard' subsections have been generally marked in orange. Sections entirely 'at standard' or 'not at standard' have instead been marked with green and red respectively; The analysis does not apply to the missing links, marked with dotted grey

Figure 5: Maximum axle load compliance map (status at the end of 2020)



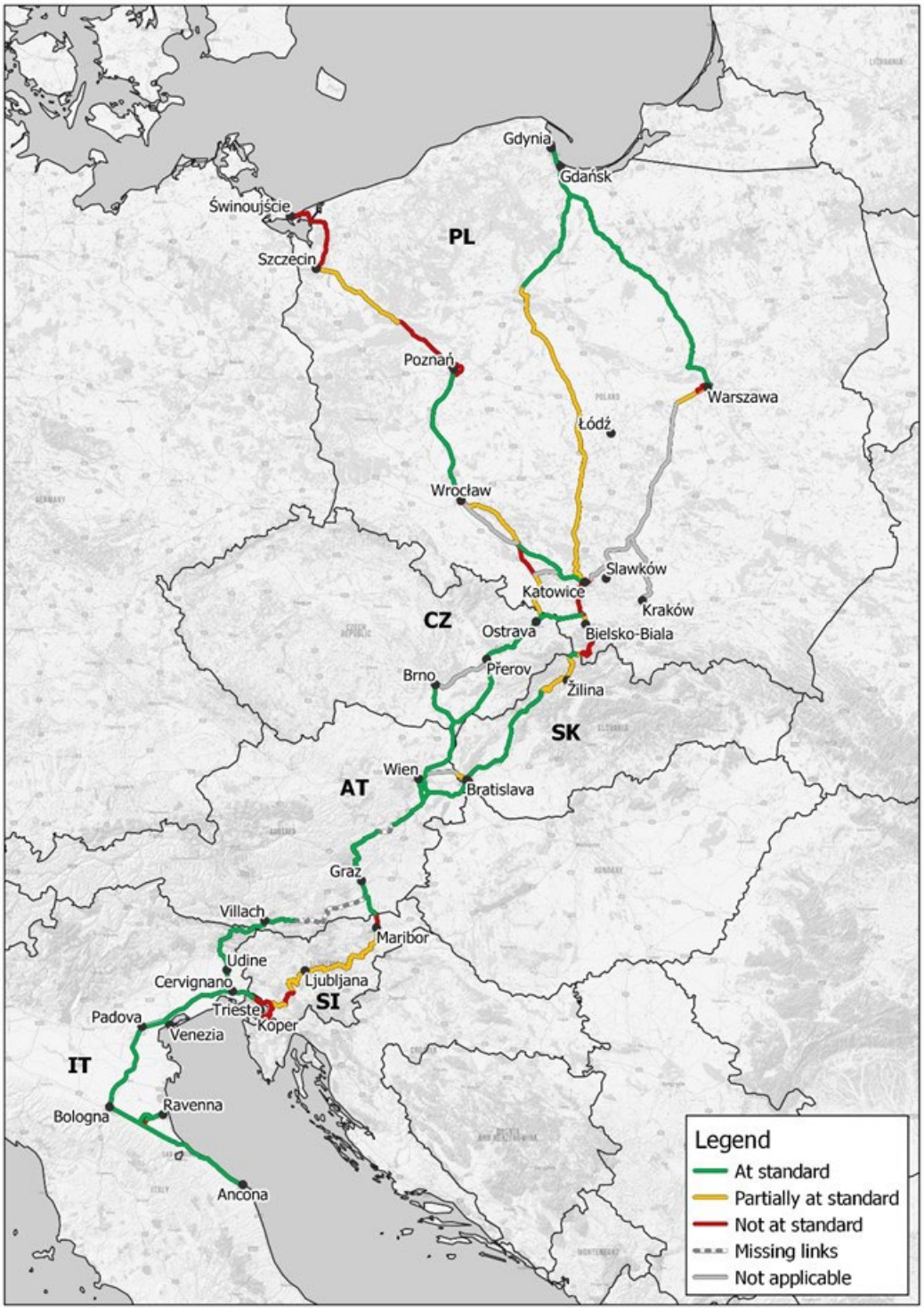
Source: BA Corridor study consortium elaboration based on TENtec data and sections; Notes: the map represents the maximum axle load on the encoded TENtec sections excluding urban nodes; sections presenting a mix of 'at standard' and 'not at standard' subsections have been generally marked in orange. Sections entirely 'at standard' or 'not at standard' have instead been marked with green and red respectively; The analysis does not apply to the missing links marked with dotted grey, and to the sections classified in the Regulation (EU) 1315/2013 as passenger lines, marked with grey; Compared to the situation at the end of 2020, represented in the map, works have been completed in 2021 at the railway cross-border section between Maribor and the state border with Austria, resulting the achievement of the axle load KPI on the entire network in Slovenia

Figure 6: Maximum train length compliance map (status at the end of 2020)



Source: BA Corridor study consortium elaboration based on TENtec data and sections; Notes: the map represents the maximum train length on the encoded TENtec sections excluding urban nodes; sections presenting a mix of 'at standard' and 'not at standard' subsections have been generally marked in orange. Sections entirely 'at standard' or 'not at standard' have instead been marked with green and red respectively; The analysis does not apply to the missing links marked with dotted grey, and to the sections classified in the Regulation (EU) 1315/2013 as passenger lines, marked with grey

Figure 7: Maximum operating speed compliance map (status at the end of 2020)



Source: BA Corridor study consortium elaboration based on TENtec data and sections; Notes: the map represents the maximum operating speed on the encoded TENtec sections excluding urban nodes; sections presenting a mix of 'at standard' and 'not at standard' subsections have been generally marked in orange. Sections entirely 'at standard' or 'not at standard' have instead been marked with green and red respectively; The analysis does not apply to the missing links marked with dotted grey, and to the sections classified in the Regulation (EU) 1315/2013 as passenger lines, marked with grey; Notwithstanding the presence of speed limitations on the sections represented as partially at standard in Slovenia, 25% of these corridor lines, between Maribor, Zidani Most, Ljubljana and Divača is already compliant concerning the speed parameter for freight transport

Further to axle load, speed and train length compliance, which are particularly relevant for freight transport, ERTMS deployment is of importance for both freight and passenger

transport. ERTMS deployment is progressing and by 2020 the ERTMS related technology was available on 34% of the Corridor sections.

The main sections of the railway infrastructure are therefore still affected by issues pertaining to legacy systems and lack of interoperability. This includes the following cross-border sections, where the achievement of compliance is considered of critical importance for the development of long distance traffic on the TEN-T Core Network:

- Opole (PL) – Ostrava (CZ) – Brno (CZ), affected by issues relating to maximum operating speed (on the Polish side), train length and ERTMS;
- Katowice (PL) – Ostrava (CZ) – Brno (CZ), affected by issues relating to maximum operating speed (on the Polish side), train length and ERTMS;
- Katowice (PL) – Žilina (SK), affected by issues relating to maximum axle load, maximum operating speed, train length and ERTMS;
- Bratislava (SK) – Wien (Stadlau) (AT), via Devínska Nová Ves (SK) – Marchegg (AT), lacking electrification and ERTMS deployment;
- Graz (AT) – Maribor (SI), affected by issues relating to maximum operating speed (on the Slovenian side), and ERTMS (partially implemented on the Slovenian side);
- Venezia (IT) - Trieste (IT) - Divača (SI) – Ljubljana (SI), affected by issues relating to maximum operating speed, particularly between Trieste and Ljubljana, as well as train length and ERTMS (on the Italian side).

Road

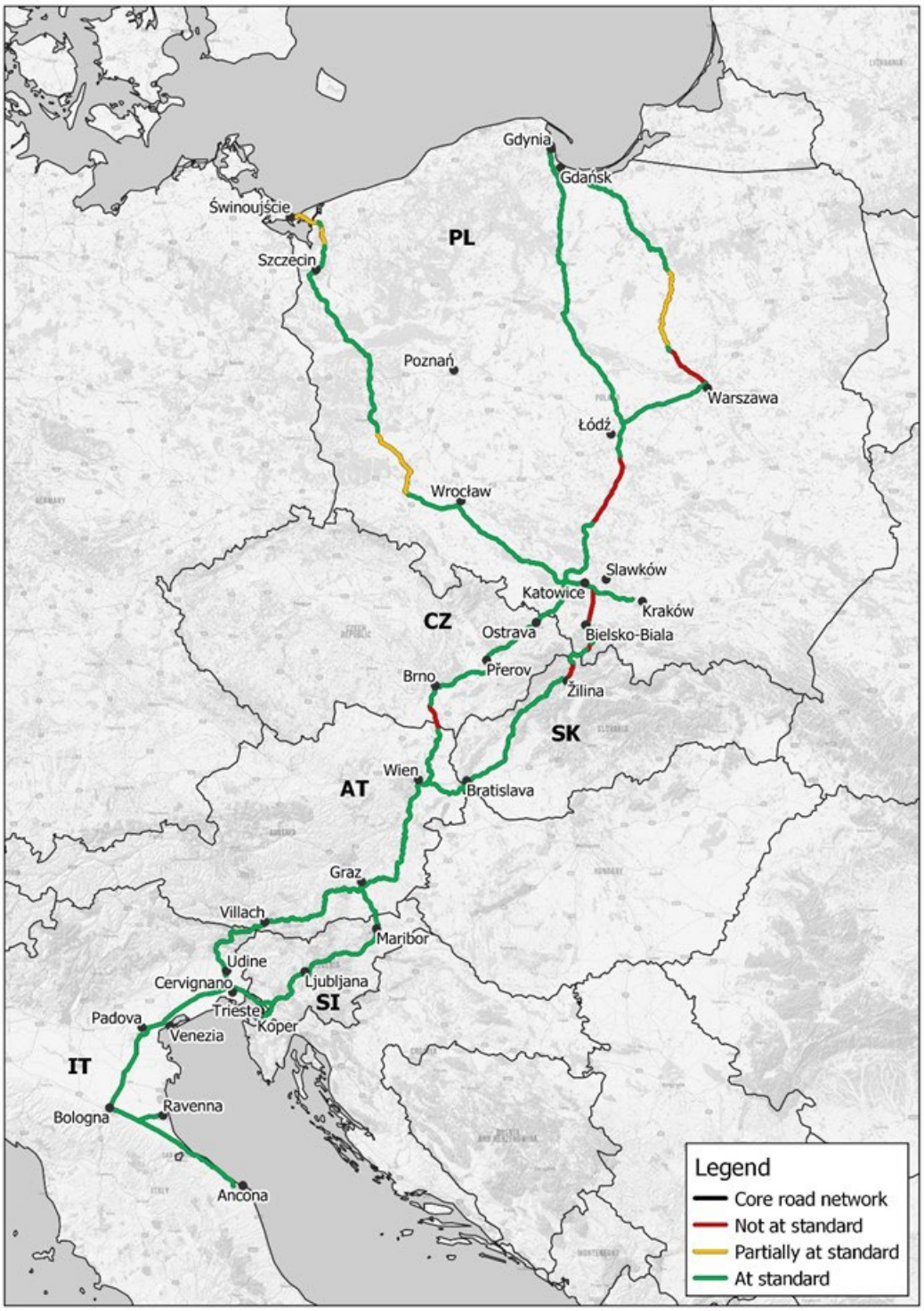
The 3,795 km road infrastructure on the Baltic-Adriatic Corridor is not entirely compliant with the requirements of the TEN-T Regulation, especially with regard to the standard of the infrastructure (expressway/motorway standard). Currently, about 10% of the road corridor infrastructure is not compliant with this TEN-T requirement, including at the following cross-border sections, where the achievement of compliance is considered critical for the development of long distance traffic on the TEN-T Core Network:

- Katowice (PL) – Žilina (Brodno) (SK), particularly sections Bielsko-Biała – Kosztowy and Milówka – Przybędza (PL) and Oščadnica – Žilina-Brodno (SK);
- Brno (CZ) – Wien (Schwechat) (AT), particularly between Pohořelice (CZ) and Poysbrunn (AT).

Intelligent Transport Systems (ITS) projects are ongoing at EU level (i.e. EU ITS platform) and at the national level with respect to many of the measures foreseen by Directive 2010/40/EU, including the definition and implementation of multiannual strategies. A Memorandum of Understanding between the motorway operators ASFINAG, Autovie Venete and DARS (also involving partners from Croatia and Hungary) has been in place since 2015, supporting the exchange of traffic related data and information across the borders. Implementation of EETS Directive 2019/529/EC replacing Directive 2004/52/EC, is also already advanced or completed in the Corridor Member States.

Infrastructure for safe and secure parking and alternative clean fuels are available on the Corridor road infrastructure, although the quantitative measurement of the status and progresses of the corresponding KPIs is pending the definition of a specific methodology. Concerning alternative clean fuels, based on the analysis of the information available from the European Observatory for Alternative Clean Fuels, it is noticed that electric charging is to some extent available along the Corridor and urban areas crossed by the Corridor, including in all core urban nodes. More specifically, charging stations and fast charging stations with a nominal power output of more than 40kW are available in all Member States. CNG and LPG are also available in all Member States. LNG is available along the Corridor in Poland, Czechia, Italy and Slovenia. Biofuels are also available in Czechia.

Figure 8 Road compliance map (status at the end of 2020)



Source: BA Corridor study consortium elaboration based on TENtec data and sections; Compared to the situation at the end of 2020, represented in the map, section Brzozowo – Miękowo between Szczecin and Świnoujście, and section Kazimierzowo –Lubin between Poznan and Wrocław, have been completed in 2021

Ports

Regarding the analysis of the compliance of the port infrastructure, all Baltic-Adriatic Corridor ports have at least one terminal open to all operators in a non-discriminatory way and charges are applied transparently. Reception facilities for ship-generated waste and cargo residues are generally available at all corridor seaports. All classified inland waterway ports fulfil the CEMT IV requirement.

All ports are connected with the road and railway links of the Corridor. However, last mile railway and/or road port connection issues are present and limit the further development of all Corridor seaports.

Alternative clean fuels start to be available at the Corridor ports. LNG pilot bunkering services have been carried out at Polish ports since 2019 and although the sector legislation still requires final adjustments in Poland it has been possible to book truck to ship LNG fuelling services at the Baltic Corridor ports since the end of 2020. The first Italian LNG bunkering terminal was inaugurated at the port of Ravenna in Autumn 2021 and an LNG bunkering vessel has been recently completed, which was developed and built as part of the Poseidon Med II project, co-financed by the CEF. It is expected to operate in the Adriatic Sea for LNG bunkering services starting from 2022. Onshore Power Supply is available at the port of Ancona and during 2022 cold ironing will be also available at the Port of Gdynia, where the construction of a new public ferry terminal was recently completed. Finally, vessel traffic monitoring and information systems (VTMIS) and e-Maritime services are available or under development at the ports, although they are not integrated and fully interoperable at the basin or Union level (RIS deployment is also available/ongoing at the corridor inland waterway Ports).

Airports

In accordance with the requirements of the TEN-T Regulation, the two core airports of Wien and Warszawa (Chopin) are already connected to the Baltic-Adriatic Corridor rail network. In addition, a rail connection exists for the Gdańsk, Kraków, Szczecin, Ostrava and Bologna airports. Alternative clean fuels are currently not available at any Corridor airport.

The interoperable traffic management system for air traffic is currently under development as part of the ongoing Single European Sky Air Traffic Management Research and Development (SESAR) project, the technological pillar of the Single European Sky. Under the political oversight of the European Commission, a SESAR Deployment Manager (SDM) has been set up to develop and submit a Deployment Programme to the Commission. The SESAR Deployment Manager coordinates and monitors the realisation of all implementation projects, with the aim of providing the Union with a high performing air traffic management infrastructure by 2030. There are currently ongoing and planned initiatives on the development of SESAR in the Member States, including on the Baltic-Adriatic Corridor.

