



Implementation Plan

July 2025

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Annex A List of Terminals along the Corridor

Annex B Transport Market Study 2025 – Executive Summary

1. Introduction

Regulation (EU) 2024/1679 on Union guidelines for the development of the Trans-European Transport Network (TEN-T), that was published in June 2024, revises the TEN-T policy and amends the Regulation (EU) 913/2010 concerning a European rail network for competitive freight (hereafter RFC Regulation).

The TEN-T policy is a key instrument for planning and developing a coherent, efficient and multimodal transport infrastructure across the EU. The network includes railways, inland waterways, roads and air transport, and connects urban nodes, ports, airports, and terminals, facilitating efficient transport, access to jobs, trade, and economic growth. It shall strengthen the EU's cohesion by creating seamless transport systems across borders, reducing gaps and bottlenecks. It also aims to reduce environmental impacts and enhance safety and resilience.

Regulation (EU) 2024/1679 (hereafter TEN-T Regulation) defines nine multimodal European Transport Corridors (ETC), that integrate the Rail Freight Corridors. It also foresees the merger of the Corridors Rhine – Alpine and North Sea – Mediterranean into a single Corridor under the name North Sea – Rhine – Mediterranean. The ETC now crosses 8 countries: the Netherlands, Belgium, Germany, Luxembourg, France, Switzerland, Italy and Ireland. Each ETC has a European Coordinator, who acts as ambassador of the TEN-T policy and oversees the progress of the corresponding ETC.

As the railway freight lines of the corresponding ETC form the new alignment of the RFC, the two former Rail Freight Corridors, North Sea – Mediterranean and Rhine – Alpine, also need to be adapted and merged. Accordingly, the governance structure of the Corridor has to be adapted as well.

Rail Freight Corridor North Sea – Rhine – Mediterranean spans a geographically diverse and economically significant area of Europe, connecting some of the continent's most critical industrial, logistical, and port regions. Stretching from the North Sea ports in the Netherlands, Belgium and France to the Mediterranean ports of Marseille / Fos-sur-Mer in France and Genoa in Italy. Luxembourg, as a central hub, provides efficient links for cross-border freight transport, leveraging its strategic location in Europe. In Germany the Corridor connects industrial heartlands like the Rhine-Ruhr and Rhine-Main regions to the rest of Europe. Switzerland serves as a transit nation, providing important Alpine crossings for north-south traffic via the two base tunnels Gotthard and Lötschberg. Switzerland is therefore an active part of RFC North Sea – Rhine – Mediterranean and accepts the TEN-T and RFC framework conditions.

Collectively, the Corridor links these countries into an integrated network that drives trade, supports economic growth, and enables sustainable freight transport solutions across the continent.

The new alignment of the RFC shall become operational at the latest 18 months after the entry into force of the TEN-T Regulation, which was on the 18th of July 2024. At the latest six months before making the Corridor operational (at the latest on 17th of January 2026), the Management Board of the RFC needs to publish an Implementation Plan according to Article 9 of the RFC Regulation.

The Implementation Plan for RFC North Sea – Rhine – Mediterranean outlines the strategic measures and actions required to enhance the performance, capacity, and quality of one of Europe's most vital Corridors. This plan addresses the current challenges facing the Corridor, including capacity constraints, infrastructure bottlenecks, and the growing demand for reliable and sustainable freight transport. It reflects input from key stakeholders, including infrastructure managers, railway undertakings, terminal operators, and policymakers, ensuring a coordinated approach to delivering both short- and long-term improvements.

Key priorities include facilitating interoperable rail services, optimizing the use of existing infrastructure, minimizing disruptions caused by construction works, and improving punctuality and border-crossing efficiency.

The Implementation Plan was elaborated by the Management Board taking into account the common structure developed by all RFCs under the umbrella of RailNetEurope. It was approved by the Executive Board on the 8th of July and published on the 15th of July. The decision by the Executive Board can be found under this [link](#).

Given the interaction between several documents, but with a different timeline for their elaboration (such as the work plan of the European Coordinator), this Implementation Plan cannot completely fulfil the obligations of Article 9 related to the content of the Implementation Plan. This will be completed in future updates in due time, when the required documents become available.

2. Corridor Description

RFC North Sea – Rhine – Mediterranean is a vital freight artery of the TEN-T Network, linking major economic regions and cities from the North Sea to the Mediterranean Sea. It begins at strategic North Sea ports serving as vital gateways for global trade, as a link to Ireland. These ports connect to inland hubs through rail, supporting the movement of bulk goods like chemicals and steel to industrial centres. In total, ten seaports (Haropa¹, Calais, Dunkerque, North Sea Port², Antwerp-Bruges³, Moerdijk, Rotterdam, Amsterdam, Marseille / Fos-sur-Mer and Genoa) are part of the Corridor.

As the Corridor moves inland, it crosses key freight hubs such as Rouen, Liège, Luxembourg, Metz, Venlo and Germany's Ruhr region, including cities like Duisburg, Cologne, and Düsseldorf. Duisburg, home to one of the largest inland ports, facilitates transshipment between rail, road, and waterways. Further south, the Corridor passes through Strasbourg and Lyon, which act as critical nodes for freight distribution across Europe. Lyon, in particular, is a significant rail and road junction.

To the South, the Corridor crosses the Alps via the Gotthard Base Tunnel and the Lötschberg Base Tunnel in Switzerland, providing a direct rail freight route to Italy. It ends at the key Mediterranean ports of Marseille/Fos-sur-Mer and Genoa, with connections to North Africa and the Middle East. The industrial region in northern Italy around Milan and Novara also plays an important role in freight volumes on the Corridor. The Seregno - Novara line of FERROVIENORD is newly included in the Corridor as a bypass from the Milan node.

Passing through key industrial regions of Europe, the Corridor has a high share of the total volume of rail freight transport in Europe. The industries located along the RFC, namely automotive, pharmaceuticals, chemicals and mechanical engineering, are typical customers for freight trains.

RFC North Sea – Rhine – Mediterranean consists not only of the routes previously belonging to the Rhine-Alpine and North Sea - Mediterranean RFCs, but also includes new routes. These new routes include, among others, the Koblenz - Trier - Saarbrücken connection in Germany, the line between Luxembourg and Wasserbillig, Le Havre - Rouen - Paris in France, as well as the above-mentioned Seregno – Novara line in Italy.

¹ Haropa is the merger of the ports of Le Havre, Rouen and Paris

² North Sea Port is the merger of the ports of Terneuzen, Vlissingen and Ghent

³ Antwerp-Bruges is the merger of the ports of Antwerp and Zeebrugge

Figure 01 map shows a schematic overview of RFC North Sea – Rhine – Mediterranean.