Rail-road terminals

The 26 rail-road terminals located at the BA Corridor core nodes are all interconnected to their respective national road and rail networks. Concerning the technical compliance of the rail accessibility to terminals, 10 out of 26 rail-road terminals have 740 meters train length accessibility. 20 out of 26 terminals have electrified train accessibility. With regard to the other parameters, all terminals are equipped to handle intermodal units. 7 out of 26 terminals have a maximum length of loading/unloading tracks of minimum 740 meters. 3 nodes also have electrified rail tracks at the terminal. 21 rail-road terminals declare they have at least one freight terminal open to all operators in a non-discriminatory way and applies charges in a transparent manner, while only 5 terminals do not meet this condition or did not confirm it.

2.3. Evolution over time of the KPI's per Member State

An analysis of the evolution of the infrastructure KPI's by Corridor Member State for all transport modes is provided below. This concerns the parameters relevant for each Member State and excludes parameters for which values were not measured as part of the Corridor studies (i.e. availability of alternative clean fuels and safe and secure parking areas along the road network). This is based on a deviation analysis performed by comparing the infrastructure parameters for the years 2013 and 2020 on the core network, with the 100% target value set in the TEN-T Regulation.

Poland

The infrastructure KPI values for the Baltic-Adriatic Corridor in Poland are presented in Table 3 for the baseline year 2013 and for 2020.

Table 3: Infrastructure KPIs of the Baltic-Adriatic Corridor in Poland (status at the end of 2020)

	Key performance indicator	2013	2020	2020 vs 2013
Rail network	**Electrification**	100%	100%	(=)
	Track gauge 1435mm	100%	100%	(=)
	ERTMS implementation	0%	30%	(+)
	Line speed (>=100km/h)	50%	67%	(+)
	Axle load (>=22.5t)	80%	92%	(+)
	Train length (740m)	28%	46%	(+)
Road network	**Express road/motorway**	66%	81%	(+)
Airports	**Connection to rail by 2050 (Warsaw)**	100%	100%	(=)
	Open accessibility to at least one terminal *	100%	100%	(=)
	Availability of alternative clean fuels	0%	0%	(=)
Seaports	**Connection to rail**	100%	100%	(=)
	Connection to IWW CEMT IV (2 Seaports connected to IWW)	100%	100%	(=)
	Availability of alternative clean fuels	0%	100%	(=)
	Open accessibility to at least one terminal *	100%	100%	(=)
	Facilities for ship-generated waste	100%	100%	(=)
	Capability for Intermodal (unitised) transhipment	100%	100%	(=)
RRTs	**740m train terminal accessibility**	29%	29%	(=)
	Electrified train terminal accessibility	100%	100%	(=)
	Open accessibility to at least one terminal *	93%	93%	(=)

*Source: Baltic-Adriatic corridor study consortium; Notes: 1) KPIs data refer to December 2020; 2) The elaboration of the KPIs of the rail and road networks is based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of the corridor links of the rail network of 4,472 km, of which 3,855 km classified as freight or mixed passengers and freight railway lines; and 3,795 km of roads; 3) ERTMS figures were elaborated by the ERTMS Deployment Management Team. According to the criteria adopted in the ERTMS Deployment Plan (EDP), percentages refer to the length of the sections where ETCS is already in operation, i.e. where an authorisation of the trackside by the national safety authority has been issued; 4) *Availability of one terminal open to all operators and application of transparent charges; 6) Compared to the situation at the end of 2020, works have been completed in 2021 along the itinerary of the S3 expressway between Szczecin and Legnica, in Poland, which result in an increase of the following Corridor KPIs: road network [express road/motorway (from 81.0% to 85.0%)]*

Works for the modernisation and upgrade of the Corridor infrastructure have been completed in Poland since 2013, with significant progress made, in particular, with regard to the rail and road infrastructure. On the other hand, efforts are still required to modernise the critical rail cross-border sections connecting Poland to Czechia and Slovakia, and to resolve persisting issues concerning the infrastructure on the national railway lines. In particular, the following lines are either not at standard or partially at standard in terms of maximum operating speed for freight transport: Line E 30 Opole – Katowice (in particular sections Opole Groszowice – Kędzierzyn Koźle), Line E 59 Świnoujście – Poznań (via the by-pass section Poznań Górczyn - Poznań Starołęka - Poznań Franowo - Swarzędz/Zieliniec - Kiekrz) – Wrocław – Opole, Line C-E 65 Gdynia – Bydgoszcz – Katowice. It is still not possible to run 740 meter trains on the Western Corridor branch. ERTMS deployment has so far only concerned the Eastern branch and the Western branch between Wrocław and Opole.

Along the Corridor, stations and junctions are gradually undergoing modernisation and upgrade in Poland, while in core urban nodes speed restrictions persist in Warszawa, Gdańsk, and Kraków. Moreover, the Corridor is not at standard in Łódź, Katowice, Szczecin, Poznań, Wrocław. Concerning the axle load parameter, the network is also not at standard in Łódź and it is only partially at standard in Warszawa, Wrocław, Poznań. Operation of 740 meter trains is only possible across the Gdańsk and Szczecin urban nodes. ERTMS is not deployed at any of the core urban nodes in Poland.

Further to the need to complete the upgrade of the critical road cross-border infrastructure to Slovakia, between Katowice and the State border, the road infrastructure is either not at standard or only partially at standard along the following itineraries:

- S3 Świnoujście – Szczecin;
- S7/S8: Gdańsk – Warszawa;
- A1 Łódź – Katowice.

Concerning transport nodes, the Warszawa airport is already connected to the Corridor rail lines. All ports in Poland are also connected to the rail and road Corridor infrastructure. However, last mile connection improvements are required to increase the standards of the existing dedicated rail links in terms of electrification, axle load, speed and train length at all maritime ports. Works to increase the standards of the road links are also required at all Polish ports except in Gdańsk. Initiatives to expand capacity in view of future traffic increase are foreseen or already ongoing in Gdynia, Gdańsk and Świnoujście. In Gdynia, Szczecin and Świnoujście, solutions to mitigate the adverse impact of road transport on the respective urban areas are also needed. Facilities for ship generated waste are available at all ports and the two ports of Szczecin and Świnoujście, which are also classified as inland waterway nodes, fulfil the CEMT IV requirement. LNG truck to ship bunkering services can be booked and delivered at the Polish ports, whereas strategies to ensure availability of alternative clean fuels at airports are still to be defined. Finally, improvements would still be required at rail-road terminals for the promotion of intermodal transport along the Corridor, in particular with regard to improving 740 meter train terminal capability.

Czechia

The Czech rail network has gradually been modernized over the past decades. Train length is the only parameter of the TEN-T standards which is currently not achieved on the Corridor.

Table 4: Infrastructure KPIs of the Baltic-Adriatic Corridor in Czechia (status at the end of 2020)

	Key performance indicator	2013	2020	2020 vs 2013
Rail network	Electrification	100%	100%	(=)
	Track gauge 1435mm	100%	100%	(=)
	ERTMS implementation	0%	77%	(+)
	Line speed (>=100km/h)	99%	100%	(+)
	Axle load (>=22.5t)	99%	100%	(+)
	Train length (740m)	0%	0%	(=)
Road network	Express road/motorway	78%	85%	(+)
Airports	Open accessibility to at least one terminal *	100%	100%	(=)
	Availability of alternative clean fuels	0%	0%	(=)
RRTs	Capability for Intermodal (unitised) transhipment	100%	100%	(=)
	740m train terminal accessibility	0%	0%	(=)
	Electrified train terminal accessibility	0%	0%	(=)
	Open accessibility to at least one terminal *	33%	33%	(=)

Source: Baltic-Adriatic corridor study consortium; Notes: 1) KPIs data refer to December 2020; 2) The elaboration of the KPIs of the rail and road networks is based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of the corridor links of the rail network of 4,472 km, of which 3,855 km classified as freight or mixed passengers and freight railway lines; and 3,795 km of roads; 3) ERTMS figures were elaborated by the ERTMS Deployment Management Team. According to the criteria adopted in the ERTMS Deployment Plan

*(EDP), percentages refer to the length of the sections where ETCS is already in operation, i.e. where an authorisation of the trackside by the national safety authority has been issued; 4) *Availability of one terminal open to all operators and application of transparent charges*

Constraints on the speed standard for freight transport are currently limited to the Brno node and Ostrava core urban node. It is also important to mention that the 78.8 km long railway section Přerov – Brno, which according to Regulation (EU) 1315/2013 belongs to the core network for passenger transport and to the comprehensive network for freight transport, is not at standard with regard to axle load. In addition, the line is also partially not at standard with respect to maximum operating speed for freight transport. Since the adoption of the current TEN-T Regulation, significant progress was made in the deployment of ERTMS, which, however, is still to be fully installed along the itinerary of one of the two critical cross-border sections with Poland, between Bohumín and Chałupki, as well as on the Brno – Přerov section and in the Brno node.

The road transport infrastructure requires upgrades on the critical road cross-border section between Brno and the border with Austria, and on the 10.6 km D1 section between Přerov and Říkovice, where construction works are expected to start in 2022. The KPIs of transport nodes show that alternative clean fuels are still not available at the Ostrava airport. Limitations concerning 740 meter train capability persist as well as electrification of the access to the rail-road terminals in Czechia.

Slovakia

The railway infrastructure between Púchov – Považská Teplá – Žilina, and between Žilina – Krásno nad Kysucou and Čadca – Zwardoń has been modernised. Further to the need to complete the electrification of the network on the critical cross-border section with Austria, limitations persist with regard to the speed standard for freight transport on the itinerary of the critical cross-border section with Poland, between Žilina and the State border, as well as within the Bratislava node. Progress has been made concerning the 740 meter train length standard for freight transport and, in particular, with regard to ERTMS deployment. On both parameters, the gaps in the infrastructure primarily concern the two critical cross-border sections with Poland and Austria, Žilina node and Bratislava core urban node.

Table 5: Infrastructure KPIs of the Baltic-Adriatic Corridor in Slovakia (status at the end of 2020)

	Key performance indicator	2013	2020	2020 vs 2013
Rail network	**Electrification**	99%	99%	(=)
	Track gauge 1435mm	100%	100%	(=)
	ERTMS implementation	0%	65%	(+)
	Line speed (>=100km/h)	84%	88%	(+)
	Axle load (>=22.5t)	100%	100%	(=)
	Train length (740m)	29%	73%	(+)
Road network	**Express road/motorway**	81%	91%	(+)
Airports	**Open accessibility to at least one terminal ***	100%	100%	(=)
	Availability of alternative clean fuels	0%	0%	(=)
IWW ports	**Class IV waterway connection**	100%	100%	(=)
	Connection to rail	100%	100%	(=)
	Availability of alternative clean fuels	0%	0%	(=)
	Open accessibility to at least one terminal *	100%	100%	(=)
RRTs	**Capability for Intermodal (unitised) transhipment**	100%	100%	(=)
	740m train terminal accessibility	0%	0%	(=)
	Electrified train terminal accessibility	50%	50%	(=)
	Open accessibility to at least one terminal *	0%	0%	(=)

*Source: Baltic-Adriatic corridor study consortium; Notes: 1) KPIs data refer to December 2020; 2) The elaboration of the KPIs of the rail and road networks is based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of the corridor links of the rail network of 4,472 km, of which 3,855 km classified as freight or mixed passengers and freight railway lines; and 3,795 km of roads; 3) ERTMS figures were elaborated by the ERTMS Deployment Management Team. According to the criteria adopted in the ERTMS Deployment Plan (EDP), percentages refer to the length of the sections where ETCS is already in operation, i.e. where an authorisation of the trackside by the national safety authority has been issued; 4) *Availability of one terminal open to all operators and application of transparent charges*

On the road cross border section with Poland, there has been progress over the past years in the upgrade of the existing infrastructure. Gaps are currently limited to the sections between Žilina and Čadca.

KPI's for transport nodes show that the Bratislava inland waterway port is already connected to the rail and road Corridor infrastructure, while modernisation of the infrastructure is required within the port area to improve last mile connections. Alternative clean fuels are still not available at the Bratislava port and airport. Limitations persists in Bratislava concerning 740 meter long trains as well as electrified accessibility to the rail-road terminals.

Austria

The Corridor railway lines in Austria are complete and in operation. The Corridor is overall at standard, with the exception of the two Alpine crossings. There is also the need to complete the electrification of the critical cross-border section with Slovakia, between Wien and the State border. Speed restrictions for freight transport are present on the Wien Meidling – Wien Inzersdorf section, however, since the section is 4.5 km and located in an urban area, this is not considered to be critical for the functioning of the Corridor. Since 2013, some progress was achieved concerning the deployment of ERTMS. In Austria it is possible to run 740 meters trains on the Corridor lines under normal railway operation conditions (*operational compliance*).

Table 6: Infrastructure KPIs of the Baltic-Adriatic Corridor in Austria (status at the end of 2020)

	Key performance indicator	2013	2020	2020 vs 2013
Rail network	Electrification	92%	92%	(=)
	Track gauge 1435mm	100%	100%	(=)
	ERTMS implementation	0%	17%	(+)
	Line speed (>=100km/h)	99%	99%	(=)
	Axle load (>=22.5t)	100%	100%	(=)
	Train length (740m) *	100%	100%	(=)
Road network	Express road/motorway	94%	99%	(+)
Airports	Connection to rail by 2050 (Wien)	100%	100%	(=)
	Open accessibility to at least one terminal **	100%	100%	(=)
IWW ports	Availability of alternative clean fuels	0%	0%	(=)
	Class IV waterway connection	100%	100%	(=)
	Connection to rail	100%	100%	(=)
	Availability of alternative clean fuels	0%	0%	(=)
	Open accessibility to at least one terminal **	100%	100%	(=)
RRTs	Capability for Intermodal (unitised) transhipment	100%	100%	(=)
	740m train terminal accessibility *	100%	100%	(=)
	Electrified train terminal accessibility	100%	100%	(=)
	Open accessibility to at least one terminal **	100%	100%	(=)

*Source: Baltic-Adriatic corridor study consortium; Notes: 1) KPIs data refer to December 2020; 2) The elaboration of the KPIs of the rail and road networks is based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of the corridor links of the rail network of 4,472 km, of which 3,855 km classified as freight or mixed passengers and freight railway lines; and 3,795 km of roads; 3) ERTMS figures were elaborated by the ERTMS Deployment Management Team. According to the criteria adopted in the ERTMS Deployment Plan (EDP), percentages refer to the length of the sections where ETCS is already in operation, i.e. where an authorisation of the trackside by the national safety authority has been issued; 4) *In Austria 740 meters long trains are possible to be operated on the corridor lines under normal railway operation conditions; 5) **Availability of one terminal open to all operators and application of transparent charges*

The road critical cross-border section with Czechia is the only section where upgrades are still required to achieve the standards of the TEN-T Regulation. However, these are limited to the short 9 km section between Poysbrunn and Drasenhofen/State border with Czechia, which is currently foreseen to be completed by 2031. The transport nodes KPI's show that the Wien airport is connected to the Corridor rail lines. Alternative clean fuels are neither available at the Wien inland waterway port nor the Wien airport.

Italy

Overall, the Corridor rail network in Italy is at standard, with the exception of the cross-border section between Italy and Slovenia. The 1 km long Venezia Mestre – Portogruaro connection and the 8.9 km long Granarolo – Faenza (on the Ravenna – Faenza route) are also not at standard in terms of operating speed. Both are not considered critical for the functioning of the Corridor as the former is located in the Venezia urban area while the latter presents a speed standard of 90 km/h while being used for capacity management purposes with the existing parallel line Castel Bolognese – Ravenna. ERTMS is not deployed on any Corridor line. Finally, 740 meter train operation is not possible on the Corridor.

Table 7: Infrastructure KPIs of the Baltic-Adriatic Corridor in Italy (status at the end of 2020)

	Key performance indicator	2013	2020	2020 vs 2013
Rail network	Electrification	100%	100%	(=)
	Track gauge 1435mm	100%	100%	(=)
	ERTMS implementation	0%	0%	(=)
	Line speed (>=100km/h)	96%	96%	(=)
	Axle load (>=22.5t)	100%	100%	(=)
	Train length (740m)	0%	0%	(=)
Road network	Express road/motorway	100%	100%	(=)
Airports	Open accessibility to at least one terminal *	100%	100%	(=)
	Availability of alternative clean fuels	0%	0%	(=)
Seaports	Connection to rail	100%	100%	(=)
	Connection to IWW CEMT IV (3 Seaports connected to IWW)	100%	100%	(=)
	Availability of alternative clean fuels	0%	0%	(=)
	Open accessibility to at least one terminal *	100%	100%	(=)
	Facilities for ship-generated waste	100%	100%	(=)
RRTs	Capability for Intermodal (unitised) transhipment	100%	100%	(=)
	740m train terminal accessibility	75%	75%	(=)
	Electrified train terminal accessibility	75%	75%	(=)
	Open accessibility to at least one terminal *	100%	100%	(=)

*Source: Baltic-Adriatic corridor study consortium; Notes: 1) KPIs data refer to December 2020; 2) The elaboration of the KPIs of the rail and road networks is based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of the corridor links of the rail network of 4,472 km, of which 3,855 km classified as freight or mixed passengers and freight railway lines; and 3,795 km of roads; 3) ERTMS figures were elaborated by the ERTMS Deployment Management Team. According to the criteria adopted in the ERTMS Deployment Plan (EDP), percentages refer to the length of the sections where ETCS is already in operation, i.e. where an authorisation of the trackside by the national safety authority has been issued; 4) *Availability of one terminal open to all operators and application of transparent charges; 5) Compared to the situation at the end of 2020, an LNG bunkering terminal was finalised in the port of Ravenna in Autumn 2021. The completion of these works results in an increase of the seaports KPI on the availability of alternative clean fuels (from 0% to 25%)*

Concerning transport nodes, all ports in Italy are connected to the rail and road Corridor infrastructure. However, improvements of last mile connections are required to increase the standard of the existing dedicated rail links in all Italian Corridor ports except Venezia. Works to raise the standard of the road links are envisaged at the port of Ancona. Improvements of the rail infrastructure within the port areas are needed in all Italian Corridor ports, except in Ancona. The internal road infrastructure requires modernisation/upgrade in Venezia and Ancona. Initiatives to expand capacity in view of future traffic increase of railway transport are foreseen or already ongoing at all Italian Corridor ports, and in Venezia, Ravenna and Ancona as concerns road transport. Due to their location within or in the proximity of urban nodes, measures to reduce/mitigate the impact of rail traffic either at present or in the future are also required in Venezia and Ravenna. In the latter ports as well as in Ancona, solutions to mitigate the adverse impact of road transport on the respective urban areas are also needed.

Facilities for ship generated waste are available at all ports and the three ports of Trieste, Venezia and Ravenna, which are classified inland waterway nodes, fulfil the CEMT IV requirement. Strategies to ensure the availability of alternative clean fuels at seaports and airports are still to be defined. Finally, improvements would still be required at the Jesi rail-road terminal nearby Ancona for the provision of intermodal transport on the Corridor, in

particular, with regard to 740 meter train length capability and electrification of the access to terminals.

Slovenia

The Corridor railway lines in Slovenia are complete and in operation. The second track between Koper and Divača is also under construction, which will add capacity to the existing line. Though, the Corridor railway lines in Slovenia are either not at standard or partially at standard in terms of maximum operating speed, including at stations and main nodes, i.e. Zidani Most and Ljubljana. Modernisation works are ongoing and since 2013 significant progress has been achieved concerning axle load and ERTMS deployment. In Slovenia operation of 740 meter long trains is possible on the Corridor lines under normal railway operation conditions (*operational compliance*).

Table 8: Infrastructure KPIs of the Baltic-Adriatic Corridor in Slovenia (status at the end of 2020)

	Key performance indicator	2013	2020	2020 vs 2013
Rail network	**Electrification**	100%	100%	(=)
	Track gauge 1435mm	100%	100%	(=)
	ERTMS implementation	0%	90%	(+)
	Line speed (>=100km/h)	18%	25%	(+)
	Axle load (>=22.5t)	76%	95%	(+)
	Train length (740m) *	100%	100%	(=)
Road network	**Express road/motorway**	100%	100%	(=)
Airports	**Open accessibility to at least one terminal ****	100%	100%	(=)
	Availability of alternative clean fuels	0%	0%	(=)
Seaports	**Connection to rail**	100%	100%	(=)
	Availability of alternative clean fuels	0%	0%	(=)
	Open accessibility to at least one terminal **	100%	100%	(=)
	Facilities for ship-generated waste	100%	100%	(=)
RRTs	**Capability for Intermodal (unitised) transhipment**	100%	100%	(=)
	740m train terminal accessibility *	100%	100%	(=)
	Electrified train terminal accessibility	100%	100%	(=)
	Open accessibility to at least one terminal *	100%	100%	(=)

*Source: Baltic-Adriatic corridor study consortium; Notes: 1) KPIs data refer to December 2020; 2) The elaboration of the KPIs of the rail and road networks is based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of the corridor links of the rail network of 4,472 km, of which 3,855 km classified as freight or mixed passengers and freight railway lines; and 3,795 km of roads; 3) ERTMS figures were elaborated by the ERTMS Deployment Management Team. According to the criteria adopted in the ERTMS Deployment Plan (EDP), percentages refer to the length of the sections where ETCS is already in operation, i.e. where an authorisation of the trackside by the national safety authority has been issued; 4) *In Slovenia 740 meters long trains are possible to be operated on the corridor lines under normal railway operation conditions; 5) **Availability of one terminal open to all operators and application of transparent charges; 6) Compared to the situation at the end of 2020, works have been completed in 2021 as part of ongoing projects at the cross-border section between Maribor and the state border with Austria. These result in the achievement of the axle load standard on the entire national network and deployment of ERTMS on 95% of the network in Slovenia*

The Corridor road network is at standard, with the exception of the cross-border section between Villa Opicina and Sežana that requires works for the removal of customs and check point buildings, still present on the road.

Concerning transport nodes, the port of Koper is connected to the rail and road Corridor infrastructure. However last mile connection improvements are required to increase the standard of the existing dedicated rail links. Improvements of the road and rail infrastructure within the port areas are also required, as well as the expansion of capacity in view of future traffic increase. Measures to reduce/mitigate the adverse impact of road traffic to/from the port are also needed. Facilities for ship generated waste are available at Koper. Strategies to ensure the availability of alternative clean fuels at the port of Koper and Ljubljana airport are still to be defined. Finally, improvements are still required at the Ljubljana rail-road terminal to ensure electrified access to the terminal.

3. Inventory of what still has to be realised by 2030

A list of projects for the development of the Baltic-Adriatic Corridor by 2030 to achieve the requirements set out in the TEN-T Regulation was first elaborated in 2014. The list was subsequently updated in view of the subsequent Work Plan updates. For the present Work Plan, the project list was updated during August/September 2021.

Table 9 summarises the content of the Baltic-Adriatic Corridor project list with reference to the main categories of investments and with respect to the priorities of the Baltic-Adriatic Corridor Work Plan.

Table 9: Projects for the development of the Baltic-Adriatic Corridor

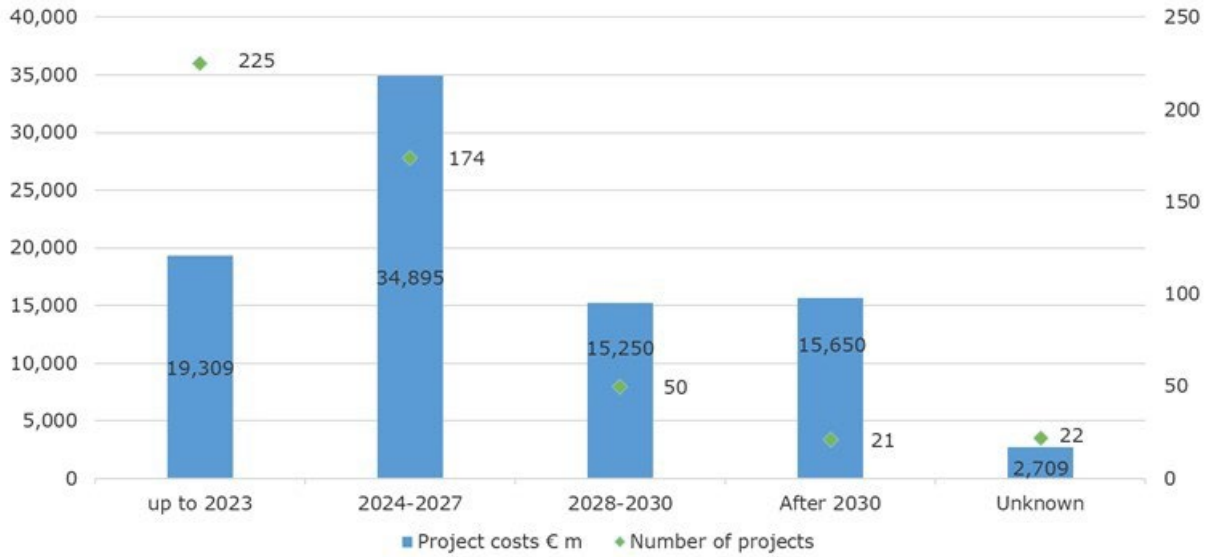
	Project category	Projects	Budget	Share on total
Development of the railway infrastructure	**Cross-border sections** (WP priority)	**30**	**10,248**	**11.7%**
	Missing links (WP priority)	**2**	**9,661**	**11.0%**
	Modernisation and upgrading of national railway lines, including junctions and nodes outside core urban areas in Cohesion Member States (WP priority)	**17**	**6,123**	**7.0%**
	Other cross-border sections	3	1,038	1.2%
	Other projects for the modernisation and upgrading of national railway lines, including junctions and nodes outside core urban areas	25	4,861	5.5%
	Technological upgrading, telematics applications and other horizontal measures (art. 31 to 37 of Reg. 1315/2013)	7	139	0.2%
	ERTMS including dedicated projects at cross border sections (WP priority)	**26**	**1,580**	**1.8%**
	Other operational or service improvements	3	195	0.2%
Development of the road infrastructure	**Cross border sections** (WP priority)	**7**	**2,321**	**2.6%**
	Other cross-border sections	2	20	0.02%
	Completion and upgrading of national roads outside core urban nodes	44	9,887	11.3%
	ITS, ETC and other horizontal measures (art. 31 to 37 of Reg. 1315/2013)	46	4,045	4.6%
Development of the port infrastructure	**Developing interconnections** (WP priority)	**35**	**3,828**	**4.4%**
	Modernization / Expansion of the infrastructure	69	11,359	12.9%
	VTMIS and Innovation and other projects	23	2,377	2.7%
	Cross-corridor projects including MoS	2	73	0.1%
Development of Inland Waterway Ports		7	56	0.1%
Development of the airport infrastructure, excluding last mile connections in core urban nodes		60	3,151	3.6%
Development of the RRT infrastructure		12	378	0.4%
Development of the urban node infrastructure (WP priority)		**66**	**16,346**	**18.6%**
Additional horizontal studies and initiatives		6	127	0.1%
Total costs and approved funds (EUR million)		**492**	**87,813**	**100.0%**
WP Priorities		**183**	**50,107**	**57.1%**

Source: Baltic-Adriatic corridor study consortium; Notes: 1) ERTMS initiatives are also included in modernisation, upgrading and construction of railway lines and nodes; 2) For the purposes of the elaboration of this summary table and in the remaining of this document values for projects included in Polish or Czech planning/strategic documents have been estimated adopting the average exchange rate for the year 2020 as provided by the European Central Bank: EUR 1 = PLN 4.4430, EUR 1 = CZK 25.65 – For the projects supported by the CEF instrument or for the projects for which values have been provided in EUR by the project promoters and Member States, the value reported by these sources has been considered as appropriate; 3) For 29 initiatives in the project list financial information including total project cost is not available

Overall, 492 projects have been identified for the development of the Corridor. These projects are either ongoing or planned for implementation, with a total budget of EUR 87.8 billion. More than 150 projects, corresponding to nearly half of the total project list value, relate to rail and ERTMS initiatives. Road transport represents the second largest category of projects in terms of budget, with more than 25% of the project list budget and 116

projects. Maritime transport follows with about 18% of the total project list value and 123 initiatives. The Work Plan priority projects concern 183 initiatives with a total of EUR 50.1 billion worth of investment, equivalent to more than 50% of the total project list.

Figure 9: Projects by completion time cluster



Source: Baltic-Adriatic corridor study consortium

Most of the projects are expected to be completed by 2023, with a total cost of EUR 19.3 billion, while 224 initiatives are foreseen to be completed between 2024 and 2030 at an overall budget of EUR 50.1 billion. 41 projects are planned to be finalised after 2030 or have undefined completion dates, with a total cost of EUR 18.4 billion.

The following sections describe the projects currently included in the Baltic-Adriatic Corridor project list.

3.1. Rail & RRT

Rail transport

The Baltic-Adriatic Corridor list comprises 118 rail infrastructure projects, with a total cost of EUR 39.4 billion. Modernisation works to reach the TEN-T standards are ongoing and planned at the cross-border sections between Poland, Czechia and Slovakia, between Slovakia and Austria, between Austria and Slovenia and between Slovenia and Italy, as well as on the national network in Poland and Slovenia. In Czechia, Slovakia, Austria and Italy, a capacity upgrade of the lines, including junctions and nodes, is needed. This also includes studies and projects for the development of high-speed lines.

Rail-road Terminals

In addition to rail infrastructure and ERTMS projects, there are 12 initiatives for the development of the Corridor rail-road terminals with a total investment of EUR 433 million. These concern the development and expansion of the infrastructure for multimodal transport at Wrocław (Kąty Wrocławskie, Brzeg Dolny), Ostrava Mošnov, Graz Süd, Padova and Ljubljana. For the Warszawa, Łódź and Cervignano rail-road terminals, there are projects on the improvement of interconnections. Also, there are ongoing and planned ICT and innovation initiatives that promote intermodality and logistic chain information flow.

Finally, a project dedicated to the development and operation of the Baltic-Adriatic Rail Freight Corridor has been recently completed. The project aimed at enhancing international

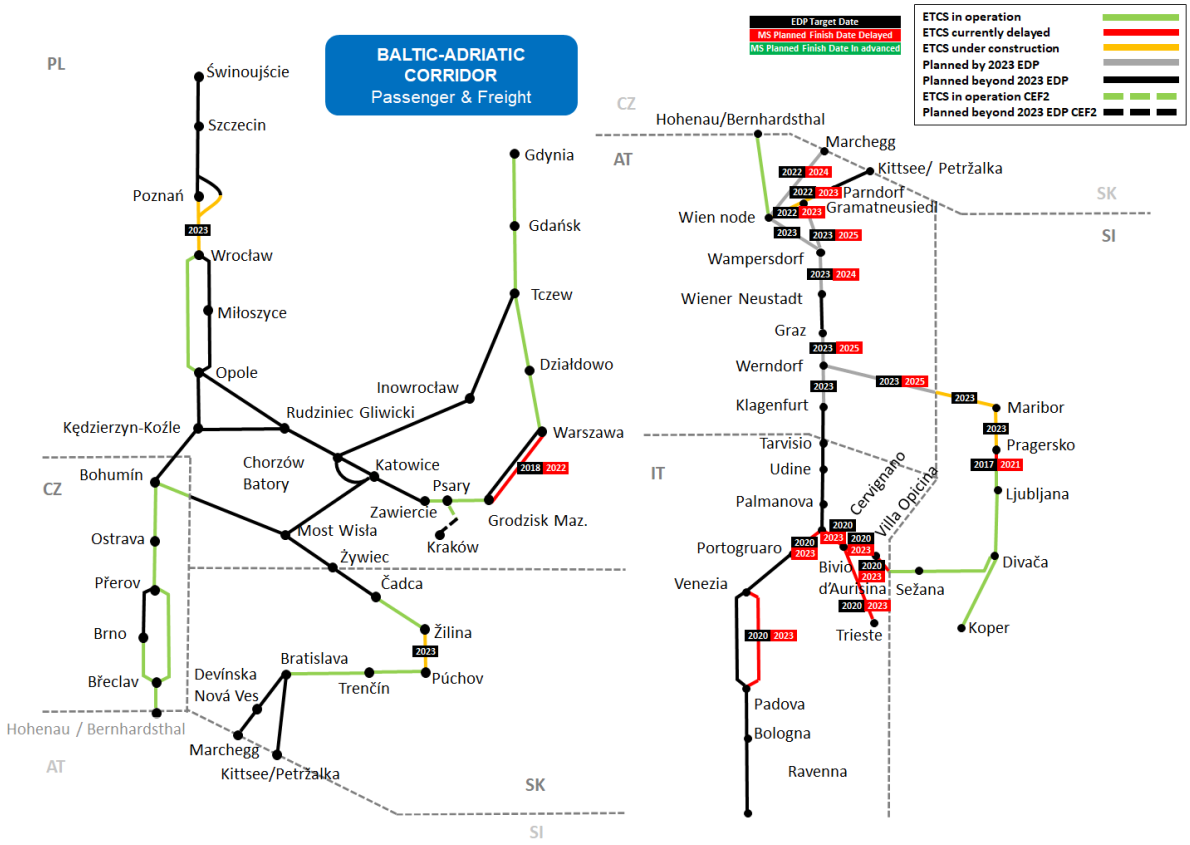
and interoperable long distance transport along the Corridor by mitigating and resolving operational, capacity and administrative bottlenecks.