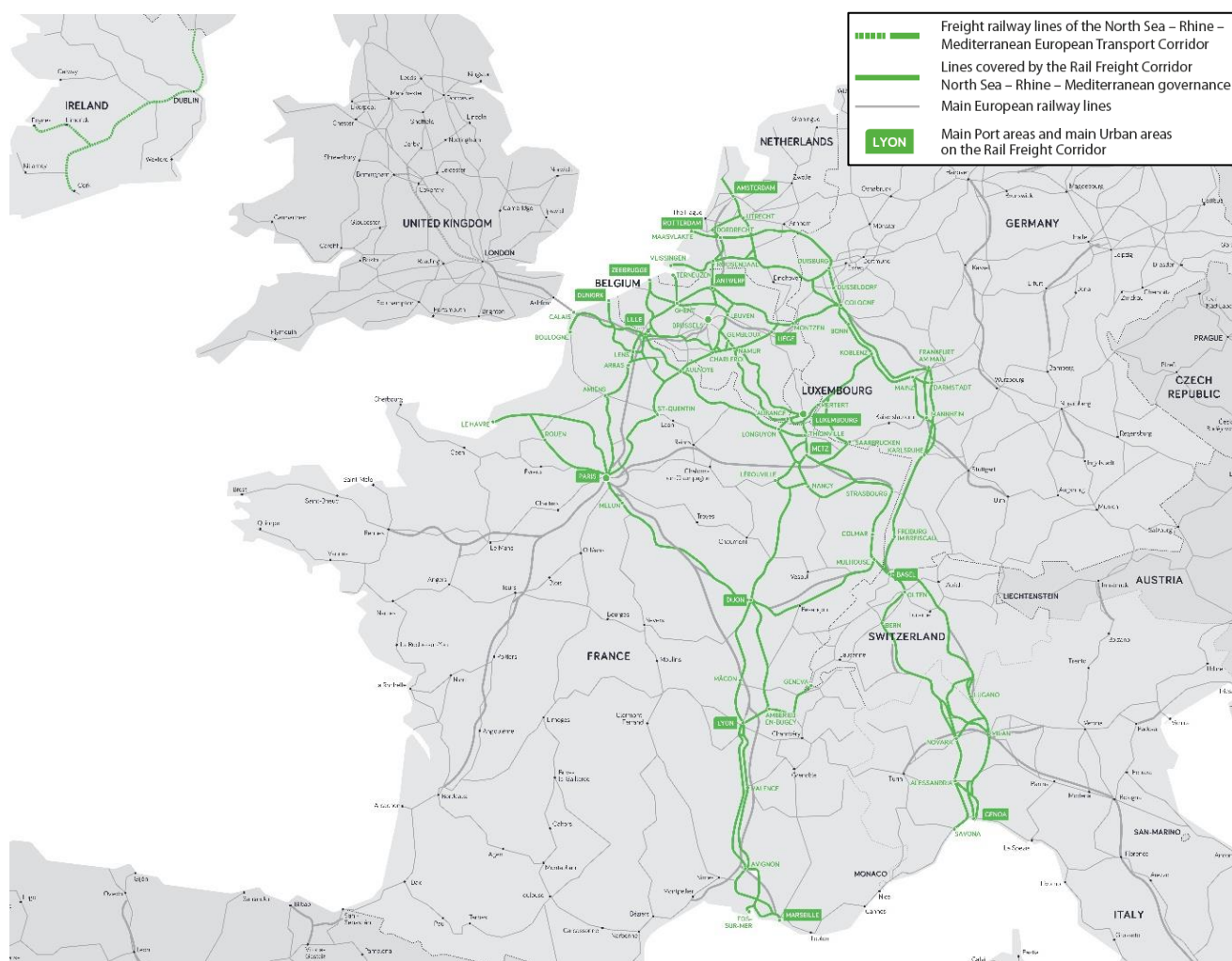


Figure 01: Schematic map of the Corridor

Please note, that although the rail freight lines of the ETC go to Ireland, these lines are included as dashed lines in the RFC map, as the Irish railway system is not linked to the European mainland (isolated network) and Ireland has opted to use the possibility to not participate in the governance structure of the RFC (see point 2.4 for more details).

2.1 Key parameters of Corridor line

The general priorities for the TEN-T network focus on several key areas. Firstly, priority is given to measures that enhance sustainable transport in both the freight and passenger sectors, aiming to reduce greenhouse gas emissions and pollution while maximizing societal and economic benefits from the transportation sector. A key point is closing gaps and removing bottlenecks, with particular focus on cross-border sections.

Effective, seamless, and sustainable usage of infrastructure is to be promoted, with capacity increases planned if necessary. Maintaining functionality and improving or maintaining the quality of existing infrastructure with regard to safety, security, efficiency, climate and disaster resilience, environmental sustainability, and traffic flow continuity are also of importance. Improvement of service quality and social conditions for transport sector workers, ensuring accessibility for all users, and combating mobility poverty are central objectives.

The revised TEN-T Regulation introduces a third layer of the TEN-T Network, being the extended core network, apart from the already existing core and comprehensive network and introduces some new and enhanced infrastructure requirements for these layers. For each of these layers a completion deadline is described:

- a) Core network, to be completed by 31 December 2030.
- b) Extended Core network to be completed by 31 December 2040 and the
- c) Comprehensive network to be completed by 31 December 2050.