3.2. ERTMS deployment 2023

33 rail initiatives are ERTMS projects with a total value of EUR 1.7 billion. Seven of the projects concern the instalment of ERTMS on rolling stock. Overall, ETCS is in operation on 34% of the Baltic-Adriatic Corridor. Nearly 600 km of Corridor lines were in operation by the time the ERTMS European Deployment Plan (ERTMS EDP) was adopted. According to the EDP, ETCS should be deployed by 2023 on more than 1000 km of additional Corridor lines. By end of 2020, about half of the BAC length planned in the EDP for 2023 is in operation with ETCS. Given the current deployment figures and considering that some Member States have already notified delays in implementation, it will not be possible to meet the ERTMS EDP deadlines on this corridor by 2023.

The following figure shows the state of play and deadlines for the ERTMS deployment on the BAC corridor, taking into account the deadlines of the EDP.

Figure 10: ERTMS deployment on the Baltic-Adriatic Corridor (status at the end of 2020)



Source: Baltic-Adriatic corridor study consortium based on ERTMS Deployment Management Team; Notes: 1) Data refer to December 2020; 2) Elaboration based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of the corridor links equal to 4,472.4 km; 3) According to the criteria adopted in the ERTMS Deployment Plan (EDP) percentages refer to the length of the sections where ETCS is already in operation, i.e. where an authorisation of the trackside by the national safety authority has been issued

In Poland, most of the lines planned in the EDP to be completed by 2023 are already in operation, and, according to the Polish authorities, all the Corridor sections will be in operation by 2030. Some projects are still to be fully defined, in particular, as concerns the cross-border sections with Czechia and Slovakia.

The Czech sections planned in the EDP to be completed by 2023 are currently in operation, including at the cross-border sections Katowice (PL) – Ostrava (CZ) – Brno (CZ) and Břeclav (CZ) – Wien (Stadlau) (AT). ETCS deployment on the remaining sections is planned to be completed by 2030. Dates for the implementation of ETCS at the Brno node in Czechia are however not defined.

In general, the ETCS deployment in Slovakia is also following the EDP deadlines. The Slovak cross-border sections with Poland and Austria are assumed to be in operation by 2030, although projects for these sections are still to be fully defined. ERTMS deployment on the Bratislava node will be completed after 2030.

ETCS is in operation in Austria. This includes the cross-border section with Czechia. However, lines planned in the EDP to be completed by 2023 are delayed until 2023-2025 according to the Austrian authorities. The remaining sections are foreseen to be equipped with ETCS by 2030, with the costs of most initiatives related to ERTMS deployment having yet to be identified.

In Slovenia, most of the lines planned in the EDP to be completed by 2023 are already in operation. The remaining sections are foreseen to be equipped with ETCS by 2023.

In Italy, lines planned in the EDP to be completed by 2020 are delayed until 2023 according to the Italian authorities. ETCS is currently under construction between Padova and Cervignano and it will be commissioned progressively on the other sections by 2030.

3.3. Road transport

116 projects for the development of road transport are ongoing or planned, with a total of EUR 22.8 billion worth of investment. At the cross-border sections between Poland and Slovakia, Czechia and Austria, Italy and Slovenia as well as on the national road network in Poland, Czechia and Slovakia, works on the modernisation of the Corridor are ongoing and planned for implementation. In Austria, Italy and Slovenia, works aimed at upgrading the existing motorway infrastructure are also under implementation and foreseen. Studies and works are ongoing or planned for the implementation of ITS solutions to improve traffic management, develop areas for safe and secure parking and increase availability of alternative clean fuels across the Corridor. Many projects involve more than one Member State and often cross several Core Network Corridors. Most of the alternative clean fuel projects concern deployment of infrastructure for electric mobility in all Member States. Projects concerning the availability and/or further development of LNG for road transport, including bioLNG, are also under implementation in Poland, Czechia, Austria, Italy, while CNG deployment is planned in Slovakia, Italy and Slovenia. Finally, hydrogen fuel projects are found in Poland and Czechia.

3.4. Airports

Airport terminals and runways expansion works as well as technological improvements comprise a total of 65 projects worth EUR 4.0 billion of total investments. The majority of the investments concern passenger transport operations. Cargo facility expansions are planned at Gdańsk, Katowice, Kraków, Bologna and Ljubljana.

Projects for the development of urban rail connections, including last mile sections, are planned for airports at Katowice, Bratislava, Venezia and Ljubljana. For Vienna Airport, studies on the interconnection of the airport to the international high-speed rail infrastructure towards Bratislava and Budapest are ongoing. Projects on the improvement of existing road connections to the airports at Venezia, Warszawa, Katowice and Łódź are also foreseen. An initiative concerning deployment of alternative clean fuels at Kraków airport is also included in the project list, together with a pilot project at Bologna airport.

3.5. Ports on the Baltic Adriatic CNC

134 projects have been identified for the development of the maritime ports infrastructure, including terminals, last mile connections, Motorways of the Sea (MoS) operations, alternative clean fuels and Vessel Traffic Monitoring & Information Systems (VTMIS) as well as e-Maritime initiatives. These projects, which concern both maritime and inland waterway ports, amount to a total investment of EUR 16.3 billion.

Initiatives aimed at developing the port infrastructure and terminals, including dredging works and activities to improve maritime accessibility as well as navigability are ongoing or planned at all ports on the Corridor. At the maritime ports on the Corridor, projects aimed at improving last mile and hinterland connections are also ongoing or planned.

Alternative clean fuel projects for maritime transport operations are included in the corridor project list for Gdynia, Świnoujście, Bratislava, Venezia, Ancona and Koper, which relate to LNG as well as hydrogen solutions. Furthermore cold ironing initiatives are also under implementation at Corridor seaports.

3.6. Persisting bottlenecks and missing links

Rail infrastructure

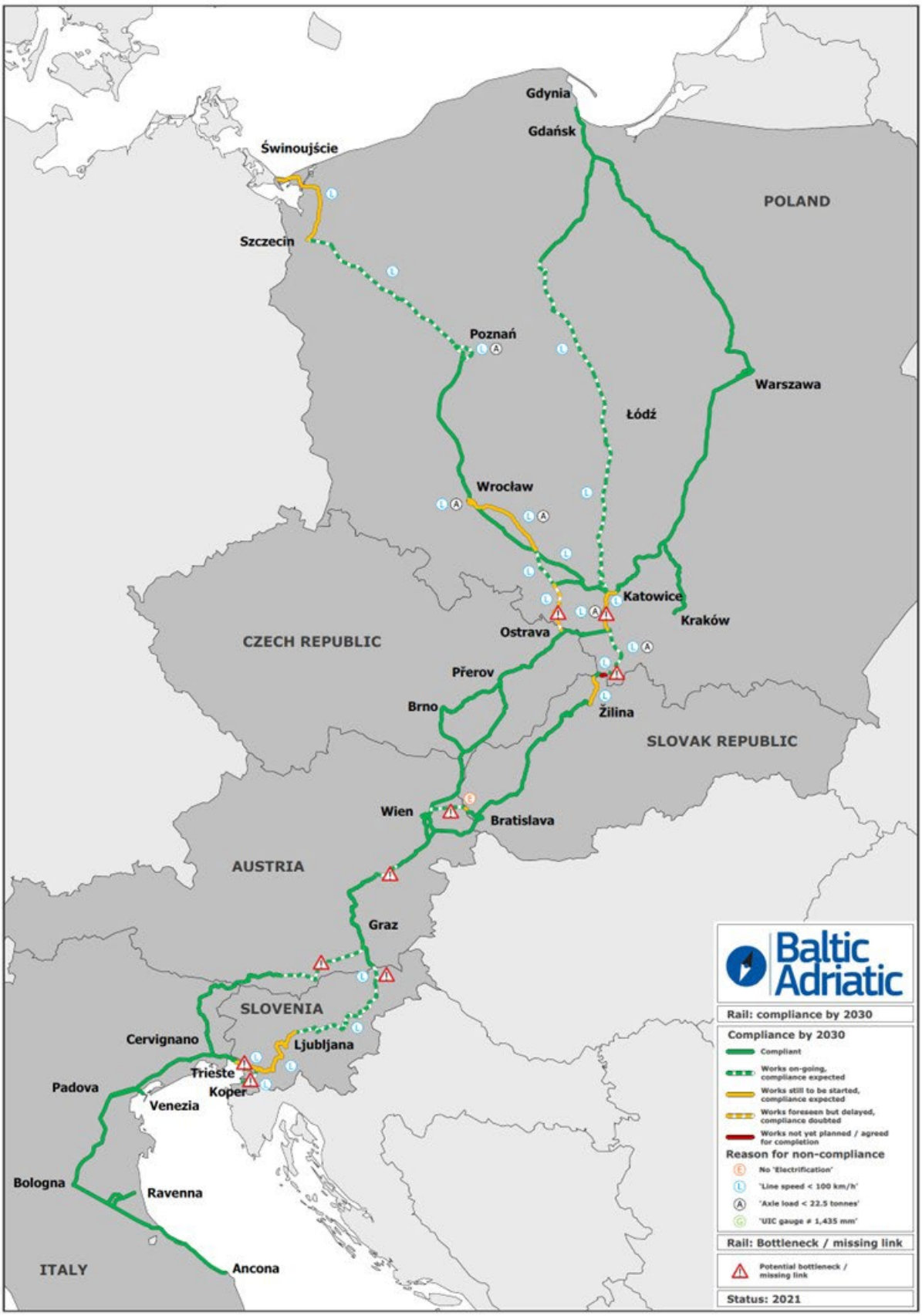
A technical compliance map for the railway infrastructure has been developed (see Figure 11 below) to represent the likely status of the Corridor by 2030, taking into account all the ongoing and planned investments. The map is based on the TENtec system encoded sections and shows the prevailing standard on these segments with reference to electrification, axle load, line speed and track gauge. The colour of the lines refers to the planned works and their impact on the corridor compliance by 2030, whereas the legend showing non-compliance and potential bottleneck/missing links reflect the problems at the time of the analysis (June 2021).

Based on current plans and foreseen projects, the rail network of the Baltic-Adriatic Corridor will be complete by 2030, including the two Alpine crossings in Austria and the second track Koper – Divača. In general, the Corridor is also expected to be at standard by 2030. This, however, is under the presumption that, for certain outstanding sections, Member States proceed to identify all necessary projects, define the scope of the projects, their costs, their time-schedule for implementation and secure financing. While this work has to be carried out with a view to reaching full compliance by 2030, the analysis of the corridor project list vis-à-vis the functioning of the Corridor rather points to the need to turn the plans and the project list into a more mature and stable pipeline of projects.

The corridor analysis also shows that for some projects required to reach the standards foreseen in the TEN-T Regulation, costs or implementation dates are not defined, or delayed until after 2030. Furthermore, based on a gap analysis developed as part of the corridor study, assessing the effectiveness of the investments included in the corridor project list in achieving the TEN-T standards by 2030, several rail investments that are not defined at present would be required.

Provided that the plans for ERTMS deployment after 2023 will be confirmed, most of the identified gaps do not appear to represent major bottlenecks as concerns network interoperability, since they are assumed to be related to i) short segments of the Corridor, in particular, in urban areas or at stations where the speed target of 100 km/h for freight transport may not be achieved; and/or ii) to the achievement of the 740 meter train length parameter for freight transport on certain sections that might also be reached by means of operational solutions associated with the gradual implementation of infrastructure investments on other links; or iii) to the improvement of the parameters within the terminals at logistic nodes. Nonetheless, uncertainty persist about the scope of several planned projects, currently under definition/preparation, and their impact on the parameters of the infrastructure by 2030.

Figure 11: Rail compliance map by 2030 overview



Source: Baltic-Adriatic corridor study consortium; Notes: 1) For some projects in the list improving but not achieving the speed standard of 100 km/h for freight transport, information on the extent of the remaining gaps has not been provided/is not yet available. Accordingly it has currently been assumed that the gaps will be

limited to short subsections that are not graphically represented; 2) Where at least a line crossing a urban node is at standard, the whole network in the same node is represented as such

According to the review of the Corridor project list and consultation with the concerned infrastructure managers and stakeholders, the development of a compliant Corridor by 2030 is challenged by financial constraints, technical difficulties and costs associated with the solutions to be adopted to meet the required standards. In turn, this also has an impact on the economic viability of the projects. This is particularly the case for the infrastructure within urban nodes, but it also affects the modernisation of main Corridor lines and cross-border sections. Requests for derogation from the speed standard in accordance with Art. 39, point 3 of the TEN-T Regulation are under consideration in Member States, in particular in Poland and Slovenia, with a view to achieving compliance. However, no information is currently available on the exact location and extent of the sections for which a possible derogation would be requested. Therefore, the compliance outlook, as depicted in the above map, could not be elaborated with certainty, adding an element of risk to the achievement of a compliant Corridor by 2030.

With reference to the TEN-T requirements represented in the previous map, specific details are provided below for the critical cross-border sections and for the national sections that could still be affected by compliance issues by 2030:

- ***Critical cross-border sections***: Modernisation works of the Katowice (PL) – Ostrava (CZ) cross-border section have recently started on the Polish side. The projects planned for the modernisation of this section are foreseen to be completed by 2027, achieving the required axle load and speed standards. Rehabilitation works aimed at improving the speed parameter have been completed between Katowice and Bielsko-Biała, on the Katowice (PL) – Žilina (SK) cross-border section and are currently ongoing on the Opole (PL) – Ostrava (CZ) cross-border section, on the Polish side. Additional initiatives aimed at further improving the speed, train length and axle load standards by 2030 have started for the section Katowice (PL) – Žilina (SK). For the section Opole (PL) – Ostrava (CZ), works foreseen to bring the speed parameter up to standard are foreseen to start in 2024. Whereas no works are required on the Czech side to achieve the parameters represented in the compliance map, the speed standard is currently not foreseen to be achieved on the Slovak side of the Katowice (PL) – Žilina (SK) cross-border section, between Zwardoń – Skalité and Krásno nad Kysucou – Čadca. In particular no projects are currently foreseen for the Zwardoń – Skalité section, whereas the section Krásno nad Kysucou – Čadca is planned to be modernised up to a speed standard for freight transport of 90 km/h. Further to the ongoing works to modernise the existing network, projects to further upgrade the cross-border connections Katowice (PL)/Opole (PL) – Ostrava (CZ) – Brno (CZ) in the Czech Republic, including upgrading to high speed standard of the Brno - Přerov (Ostrava) railway line, are also planned. In addition, a CEF study is under implementation by Centralny Port Komunikacyjny Sp. z.o.o. concerning the development of a new high speed railway line interconnecting the Katowice and Ostrava regions.

  Works on double tracking, upgrade and electrification of the Bratislava (SK) – Wien (Stadlau) (AT) cross-border section have commenced in October 2016 on the Austrian side and are expected to be completed by 2025. Works on the electrification of the cross-border section on the Slovak side are expected to be implemented in 2023.

  Works are ongoing that will modernise and upgrade the cross-border section Graz (AT) – Maribor (SI) on the Slovenian side. Works completed as part of ongoing projects already allowed for achieving the axle load standard in 2021 and the speed standard is expected to be achieved on the existing line by 2023, whereas the doubling of the section is foreseen for completion by 2030.

  Works on the cross-border section Trieste (IT) – Divača (SI) are planned on the Italian sideto deploy ERTMS and achieve the train length standard, which are expected to be finalised within 2030. The speed parameter may not be achieved on this cross-border section, due to orographic constraints (line geometry). On the other hand, the upgrade

of the cross-border section Venezia (IT) – Trieste (IT) – Divača (SI) – Ljubljana (SI) is foreseen to be implemented on the Italian side between Venezia and Trieste in the period 2021-2031. On the Slovenian side, between Divača and Ljubljana, works will be carried out between 2023 and 2024.

- ***National railway lines***: National sections are generally expected to be compliant by 2030. Axle load and speed limitations for freight transport may remain on the sections between Szczecin and Świnoujście and at the Wrocław node (sections Popowice – Mikołajów – Brochów). Feasibility studies on the definition of the initiatives to modernise the Corridor infrastructure in these sections are under development.

  Due to technical constraints (line geometry), infrastructure parameters on speed may also fall short in meeting the KPI targets on some short national sections of the Corridor in Poland, on the Central branch between Tarnowskie Góry and Chorzów Batory and on the Eastern branch near Tczew and between Nowy Dwór Mazowiecki and Modlin. Within core urban nodes, speed limitations are currently expected to persist after the completion of the planned works at Warszawa, Poznań, Wrocław, Katowice, Bratislava, Wien and possibly Ljubljana. Finally, speed limitations currently exist at short subsections of the Ostrava and Brno rail nodes in Czechia, at the Žilina node, at some short sections between Žilina and Púchov and between Krásno nad Kysucou and Čadca in Slovakia, as well as at the Venezia node and on the short section between Granarolo and Faenza in Italy. These issues are generally expected to be resolved by means of ongoing or foreseen initiatives. Furthermore they are limited to short sections while speed limitation, in particular, at urban nodes, could be subject of derogations from standard. Hence, such segments are not shown in the technical compliance map.

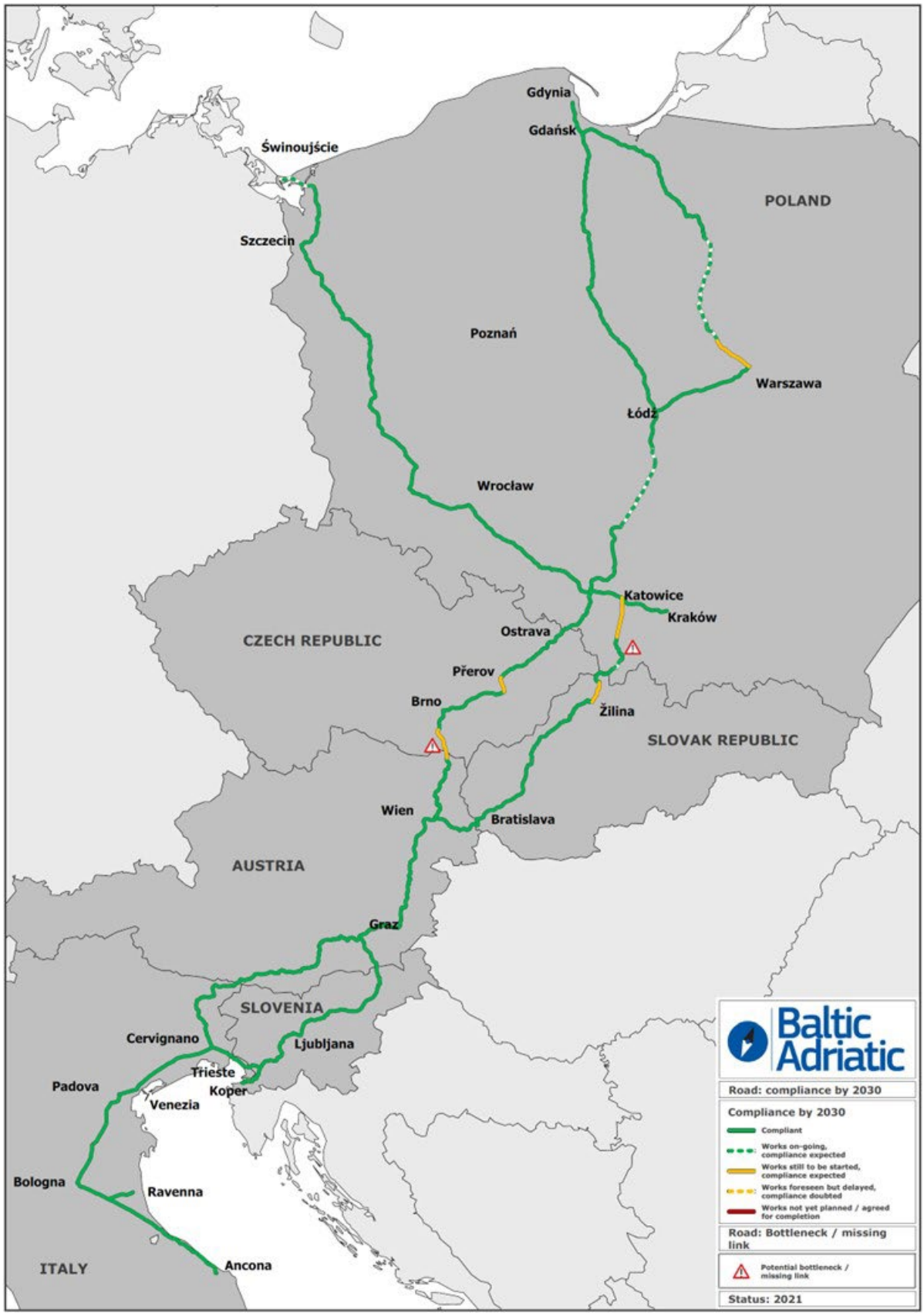
Concerning the remaining two KPIs not represented in the above map (Figure 11), i.e. ERTMS and 740 meter train length, the Polish National ERTMS Implementation Plan foresees deployment on the entire core network by 2030. However, the projects concerning the deployment of ERTMS on several sections of the Polish network, including at the Katowice (PL) – Ostrava (CZ) – Brno (CZ) and Opole (PL) – Ostrava (CZ) – Brno (CZ) cross-border sections, have not yet been defined. ERTMS initiatives are also not included in the project list on the Czech side for the Opole (PL) – Ostrava (CZ) – Brno (CZ) cross-border section. ERTMS deployment projects have also not been defined on either side of the Katowice (PL) – Žilina (SK) cross-border section. Concerning train length, the standard may not be achieved on both sides of the Opole (PL) – Ostrava (CZ) – Brno (CZ) cross-border section as well as on the Czech side of the Katowice (PL) – Ostrava (CZ) – Brno (CZ) cross-border section and on the Slovak side of the Katowice (PL) – Žilina (SK) cross border section. Train length compliance may also not be achieved between Bratislava and Wien on the Slovak section Bratislava – Petržalka. Dates for the implementation of ETCS at the Brno node in Czechia are not defined. In Austria, ERTMS is assumed to be implemented on all corridor sections, although the investments required following the project list are still to be fully defined. ERTMS is expected to be deployed on all Corridor sections in Slovenia. In Italy, ERTMS deployment and operability of 740 meter long trains will be gradually implemented and fully achieved by 2030. It is also unclear whether the 740 meter train length standard will be achieved on some national sections in Poland, i.e. between Tarnowskie Góry and Chorzów Batory along the Central branch of the Corridor, between Szczecin and Świnoujście, between Opole Groszowice – Rudziniec Gliwicki on the main itinerary Wrocław – Katowice and at the Wrocław node. On most sections between Ostrava and Břeclav in Czechia the 740 meter train length standard is expected to be achieved together with the development of the high speed line along this itinerary by 2031.

Road infrastructure

In line with the analysis performed for the railway infrastructure, a technical compliance map for the Corridor road network has been developed (see Figure 12 overleaf). This is also based on the TENtec system encoded sections and shows the prevailing standard on the corridor links with reference to the motorway/expressway standard. The legend colour

of the lines refers to the planned works and their impact on the corridor compliance by 2030.

Figure 12: Road compliance map by 2030 overview



Source: Baltic-Adriatic corridor study consortium

According to the planned investments, the Corridor road infrastructure is expected to be fully compliant with the motorway/expressway standard by 2030, including the critical cross-border sections, except from the short 9 km section between Poysbrunn and Drasenhofen/State border, in Austria, along the cross-border itinerary Brno-Wien, where works are currently foreseen to be completed by 2031.

Port infrastructure

Further improvement and upgrade of the existing logistic facilities and infrastructure, including road and rail last mile connections inside and outside port areas, are required to support interconnectivity between the ports and their hinterlands and to strengthen the competitiveness of intermodal transport in support of Motorways of the Sea.

Decarbonisation of transport

In order to reduce emissions, substantial efforts are needed to support the provision of alternative clean fuels and the charging/refueling infrastructure for zero emission vehicles. According to the analysis of the corridor KPIs, progress in the availability of alternative clean fuels shall be monitored closely, in particular at transport nodes.

Transport digitalisation

In addition to the modernisation and technological upgrade of the Corridor infrastructure, investments in digital technologies are also required to support just-in-time traffic management, real-time monitoring and information processes of transport operations, optimisation of management procedures and processes, reduction of operating costs, simplify administrative procedures, provide integrated travel planning and commercial services for both freight and passenger transport. The Internet of Things platforms, as well as on board and machine learning systems, will be critical in the way regulators, operators and users will monitor, manage and use the future transport and mobility systems.

4. The deployment plans for MoS, alternative fuels and the development of urban nodes

4.1. Deployment plan for MoS

Maritime transport plays an important role for the European economy, accounting for about 75% of external trade and approximately 31% of internal trade. Specifically, short sea shipping (SSS) makes up a majority (up to 60%) of the total maritime transport of goods to and from the main EU ports. With the large network of maritime ports on the trans-European transport network (TEN-T), the European maritime sector forms an important part of the intra-European transport system. The Motorways of the Sea (MoS) programme is a key instrument in this setting, working towards the ultimate vision of a European Maritime Space (EMS) that is Sustainable, Seamless, Smart and Resilient.

In the Detailed Implementation Plan (DIP) for MoS, the aim is to provide a sound analysis of priority investment needed to achieve the EMS. The Plan is centred around four thematic pillars:

1. Sustainable: Emphasising on the reduction of GHG emissions and the pollution of air, noise and water;
2. Seamless: enhancing the connectivity with the rest of the TEN-T (the CNCs in particular), other transport modes, peripheral and outermost regions, islands and European neighbourhood countries;
3. Smart: aligning maritime transport with the European digital agenda;
4. Resilient: ensuring the EMS is capable of facing exogenous shocks.

Maritime ports and their hinterland connections play a key role in achieving these goals. The port infrastructure and the hinterland connections must facilitate the transfer to a European economy no longer based on fossil fuels. They must provide appropriate handling and alternative fuels terminals, storage and hinterland infrastructure. Given that the future demand of new fuels is not yet known, investment plans need to be flexible in order to be able to respond quickly to a developing demand and supply.

Due to a relatively high energy efficiency, maritime transport can also play an important role in the reduction of the climate impact of transport. Especially on long coastal routes, maritime transport should be considered as a serious alternative to road transport. Such coastal services with a reduced carbon footprint should be developed in cooperation with shippers and forwarders.

Ports and port communities are also natural digital hubs, exchanging data with seaborne and land-based transport from all parties involved in the transport chain. Simplified procedures, harmonised data flows and a common approach to deploy interoperable ICT systems will further facilitate the use of maritime transport.

Finally, the resilience of maritime transport chains requires the cooperation of ship operators, ports and forwarders. Exogenous shocks such as extreme weather events may lead to a temporary breakdown of ports or parts of the hinterland transport chain. To address such possible shocks, alternative shipping routes should be identified for relevant transport flows. Such alternative shipping routes may involve stakeholders along the TEN-T Core Network Corridors with core and comprehensive network ports.

4.2. Plans for the deployment of alternative fuels infrastructure

The European climate law requires the EU to reduce the net greenhouse gas emission by at least 55% in 2030. Such emission reduction will require a significant contribution from transport. There is now considerable momentum in the market uptake of zero- and low-emission vehicles in the EU. However, in order to facilitate transition to a mass market and develop a truly common EU transport market, with seamless connectivity and satisfactory user experience along the European transport network, low- and zero-emission vessels and aircraft are needed. The TEN-T network has to provide the infrastructure backbone of this endeavour.

The Commission report on the application of Directive 2014/94/EU of the European Parliament and of the Council on the deployment of alternative fuels infrastructure provides a comprehensive assessment of the state of play of the alternative fuels infrastructure rollout in the EU. It shows that market maturity varies considerably, depending on the mode of transport. Although some Member States have raised their level of ambition, the EU still lacks a comprehensive and complete network coverage of easy-to-use alternative fuels infrastructure for all modes of transport. The European Court of Auditors has also stressed the significant differences between Member States in the deployment of electric charging infrastructure.

The Commission has proposed a new Regulation on the deployment of alternative fuels infrastructure, repealing Directive 2014/94/EU. Part of the Fit for 55 Package of 14 July 2021, the proposal seeks to provide for a dense, widespread network of publicly accessible alternative fuels infrastructure in the EU.

The proposal for a new Regulation sets forth binding requirements for the rollout of an infrastructure with a sufficient amount of minimum recharging and refuelling capacity to ensure full cross-border connectivity of light and heavy-duty vehicles throughout the EU. Distance-based targets for fast-recharging infrastructure along the TEN-T network complement national fleet-based targets for the recharging of light-duty electric vehicles. A combined approach of distance-based targets along the TEN-T network with targets for overnight recharging infrastructure for trucks in safe and secure parking places and targets at urban nodes should further support the electrification of heavy-duty vehicles.

Distance-based targets for deployment of hydrogen refuelling stations, including for each urban node, will also ensure the necessary minimum refuelling infrastructure for light- and heavy-duty fuel cell hydrogen vehicles.

Following the provisions of the proposal for a regulation on alternative fuels infrastructure, shore-side electricity supply should be provided in maritime and inland waterway ports. In addition, an appropriate number of refuelling points for LNG should be put in place at maritime ports and on road links of the TEN-T core and comprehensive network. Finally, aircraft at airports and commercial transport operation should be able to make use of external electricity supply while parked at gates or at outfield positions at TEN-T airports.

For each transport mode, the proposal for the revision of the TEN-T Guidelines provides cross-references to the Regulation on the deployment of alternative fuels infrastructure and additionally addresses aspects of private recharging and refuelling infrastructure in certain cases such as freight terminals. Private recharging infrastructure is also likely to be addressed in the upcoming proposal for the revision of the Energy Efficiency of Buildings Directive.

4.3. Development of Urban Nodes by 2030

Urban nodes represent most of the points of origin and destination of transport flows on the Corridors. The effectiveness of the Corridors is therefore impacted by the effectiveness of the first and last miles of the journeys in those urban nodes. It is therefore important to ensure sufficient multimodal connections. Urban nodes can also contain bottlenecks and missing links on the Corridors, and is often impacted by pollution, noise and lack of safety.