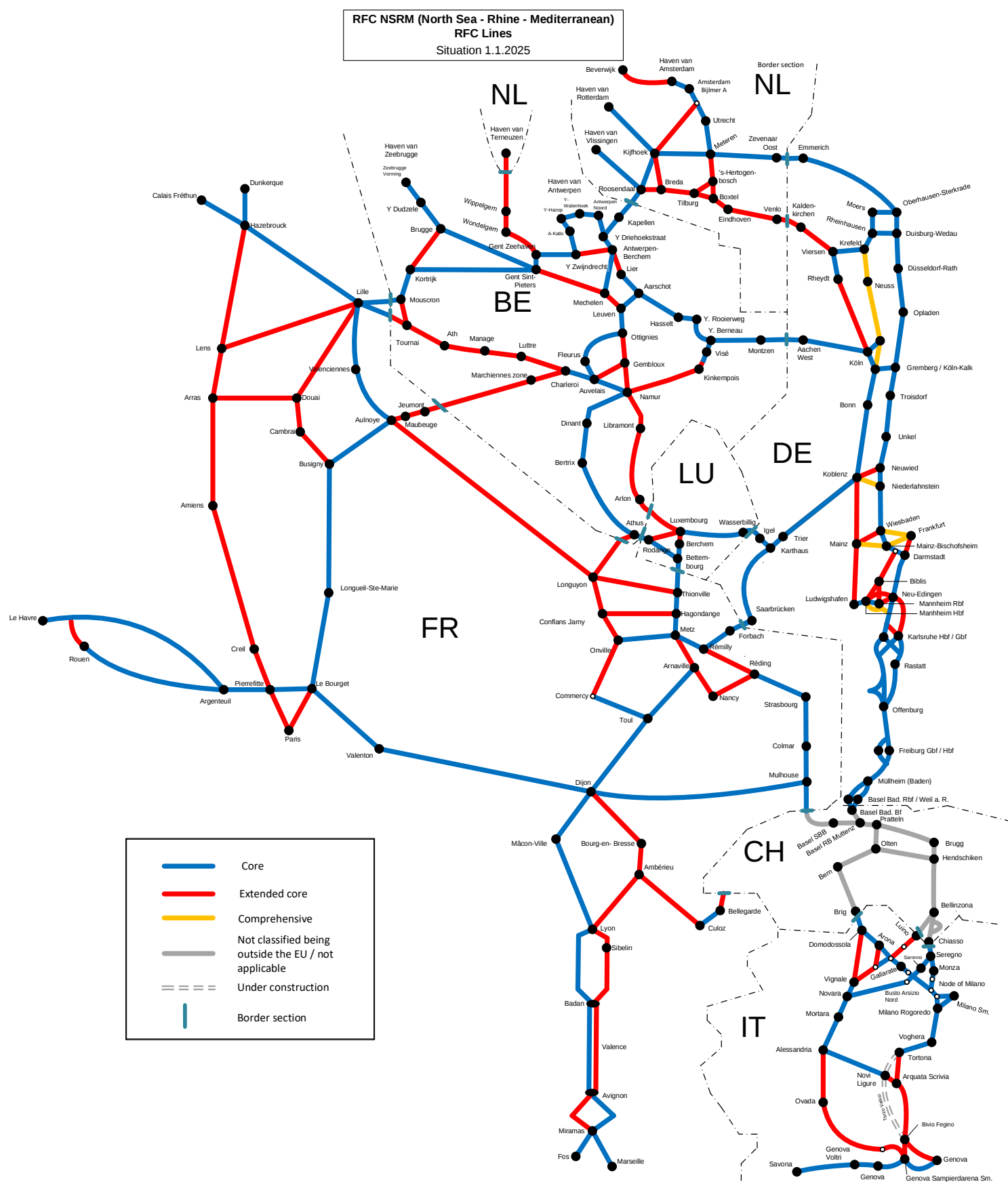
The ETC, and hence also the RFC, consists of the parts of the core and extended core network which are of the highest strategic importance for the development of the TEN-T network.

Figure 02 shows to which layer the freight railway lines of RFC North Sea – Rhine – Mediterranean belong. In addition, three lines designated as comprehensive network lines are shown, as they were deemed important by DB InfraGO.

As a non-EU member state, Switzerland does not differentiate between core, extended core or comprehensive Network, but divides the national network into Interoperable Main Network and Interoperable Supplementary Network. Further explanations can be found [here](#) (*available in German only*).

Please note that the graphical overviews are given for informational purposes only and do not consider the specific compliance criteria as described in the TEN-T Regulation for some of these requirements. In addition, the different timelines for completion of the core, extended core and comprehensive network have not been considered in the graphical overviews. The compliance of the infrastructure requirements is being monitored by the European Coordinator.

Figure 02: TEN-T layers of RFC lines



Requirements for the following infrastructure parameters are set concerning the railway freight lines:

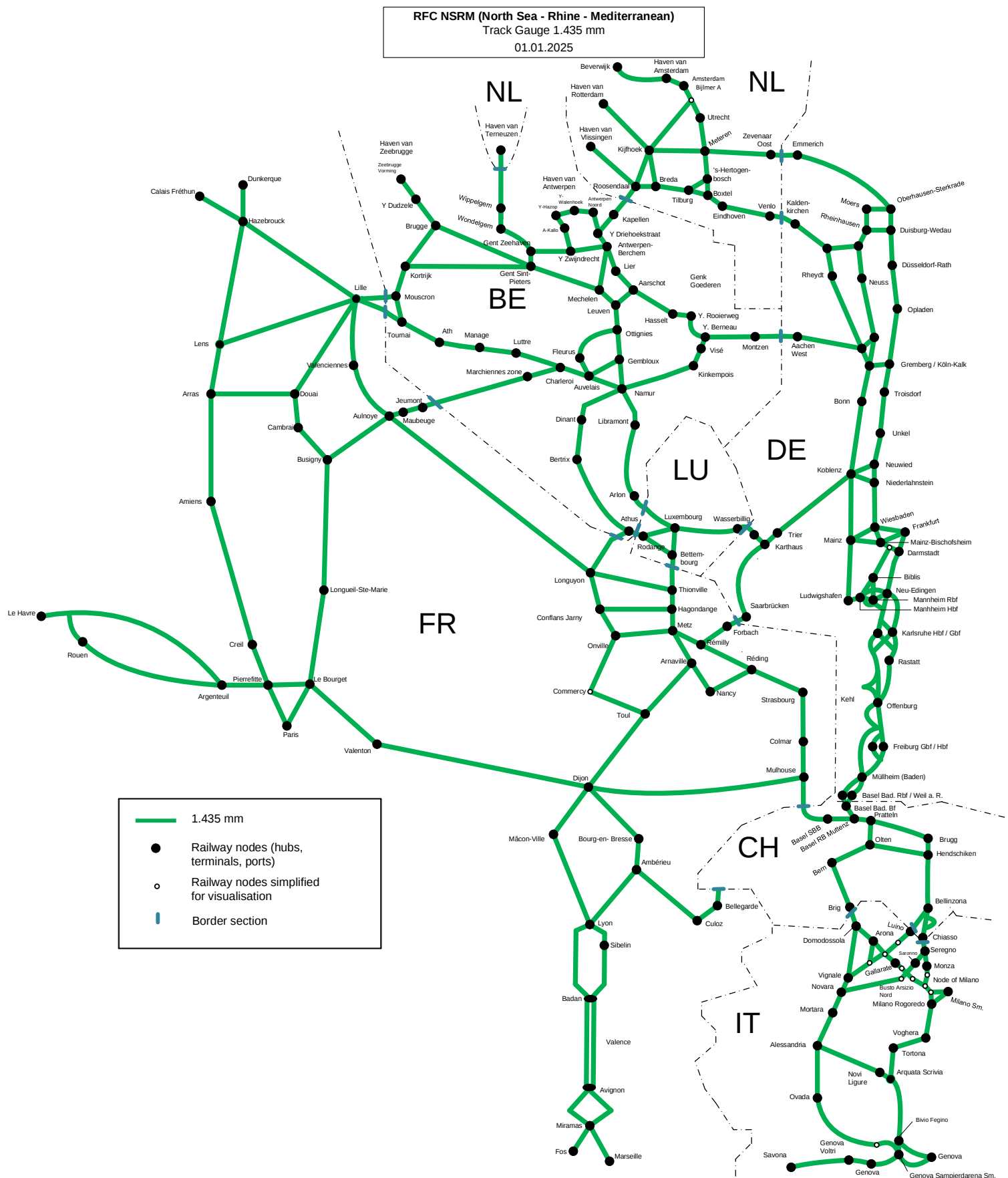
- Nominal track gauge
- Electrification
- Axle load
- 740 m freight trains
- Loading gauge
- Line speed
- ERTMS.

For each of these requirements, a jumping jack is showing the state of play on the RFC North Sea – Rhine – Mediterranean freight railway lines as of 01.01.2025, except for ERTMS. For some of these parameters also a state of play 2030 is shown. In these jumping jacks the railway lines in Ireland are not shown, as Ireland as an isolated network can be exempted from complying with these requirements.

2.1.1 Nominal track gauge

Article 17 of the TEN-T Regulation requires a European standard nominal track gauge of 1,435mm to enhance interoperability across member states' rail systems, facilitating seamless cross-border train operations and reducing transit times. As can be seen in Figure 03, all of the RFC North Sea – Rhine – Mediterranean lines have a track gauge of 1,435 mm, this is not an issue on this Corridor.