In view of this, urban nodes have received special attention in the Work Plan of the Baltic-Adriatic Corridor since the first edition in 2015. Working groups dedicated to regions, macroregional strategies and urban nodes were also organised in the past and in order to maximise the involvement of local stakeholders from regions, cities and metropolitan areas. Coordinator Dialogues have been organised in core urban nodes since 2020.

Realising the increasing importance of the urban nodes for the proper function of the network and the realisation of the aims of the EDG, the Commission proposal for the new TEN-T Regulation more clearly defines the role of the urban nodes on the network and their constituting elements and sets out additional requirements. The additional requirements include the development of Sustainable Urban Mobility Plans (SUMPs), the use of sustainable urban mobility indicators and the development of multimodal passenger hubs and freight terminals. In addition, the proposal extends the list of recognised urban nodes from the previously limited list of 88 "network defining urban nodes" to all cities of at least 100.000 inhabitants and, for NUTS2 regions without such a large city, the capital of those regions. Depending on the final version that will be adopted by Council and Parliament, the number of urban nodes per Corridor would thus be set for a significant increase.

In line with the analysis performed on the 14 core urban nodes in the previous versions of the Work Plan, it is noted that 66 projects with a total value of EUR 16.3 billion are included in the project list. The projects aim at the integration of the core nodes of the Baltic-Adriatic Corridor into the TEN-T network and concern actions that will improve the capacity of rail corridor sections at the core urban nodes of Warszawa, Łódź, Szczecin, Poznań, Ostrava, Bratislava, Wien, Venice, Bologna and Ljubljana.

In addition, projects aimed at increasing capacity, improving safety and reducing congestion on the corridor road infrastructure are foreseen. These investments are located in Gdańsk, Warszawa, Szczecin, Bratislava, Wien, Bologna and Ljubljana.

Finally, there are initiatives aimed at improving the multimodal infrastructure in support of the modal shift from road to rail. Located in Gdańsk, Warszawa, Szczecin, Łódź, Kraków, Ostrava, Bratislava, Bologna, the projects concern the development of urban transit and interchange facilities as well as ITS and ICT solutions for both passenger and freight transport.

5. Funding and Financing

5.1. Update of the Corridor funding needs

Focussing on the Work Plan priorities, Table 10 below provides a summary of the total costs and approved funds of the investments included in the Corridor project list. While more than 41% of the budget expenditure consists in already approved funds, an additional EUR 25.4 billion would be needed to implement relevant projects. Looking at the complete Corridor project list, the gap increases to EUR 51.3 billion.

Table 10: Projects for the development of the Baltic-Adriatic Corridor – Work Plan priorities

Work plan priorities	Number of projects	Budget in EUR m	Approved funds in %
Rail critical cross-border sections	***30***	***10,248***	***27.4%***
AT Alpine crossings missing links	***2***	***9,661***	***100.0%***
Modernisation and upgrading of the national railway networks - improvement of the quality and standards of the lines in Cohesion Member States	***17***	***6,123***	***50.9%***
Deployment of ERTMS	***26***	***1,580***	***54.5%***
Road critical cross-border sections	***7***	***2,321***	***22.5%***
Last mile connections inside and outside port areas including (Koper-Divača missing link)	***35***	***3,828***	***53.4%***
Development of the Corridor within urban nodes and urban transport infrastructure ensuring interconnections between and within transport modes and a seamless connection between long distance and regional or local traffic flows	***66***	***16,346***	***35.0%***
Work plan priorities	**183**	**50,107**	**49.4%**
Total project list	**492**	**87,813**	**41.5%**

Source: Baltic-Adriatic corridor study consortium; Note: for 29 initiatives in the project list financial information including total project cost is not available

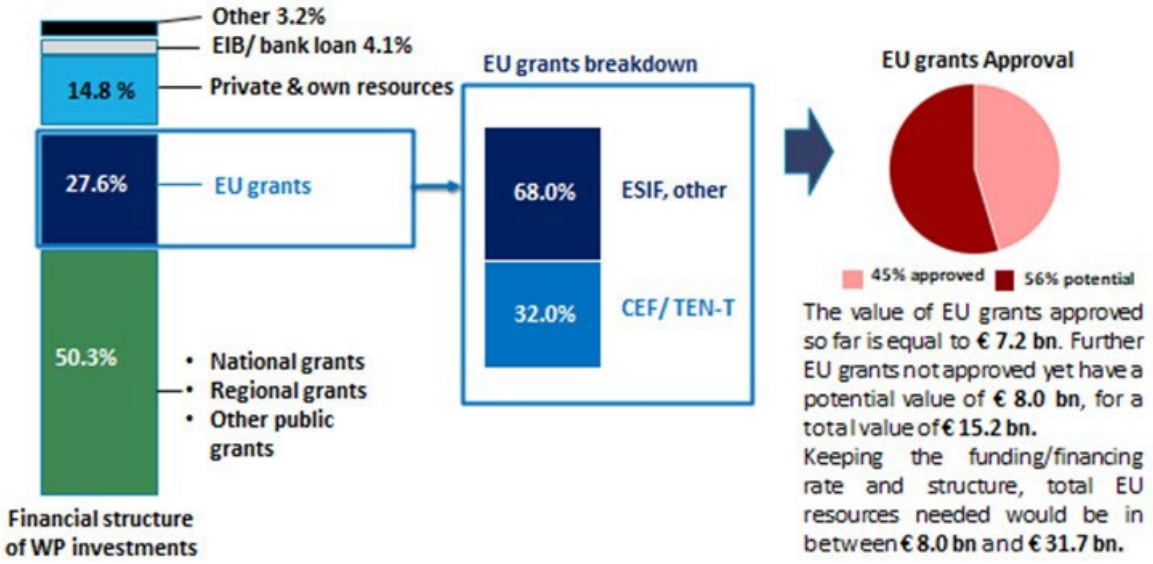
An analysis of the funding and financing sources of the projects identified for the development of the Baltic-Adriatic Corridor was carried out as part of the Core Network Corridors' studies. The analysis aimed at understanding the funding structure of the investments proposed and at estimating the potential needs for EU funding. The exercise consisted in the following main steps:

- Identification of the investments for which financial information was available;
- Analysis of the funding sources of the project costs;
- Application of the funding ratios to the overall investment cost of the total project list.

The outcome of the analysis is summarised in Figure 13 below. For 463 out of 492 ongoing and planned projects included in the project list, information on the project costs and financing structure was available.

The total budget of these investments amounts to EUR 87.8 billion. 27.6% of the total costs, corresponding to about EUR 15.2 billion, represents approved or potential EU funds. In greater detail, the value of EU grants approved corresponds to EUR 7.2 billion, whereas the EU funds that potentially could be approved amounts to EUR 8.0 billion. Considering the funding sources that have not been identified yet for the Corridor projects, and assuming an average co-financing rate of 50%, the amount of EU funds required to finance the 463 projects for which the investment costs are available could fall in the range between EUR 8.0 and EUR 31.7 billion.

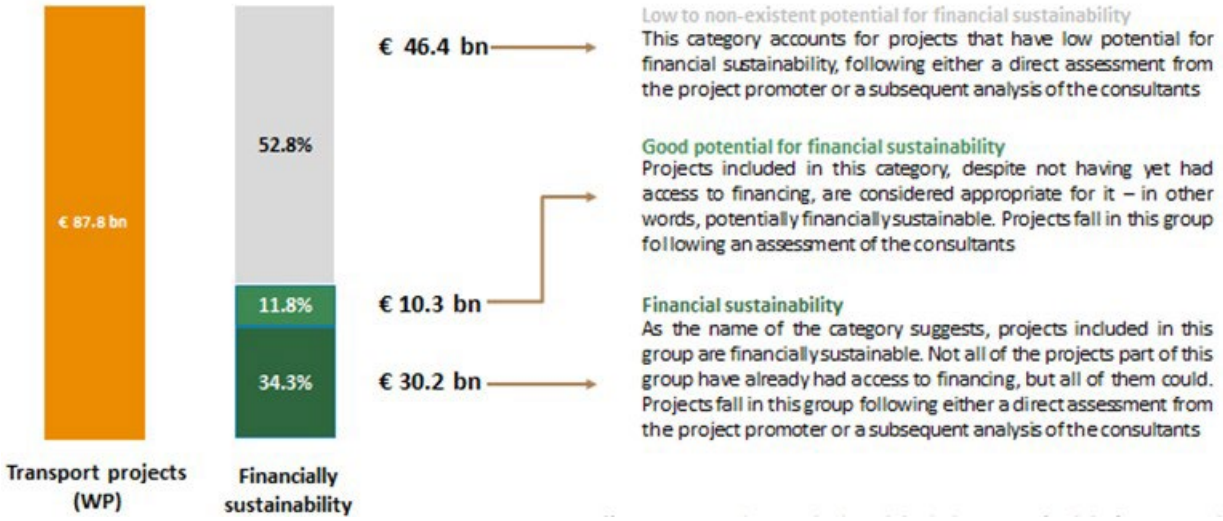
Figure 13: The financing and funding structure of the Baltic-Adriatic Corridor project list



Source: Baltic-Adriatic Corridor study consortium based on methodology developed by PwC; Note: the analysis refers to 463 projects for which at least the project cost is available, with a total budget of EUR 87.8 billion

In order to meet the significant demand for funding, all possible sources of funds should be considered for each specific project, as appropriate, taking into account the suitability for blended funding and financing. To this end, the investments included in the project list have been classified into three categories in order to determine their sustainability for innovative funding and financing, as reported in Figure 14 below.

Figure 14: The financial sustainability of the Baltic-Adriatic Corridor project list



Source: Baltic-Adriatic corridor study consortium based on methodology developed by PwC; Note: the analysis refers to 446 ongoing and planned projects including works in their scope and for which financial information was available, with a total cost of EUR 86.9 billion

The assessment focussed on a total of 446 ongoing and planned projects, with an overall budget of EUR 86.9 billion. The assessment omits 32 studies only initiatives and 14 projects for which the information available was not sufficient to perform the analysis. The analysis shows that 181 projects appear suitable for innovative financing, with a total value of EUR 40.5 billion. This is nearly half of the total value of the projects analysed.

5.2. The Green Deal and the Recovery and Resilience Fund

The Recovery and Resilience Facility (RRF) Regulation has made EUR 672.5 billion in loans and grants available to support both reforms and investments undertaken by Member States in the framework of national recovery and resilience plans. The aim is to mitigate the economic and social impact of the coronavirus pandemic and make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions.

The Annual Growth Strategy for 2021 (AGS) and the Commission RRF guidelines have identified the development of sustainable, smart and safe transport as a priority for the European recovery and mentioned the deployment of alternative fuels infrastructure as among the 7 European flagship initiatives that the national recovery plans are invited to address.

In this framework, and considering the national plans already submitted, the Commission expects Member States to dedicate significant parts of the RRF funding to transport, placing it among the top sectors of the economy to benefit from investments under the NextGenerationEU.

While the RRF will finance a large variety of projects, priority will be given to projects that contribute to the decarbonisation of the transport system in view of the EGD. Investments in the rail sector, in particular on the TEN-T network, therefore have a prominent place. Other priorities will include sustainable urban mobility solutions (including collective transport and active mobility), inland navigation and the electrification of road fleets. In addition, the digitalisation of the European transport system will be accelerated by RRF support to investments in ERTMS, ITS or RIS.

5.3. The Connecting Europe Facility 2

The CEF 2 Regulation entered into force on 14 July 2021. The total budget for CEF transport is EUR 25.807 billion divided into the following envelopes:

- General envelope: EUR 12.830 billion;
- Cohesion envelope: EUR 11.286 billion;
- Military mobility envelope: EUR 1.691 billion.

The main priorities of the CEF 2 are:

- The completion of the network: supporting the completion of the TEN-T, with particular priority to cross-border sections and missing links of the Core Network Corridors (60% of general envelope and 85% of cohesion envelope);
- The modernisation of the existing infrastructure: tackle much more decisively the challenge of decarbonisation and digitalisation of the transport sector to support the transition to smart, sustainable, inclusive, safe and secure mobility (40% of general envelope and 15% of the cohesion envelope);
- In line with the Action Plan on Military Mobility, for the first time, support the critical development of civilian-military dual-use transport infrastructure.

The CEF 2 will contribute with at least 60% of the funding available to climate objectives (compared to 30% of the overall target of the Multiannual Financial Framework – MFF).

The blending of CEF grants with other financial sources will be allowed. This might be implemented either through blending calls (CEF grants in combination with non-EU financial instruments, e.g. commercial banks or national promotion banks) or through blending operations (blend CEF grants with InvestEU).

The CEF will provide for complementarity among transport, energy and digital sector actions. It will be applied either as "synergetic elements" (it will be possible for each sector to accept as eligible cost ancillary elements pertaining to another sector) or through joint

work programmes jointly financed from each sector involved, with the possibility to apply the highest co-funding rate of the sectors concerned and 10% top-up.

The Commission adopted the first multiannual work programme 2021-2027 on 5 August 2021. This specifies the funding objectives and budget for the years 2021-2023.

5.4. The inclusion of Military Mobility in the network development plans

As of 2021, Military Mobility will be taken into account in the Work Plans of the core network corridors. The actions that address Military Mobility are based on the 2018 EU Action Plan on Military Mobility which aims to improve Military Mobility in 3 key areas: transport infrastructure, regulatory and procedural issues and other cross-cutting topics.

Concerning transport infrastructure, in 2019, the Council approved the Military Requirements for Military Mobility within and beyond the EU. These Military Requirements identify the geographical scope for Military Mobility and define the transport infrastructure standards necessary for military operations. The gap analysis performed in 2019 by the Commission services and the European External Action Service (EEAS) emphasises the synergy between the TEN-T and Military Mobility: 93% of the military transport network is also part of TEN-T; and military transport infrastructure standards are mostly compatible with civilian transport infrastructure needs.

Owing to the synergy between civilian and military transport needs, actions that aim at completing the Core Network Corridors can also improve Military Mobility. The new long-term budget of the EU now includes a dedicated EUR 1.7 billion Military Mobility envelope as part of the Connecting Europe Facility, which will co-fund dual-use transport infrastructure projects. The first CEF call for proposals on dual-use transport infrastructure was launched on 16 September 2021. In order to be eligible, projects have to be on both the TEN-T and the military transport network, as well as address dual-use transport infrastructure requirements identified in the Commission Implementing Regulation (EU) 2021/1328.

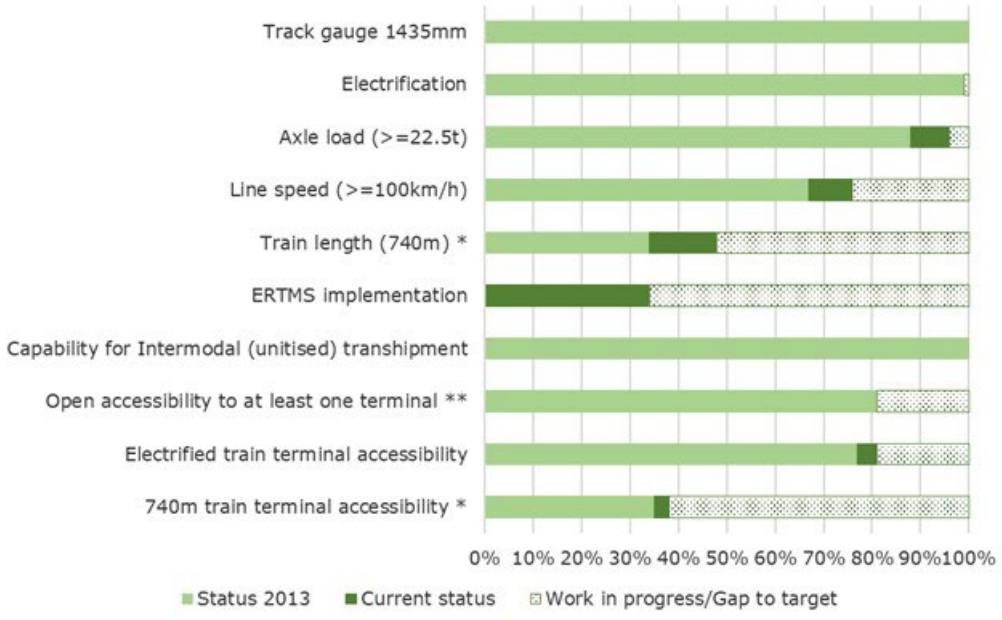
6. Recommendations and outlook of the European Coordinator

State of play of the completion of the Baltic-Adriatic Corridor and the perspective for further development

As part of the Corridor studies, an analysis has been performed which compares the infrastructure parameters for the years 2013 and the current status with the 100% target value set in the TEN-T Regulation for the core network by 2030. The analysis shows that progress has been made on the modernisation and upgrade of the Corridor rail infrastructure. Nonetheless, gaps still exist in terms of ERTMS deployment and the capability to run 740 meter freight trains. This later concerns more than 50% of the Corridor. The maximum speed standard for freight transport is not met on nearly 25% of the Corridor lines, which mostly concern Poland and Slovenia, whereas a small portion of the network is not a standard with respect to maximum axle load for freight transport, in Poland. The Corridor, moreover, is not electrified between Bratislava and Wien. Six out of nine rail cross-border sections along the Corridor are affected by one or more of these limitations, which are considered critical for the development of long distance traffic across the Union Member States:

- Opole (PL) – Ostrava (CZ) – Brno (CZ);
- Katowice (PL) – Ostrava (CZ) – Brno (CZ);
- Katowice (PL) – Žilina (SK);
- Bratislava (SK) – Wien (Stadlau) (AT), via Devínska Nová Ves (SK) – Marchegg (AT);
- Graz (AT) – Maribor (SI);
- Venezia (IT) - Trieste (IT) - Divača (SI) – Ljubljana (SI).

Figure 15: KPI based *gap to target* chart for rail and multimodal transport



Source: Baltic-Adriatic corridor study consortium; Notes: 1) The elaboration of the KPIs of the rail network is based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of 4,472 km, of which 3,855 km classified as freight or mixed passengers and freight railway lines; 2) ERTMS figures were elaborated by the ERTMS Deployment Management Team. According to the criteria adopted in the ERTMS Deployment Plan (EDP), percentages refer to the length of the sections where ETCS is already in operation, i.e.

*where an authorisation of the trackside by the national safety authority has been issued; 3) *In Austria and Slovenia 740 meters long trains are possible to be operated on the corridor lines under normal railway operation conditions; 4) **Availability of one terminal open to all operators and application of transparent charges*

Infrastructure gaps are also still present at several rail-road terminals. This concerns, in particular, the capability of 740 meter train accessibility and to a lesser extent, electrified train terminal accessibility. Whereas restrictions at nodes are considered less critical, as they also depend on land availability constraints and demand, the ambitious targets set for rail transport in the EGD and in the SSMS further emphasise the strategic relevance of developing a full interoperable railway network across the EU. On some of these critical cross-border sections, capacity constraints are also present or may arise in the future due to the mixed use of passenger and freight traffic. The most important priority to be addressed in view of completing the Single European Transport Area is the **modernisation as well as the physical and technological upgrade of the railway critical cross-border sections**. Lack of interoperability issuing from compliance gaps is, however, not limited to railway cross-border sections. They extend to several parts of the network and are also present at railway nodes, including within core urban areas. The strengthening of interoperability at the cross-border sections will only pay off if these gaps are bridged on the entire network, and it is thus a priority to complete the **modernisation of the railway infrastructure, in particular, in Cohesion Member States along railway lines, including the nodes**.

More than 150 projects with a total value of more than EUR 40 billion are ongoing or planned. The projects are generally expected to improve the standards of the railway network and rail-road terminals in view of achieving the requirements of the TEN-T Regulation. These projects are not only related to the improvement of the standards set out in the TEN-T Regulation, but also aimed at increasing capacity by means of physical and technological upgrade for both freight and passenger transport, including high speed solutions. Of the technological investments, more than 30 initiatives concern **ERTMS deployment** which is also a priority in view of building an interoperable network. The achievement of the speed and train length standards for freight transport, as well as the deployment of ERTMS on the entire network by 2030 is uncertain at present due to the possible reduced scope of certain projects (potentially reflecting economic viability issues), financial or technical constraints, and difficulties in permitting/procurement processes that result delays. With regard to the schedule foreseen in the ERTMS Deployment Plan, delays are also present and several projects are still to be fully defined. Finally, on some sections, Member States and Infrastructure Managers are considering to apply for a derogation from the required speed standard in accordance with Art. 39, point 3 of the TEN-T Regulation. However, very limited information is currently available on the exact location and extent of the sections for which a possible derogation would be requested.

The proposal for the revised TEN-T Regulation does not foresee an extension of the current 2030 deadline to achieve the TEN-T standards on the core network. There is still significant work to be done to meet the required standards for the railway infrastructure, which, together with the outlook of the Corridor in the updated legislative and policy framework, call for even stronger efforts and commitment from Member States and Infrastructure Managers in the development of an interoperable railway network. This is far from merely a compliance issue. It also concerns the matter of providing for the decarbonisation of transport and the mitigation of the effects of climate change. This calls for a timely reaction from all of us and adds to the transport benefits of completing the Single European Railway Area. To this end, we shall also further intensify our good cooperation with the RFC B-A on interoperability, seeking to maximise complementarity between transport infrastructure development and operational solutions. **Transport digitalisation and more generally technological upgrade**, as well as the simplification of administrative procedures and processes, are of critical importance in view of optimising and improving the capacity and performance of the Corridor railway lines and nodes. Physical upgrade and modernisation works on the network frequently imply an interruption and-or rerouting of transport operations. It may also face obstacles, such as social and political opposition, and may require long time for implementation, with the risk that this could result in failure to supply

the demand for sustainable transport of passengers and freight. Integrating the infrastructure development with the operational management of the rail and multimodal infrastructure is therefore important, not least to ensure an optimal capacity management by the Infrastructure Managers in offering sufficient paths for 740 meter trains on the Corridor lines where operational compliance is considered. To speed up the completion of the work in progress, I therefore invite all concerned project promoters and Member States to closely monitor project preparation and maturity and to join forces to overcome the administrative, technical and financial difficulties that may hamper the finalisation of the projects required to complete the Corridor. The recent Directive (EU) 2021/1187 on streamlining measures for advancing the realisation of the TEN-T network should also facilitate our work in this regard.

Figure 16: KPI based *gap to target* chart for road transport

Source: Baltic-Adriatic corridor study consortium; Note: The elaboration of the KPIs of the road network is based on the sections encoded in the TENtec database as of 2020, corresponding to a total length of 3,795 km of roads

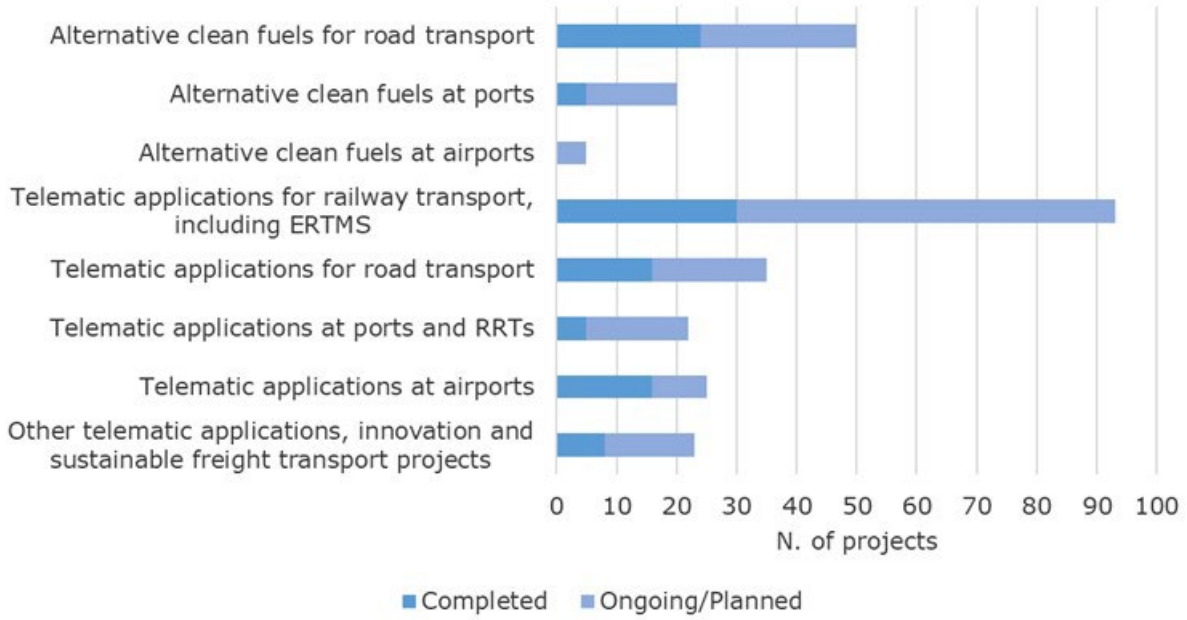
A complete and interoperable Corridor also requires the completion of the modernisation and upgrade of the road infrastructure. In fact, about 10% of the road network fails in meeting the standard required by the TEN-T Regulation. Compliance issues also affect the following road cross-border sections, which concern projects of high European added value:

- Katowice (PL) – Žilina (Brodno) (SK), particularly sections Bielsko-Biała – Kosztowy and Milówka – Przybędza (PL) and Oščadnica – Žilina-Brodno (SK);
- Brno (CZ) – Wien (Schwechat) (AT), particularly between Pohořelice (CZ) and Poysbrunn (AT).

The **modernisation and upgrade of the road critical cross border sections** is thus a priority of this Work Plan. The **deployment of transport digitalisation measures**, including at cross-border links, for the exchange of traffic data and provision of information services is also a priority. Nearly 120 projects, with a total budget of about EUR 23 billion, are ongoing or planned and foreseen to bridge the existing compliance gaps and further expand the existing Corridor capacity.

Concerning the requirements of the TEN-T Regulation for the availability of alternative clean fuels and safe and secure parking areas, a method for the quantitative measurement of the implementation progress is not defined at present. However, for both requirements a significant number of projects have already been implemented and more are ongoing and planned. In particular, 50 projects, half of which already completed, concern the deployment of alternative clean fuels in the road transport sector. Whereas several of these initiatives may be related to pilot projects, the deployment of alternative clean fuels along the Corridor road network is definitively progressing. In the same sector, it is also positively noticed that more than 30 ITS projects on the Corridor have been implemented or are ongoing/planned.

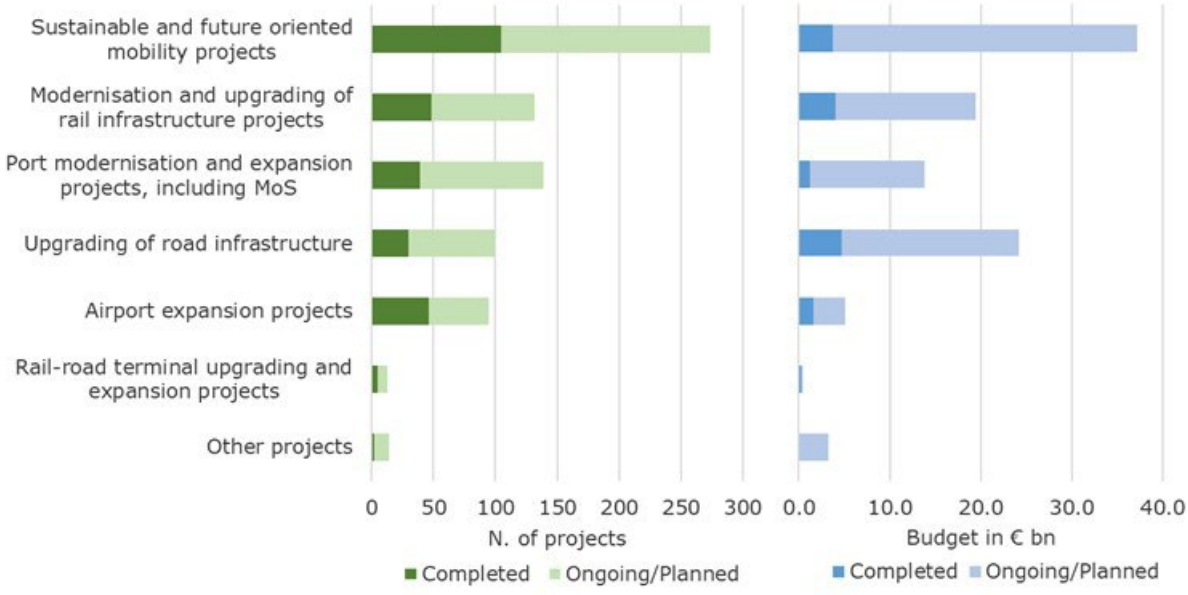
Figure 17: Sustainable and future oriented mobility projects



Source: Baltic-Adriatic corridor study consortium

In fact, more than 270 projects, of which about 100 are already completed, concern sustainable and future oriented mobility projects, with an overall budget of EUR 37 billion. These relate to both transport digitalisation and the deployment of alternative clean fuels, as well as initiatives to support sustainable freight transport, not only in the road sector but for all Corridor relevant transport modes.

Figure 18: Contribution to the Green Deal of the Baltic-Adriatic Corridor



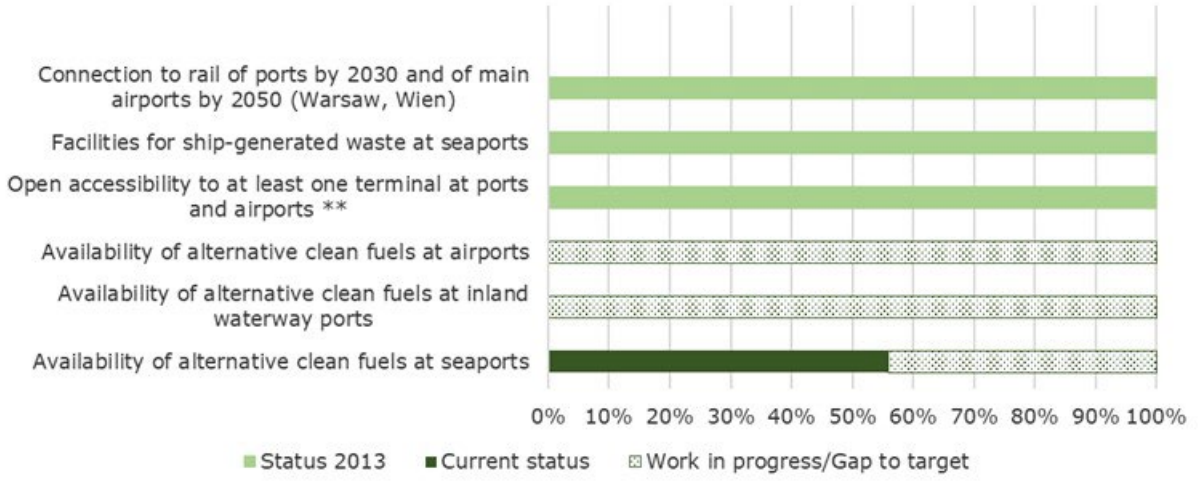
Source: Baltic-Adriatic corridor study consortium

Summing up, these projects and the projects that address the modernisation and upgrade of the rail and port infrastructure and the interconnection between railway transport and public transit systems at core urban nodes comprise a total of 570 projects. Of this total, 200 projects are completed, with a value of EUR 74 billion. The projects contribute to the EGD objectives of supporting intermodal and multimodal solutions, railway and waterborne

transport as well as transport decarbonisation, resilience and the mitigation of the effects of climate change.