Figure 03: Track Gauge

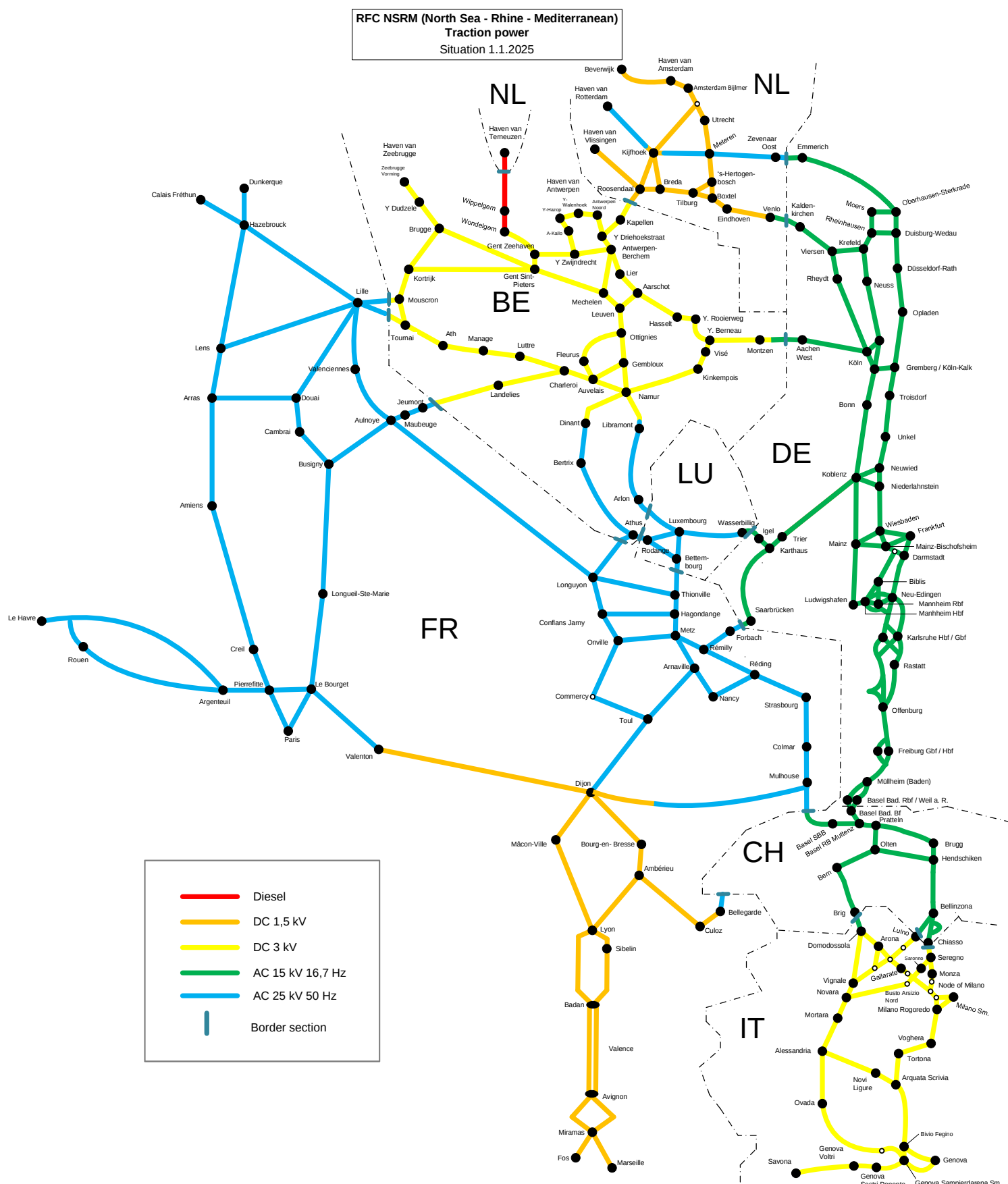


2.1.2 Electrification

According to the TEN-T Regulation the main railway lines should be fully electrified. Figure 04 provides an overview of the status of electrification (traction power) on the RFC North Sea – Rhine – Mediterranean Corridor lines.

Most of the RFC North Sea – Rhine – Mediterranean railway lines are currently electrified, except for the section between Wondelgem and Terneuzen. All electrified Corridor lines comply with the TEN-T standard which allows 25 kV AC, 50 Hz; 3 kV DC; 15 kV AC, 16.7 Hz; 1.5 kV DC and 750V DC.

Figure 04: Electrification

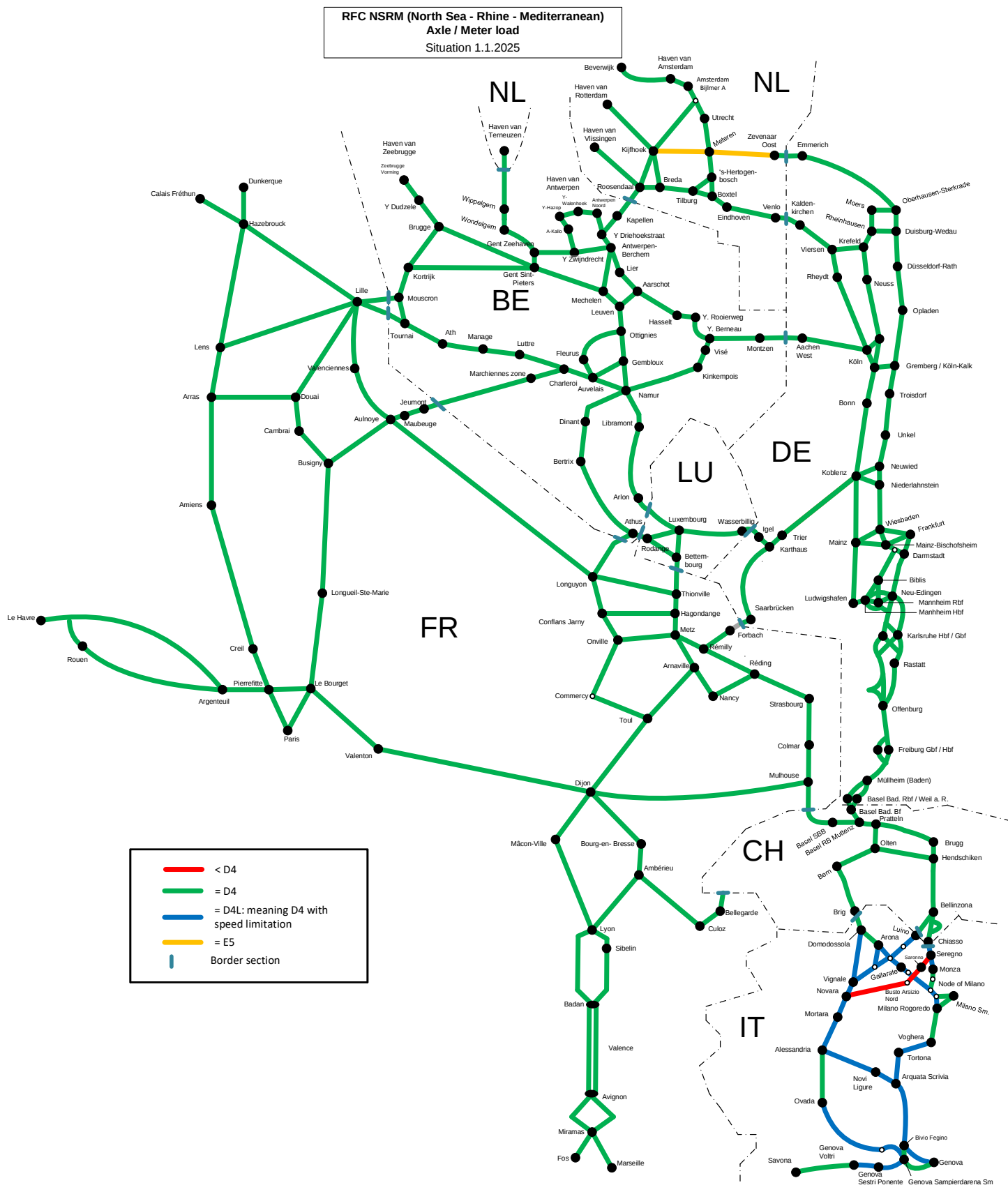


2.1.3 Axle load

According to the TEN-T Regulation the freight lines should enable, without special permission, an axle load of at least 22.5 tonnes. Figure 05 shows the current situation related to axle/meter load on RFC North Sea – Rhine – Mediterranean lines. Track class D4 indicates an axle load of 22.5 tonnes and a linear load of 8.0 tonnes per meter, whereas track class E5 indicates an axle load of 25.0 tonnes and a linear load of 8.8 tonnes per meter, as is the case on the Betuweroute in the Netherlands between Kijfhoek and Zevenaar Oost.

Most of the RFC North Sea – Rhine – Mediterranean lines are compliant, except for the stretch between Novara and Soreno in Italy.

Figure 05: Axle / Meter load



2.1.4 740 m trains

The TEN-T Regulation requires the railway infrastructure to enable, without special permission, the operation of freight trains with a train length of at least 740m, including the locomotive or locomotives. The requirement is met on core and extended core network lines, if at least the following conditions are applied with:

- a) On double track lines, at least one train path per two hours and direction and not less than 24 train paths on daily basis, can be allocated to freight trains with a length of at least 740 m if requested by a railway undertaking;
- b) On single track lines, at least one train path per three hours and direction and not less than 12 train paths on daily basis, can be allocated to freight trains with a length of at least 740 m if requested by a railway undertaking;

In addition, Article 19(2) of the TEN-T Regulation defines an operational priority concerning 740 m trains for the RFC. Further information can be found in chapter 5.3 Quantitative Objectives of this document.

In preparation of this Implementation Plan, RFC North Sea – Rhine – Mediterranean has compiled four schematic overviews of the feasibility of 740 m freight trains on the Corridor lines, both from a pure infrastructural, as well as an operational point of view (Figures 06 – 09) in 2025 and 2030. As mentioned before, these overviews do not consider the compliance criteria mentioned above.