Since their inception, the Core Network Corridors have been conceived as frontrunners and test-beds for the implementation of innovative solutions and approaches, not only related to the TEN-T policy, but also to the wider set of Union policy on mobility and transport. The above figures, in particular the statistics that reflect energy transition and transport digitalisation initiatives, are most encouraging in this respect. Core Network Corridors effectively appear to have great potential to support decarbonisation and the reduction of greenhouse gas and air pollutant emissions. However, we are still at the stage where the number of pilot initiatives is high. Hence, an effort is needed if we are to turn clean fuels into standardised and market viable alternatives to fossil fuels. I therefore invite all stakeholders to keep investing in the provision of alternative clean fuels, and in the introduction into the market of more efficient means of transport, in particular zero emission vehicles. While the Corridor project list includes several investments that concern electric mobility, LNG, CNG and hydrogen fuels for road transport, as well as cold ironing and LNG facilities at most corridor ports, strategies and projects that would provide for the availability of alternative clean fuels are still missing at some ports and at most airports on the Corridor.

Figure 19: KPI based *gap to target* chart for transport nodes



*Source: Baltic-Adriatic corridor study consortium; Note: **Availability of one terminal open to all operators and application of transparent charges*

Climate change mitigation is also an area that should deserve increasing attention. Increased temperature, precipitation and floods are causing potential damage and interruption of operation of services to rail and road transport, whereas maritime transport is affected by increased and more frequent extreme winds and high amplitude waves. In the mid to long terms, all maritime ports will also be affected by rising sea levels. I therefore encourage Member States and infrastructure managers to undertake the required studies to identify the impacts of climate change, assess vulnerabilities and risks for transport infrastructure, while defining measures to mitigate the negative consequences. Resilience measures shall not be limited to climate change. The Covid-19 pandemic has shown how relevant it is to ensure continuity of transport operations in emergency situations, a necessity that should not be underestimated. Last but not least, a resilient transport system is also one that can be used for defence operations. Thus the importance of building an interoperable Corridor that also takes into account the requirements of military mobility.

About transport digitalisation, it is important to emphasise the **promotion of the interoperability of ITS and ICT solutions for all transport modes**. This should

increase the safety and security of transport as well as contribute to streamlining administrative procedures involved in transport. The adoption of "open data" solutions should be encouraged in order to maximise the involvement of transport operators and users in providing for more attractive multimodal transport for both freight and passengers. This should include the development of Mobility as a Service solutions. Innovative transport digitalisation measures are also needed to increase the attractiveness and competitiveness of intermodal and multimodal transport operations involving rail, waterborne transport and public transport.

For the ports, a further improvement and upgrade of the physical infrastructure as well as transport digitalisation measures are as part of an interoperable railway network that achieves the SSMS target of increasing the modal share of short sea shipping. To boost the competitiveness of multimodal and combined transport, last mile connections shall be considered in the wider context of the conditions and development of the logistic and Corridor railway infrastructure, including the capacity and performance of hinterland connections. The **enhancement of multimodality by improving last mile and hinterland connections to ports and within logistic clusters** is therefore a priority for the Baltic-Adriatic Corridor. In particular, logistic clusters, involving core and comprehensive ports as well as rail-road terminals across the network and within wider hinterland of the Baltic-Adriatic Corridor ports will have an increasingly important role to play. Indeed, the functional dimension of the logistic chain should be appropriately considered to effectively promote multimodal transport and support the modal shift toward sustainable transport solutions. I therefore call for the close cooperation of rail infrastructure managers with port authorities and rail-road terminals across the TEN-T network. They should join forces in order to improve the attractiveness of multimodal transport solutions and make the TEN-T and the European industry competitive on a global scale and in the development of transport routes.

Concerning the interconnectivity of ports and logistic nodes along and throughout the Corridor, the timely completion of the **Alpine crossings in Austria**, i.e. the Semmering tunnel by 2028 and the Koralm railway line and tunnel by 2025, is important. The bridging of the two missing links will significantly reduce travel time and allow for smoother traffic flows between Central European regions and the Northern Adriatic Ports. Of similar relevance to the proper functioning of the Corridor is the **Koper – Divača in Slovenia**. The project concerning the construction of the second track Koper – Divača is ongoing and foreseen to be completed by 2025. As the European Coordinator, I will continue to monitor the completion of these projects, which are not only of high national importance, but also of great importance for Europe.

Our Corridor transport nodes are located within urban and metropolitan areas or in their vicinity. They are relevant to ensure accessibility at the local and regional level. Urban areas are also crossed by transiting traffic and they also represent points of interchange between modes and routes. A total of 66 road and railway infrastructure projects located in core urban areas are currently ongoing or planned, with a total budget of more than EUR 16 billion. If we consider that the Corridor airports, ports and rail-road terminals are also located in urban/metropolitan areas, there are more than 270 projects with a total budget of nearly EUR 37 billion. Hence the significance of urban nodes for the Corridor. As hubs on the network that attract and generate traffic and redistribute flows between the Member States, the regions and macro regions, the proper functioning of transport in urban nodes is of critical importance if we are to maximise the effects of the Corridor infrastructure on economic development, growth and territorial cohesion. I therefore recommend that attention is paid to the development and modernisation of the Corridor infrastructure in urban nodes to remove existing and future bottlenecks and to promote regional and local integration into the core network. In order to promote the **interconnection of long distance, regional and local transport in urban nodes**, measures should be considered to ensure the adequate physical and digital interconnection between core transport nodes and to facilitate the interchange and integration between the Corridor, the regional and the local transport infrastructure and services.

Operationalisation of the Work Plan Priorities – Coordinator Dialogues

Priorities of the Work Plan

The analyses developed as part of the Corridor studies and discussed at the Corridor Forum Meetings, and the wealth of information exchanged at the Coordinator Dialogues organised over the past two years confirm the emergence of the Baltic-Adriatic Corridor as a competitive development area for growth and jobs in Central Europe. The Corridor benefits from its location in a very dynamic economic area of the EU, which further emphasises the relevance of completing the Corridor and making the infrastructure compliant with the requirements of the TEN-T Regulation. This Work Plan therefore remains consistent with the priorities defined in the previous Plan, though slightly modified to better reflect the extension of the critical rail cross-border sections between Poland and the Czech Republic and between Italy and Slovenia introduced with the CEF 2 Regulation. The Work Plan priorities are the following six, as set out below:

- The modernisation and upgrade of the critical rail and road cross-border sections, including the deployment of digital cross-border links for the exchange of traffic data and provision of information services;
- The completion of the Alpine crossings in Austria in order to remove the two missing links on the Corridor;
- The completion of the modernisation of the railway infrastructure, in particular, in Cohesion Member States;
- The enhancement of multimodality by improving last mile and hinterland connections to ports and within logistic clusters, including the upgrade of the Koper-Divača section;
- The interconnection between long distance, regional and local transport in urban nodes;
- The digitalisation of transport, including ERTMS deployment.

Coordinator Dialogues on Interoperability, Interconnectivity and Innovation

The six priorities still give us very concrete elements to focus our efforts on in the transition period up until the entry into force of the revised TEN-T Regulation. In order to operationalise the priorities in our work, I propose to continue organising Corridor events in the form of dialogues on Interoperability, Interconnectivity and Innovation. Our Corridor Forum meetings in Brussels are very important occasions for me and the Members of the Forum to monitor the progress of the Corridor and to discuss activities related to the implementation of the TEN-T in the framework of EU policies for mobility and transport. However, based on the successful experience of the dialogues already organised over the past two years at specific locations along the corridor, in particular, at core urban nodes we can contribute to furthering the implementation of the Corridor by bringing the corridor activities to a wider audience.

The implementation of the TEN-T policy in the framework of the EGD and SSMS can indeed be operationalised under the thematic headings of Interoperability, Interconnectivity and Innovation, as part and parcel of building our Corridor. Coordinator Dialogues under these headings can have an extended scope and audience compared to cross-border dialogues, working groups or project or stakeholder visits. Indeed, they might combine these different events, also in the form of joint or side events of different core network corridors as well as local initiatives organised by the stakeholders. Thanks to the involvement of the regions on the Corridor, the Coordinator Dialogues organised so far have given me the opportunity to bring together representatives of the rail and road infrastructure with stakeholders from core transport and logistic nodes such as airports, rail-road terminals and ports as well as regional and local authorities. At the meetings, fruitful exchanges were carried out on projects that will develop the transport nodes and connect the nodes with the Corridor

railway and road infrastructure. The interconnection of the nodes was also discussed together with issues related to the better integration of the urban areas and regions with the TEN-T network. I would like to continue organising events locally, and preferably at Corridor urban nodes, as this has proven effective in reaching a wider audience and in communicating the value of the Corridor work to the European citizen. Indeed, urban nodes are capital cities of NUTS 2 regions if not the capitals of the Corridor Member States. They are also the sites of a number of Corridor projects which are ongoing or under development. Several core urban nodes are furthermore located at the edge of one or more cross-border sections. Accordingly they define the geographical boundaries wherein most Europeans live, which is where the benefits of European intervention should be made visible. The Coordinator Dialogues were also invaluable sources of information for me on the characteristics and the functioning of the Corridor. In concomitance or in addition to local events, in particular, during the transition period up to the entry into force of the Revised TEN-T Regulation, my intention is for the Coordinator Dialogues to also encompass visits to Member States, projects and nodes, including airports, ports, and rail-road terminals, regional and local stakeholders. Last but not least, I also see the Coordinator Dialogues as events to be organised conjointly with my fellow Coordinators and with the RFC B-A. The Corridor is obviously part of the wider TEN-T, intersecting with the other core network and rail freight corridors and Motorways of the Sea.

Toward the revised TEN-T Regulation and the European Green Deal

With the transport sector accounting for approximately 25% of the total greenhouse gas emissions in the EU, the EGD calls for a shift from road to rail transport and inland waterways. The SSMS articulates the targets for the modal shift: rail freight is expected to increase by 50% by 2030 and double by 2050, while transport by inland waterway and short sea shipping are expected to increase by 25% by 2030 and 50% by 2050 respectively.

In view of this, the TEN-T policy remains of critical importance. The proposal for a revised TEN-T Regulation adopted on 14 December 2021 sets out the legal framework that will enable the transition towards sustainable transport. The TEN-T proposal is the result of a comprehensive evaluation of the existing legal framework and based on an in-depth assessment of the impacts of the changes proposed. Moreover, extensive consultations with Member States and stakeholders have been carried out. In order to realise the targets of the SSMS, the proposal sets out firm incentives to shift demand towards the sustainable transport modes. Specifically, the aims are:

a) to increase the number of passengers travelling by rail through the development of a competitive and seamless high speed rail network throughout Europe; and
b) to shift a substantial amount of freight onto rail, inland waterways and short sea shipping.

In the revised TEN-T Regulation, the overall objective remains unchanged, which is to complete a compliant network within the deadlines of 2030 for the core network, 2040 for the extended core network and 2050 for the comprehensive network. The proposal introduces a number of new or reinforced infrastructure requirements, which promote the development of infrastructure of sustainable forms of transport.

New requirements are foreseen for rail transport to enable the carriage of freight with P400 loading gauge capability on the entire network and a minimum line speed of 160 km/h for passenger lines on the core and the extended core network. The existing core network requirements (22.5 tons axle load and 740 m train length) are foreseen to apply to the entire comprehensive network, whereas the 100 km/h line speed standard is proposed for the extended core network. In addition, the deployment of ERTMS on the entire network is required by 2040, while the decommissioning of existing national class B systems is made mandatory.

Short sea shipping will be promoted within a wider perspective by integrating all the components of the maritime dimension into a new concept; the European Maritime Space.

In the field of road transport, the focus is on improving the quality of roads to increase road safety and to augment the number of rest areas and safe and secure parking spaces along the TEN-T.

In order to promote multimodality the proposal foresees the inclusion of all EU urban nodes of at least 100,000 inhabitants, and the requirement to implement a Sustainable Urban Mobility Plan (SUMP) and the development of transhipment facilities (multimodal freight terminals and passenger hubs) in these areas.

To achieve the targets and to fulfil the objectives of the EGD and the SSMS an intermediary deadline of 2040 is proposed to be introduced for the new standards applied to the core network and for the advancement of the existing standards as applied to the comprehensive network. This notably concerns the deployment of ERTMS.

Finally, European Transport Corridors are proposed, that will integrate the nine core network corridors with the eleven rail freight corridors. In addition, with the proposal, the current corridor governance system is set to be further reinforced. The status of the work plans of the European Coordinators, which are to be elaborated every four years, will be strengthened as the Commission will be empowered to adopt an implementing act for each plan. Finally, the role of the European Coordinators as observers in dedicated entities that provide for the implementation of cross-border projects shall be institutionalised.

The proposal is now being negotiated with the European Parliament and the Council, with a possible entry into force of the revised Regulation in the course of 2023. I am confident that, once adopted, the revised TEN-T Regulation will provide the right framework for us to realise a smart, sustainable and resilient core TEN-T by 2030 and will set out the necessary targets for us to reach by 2040 and 2050 respectively.

The extended TEN-T to the East and the implications of the war in Ukraine

The advent of the war against Ukraine perpetrated by Russia has brought unforeseen uncertainty and crisis to the doorstep of the EU. A terrible humanitarian crisis and a destruction of the security architecture Europe has enjoyed since the end of the Cold War, the war has already had serious consequences for Ukraine and significant repercussions for Europe. Indeed, it could be argued that the war has already resulted in a geopolitical shift in the orientation of the EU and partner countries, as the impact of the war is felt throughout the international system involving several sectors, including transport, energy and agri-food.

As part of the Eastern Partnership to which the indicative TEN-T was extended in 2018, Ukraine put forward a request for the Commission to adapt the indicative map in Spring 2022. Once adopted, the adaptations will provide for better connectivity between the EU and Ukraine. To further improve connectivity with Ukraine, at the time of writing this Work Plan, the Commission is looking into the possibility of amending the proposal for the revised TEN-T Regulation presented in December last year. One of the objectives of the amended proposal to be adopted by the Commission in July would be to explore the possibility of extending a European Transport Corridor to the territory of Ukraine and Moldova. Extending the Commission coordination instruments to Ukraine and Moldova would contribute to better integrating their networks with the EU TEN-T network. The proposal to extend a European Transport Corridor to Ukraine and Moldova was anticipated with the Commission Communication on Solidary Lanes adopted on 12 May 2022 of which the Baltic-Adriatic Corridor Member States have all shown strong support. In this connection, Member States, moreover, have supported Ukraine and Ukrainians fleeing from the war, including by offering free public transport to refugees and making additional network capacity available.

The crisis in Ukraine has affected the Union network in several Corridor Member States and more broadly the entire field of transport throughout the Union. At the Corridor Meeting held in the framework of the Connecting Europe Days 2022 in Lyon, the European Coordinator therefore convened the Corridor Member States and the Corridor stakeholders for an exchange of views on the subject matter. The Member States reported that the war has had a significant impact on the transport connections to and from Ukraine and across the Corridor, putting strain on some terminals and border-crossing that previously had seen significantly less usage. Patterns of trans-shipments had changed, with several ports seeing increasing volumes. Some Member States also reported adverse effects on related sectors, with sharp increases in construction costs, energy and fuel while some were also seeing a lack of construction workers. Capacity strains were noted particularly at border crossing where an interchange of track gauge takes place. The logistic chains are heavily affected, in particular, as concerns the transport of grain from Ukraine.

The reporting by the Member States certainly attested to the crisis as an exceptional event. However, it could also be seen as an example of the need to continuously look at ways in which the resilience of the TEN-T could be sustained and further improved.

Final word

As we move into the transition period at the end of which we will see the entry into force of the revised TEN-T, let me conclude by stressing the importance that we continue in our efforts to realise the important projects on the Corridor. In doing so, we must remain committed to the fully integrated, cooperative and implementation-oriented approach, which has defined the work so far. I would like to thank all Members of the Baltic-Adriatic Corridor Forum for their active participation in the development of the Corridor. Substantial challenges still lie ahead of us, and investment needs remain high. As the European Coordinator, I invite you to see our common efforts for the development of the Corridor in the light of providing the smart and sustainable transport network of the future that the Union needs; a transport network that will contribute to a green and carbon neutral Europe for the benefit of present and future generations.

7. Contacts

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