The collected data shows that today, in principle, in most countries of the corridor the infrastructure allows for 740 m trains to be operated. However, in practice this is rarely possible due to operational restrictions, such as the insufficient number of suitable parking facilities. (see fig 07). From the point of view of train path allocation, only on the corridor routes in Switzerland it is already possible to receive good quality 740 m train paths for all requests during the whole day (see figure 08).

The picture is more positive for 2030, where requests from applicants for 740 m long trains could be met with suitable path offers on larger stretches along the Corridor. However, a significant improvement in the situation can only be achieved through comprehensive infrastructural construction measures, which are currently not expected by 2030.

Figure 06: 740 m trains: Situation in 2025 – infrastructural

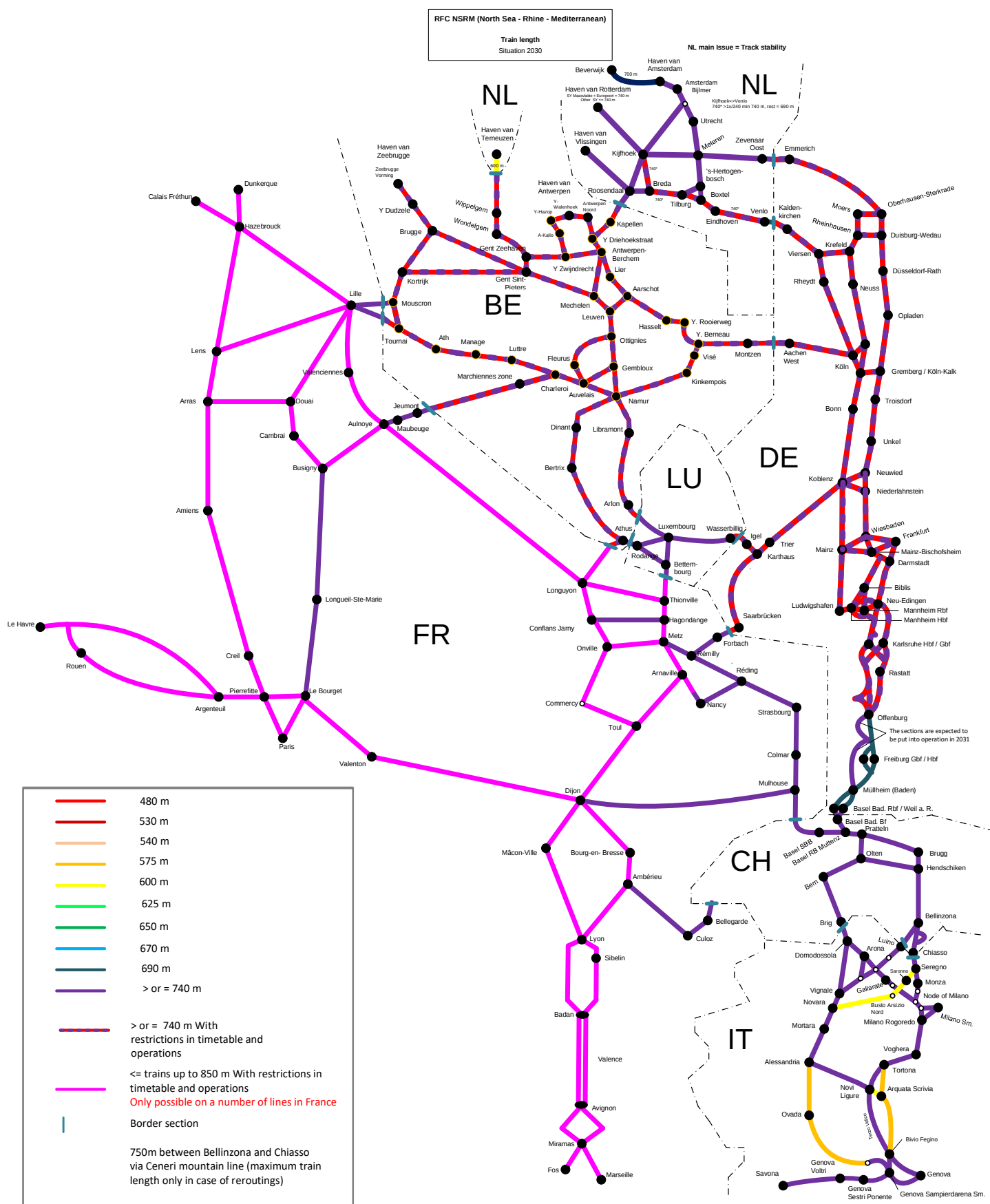


Figure 07: 740 m trains: Situation in 2030 – infrastructural

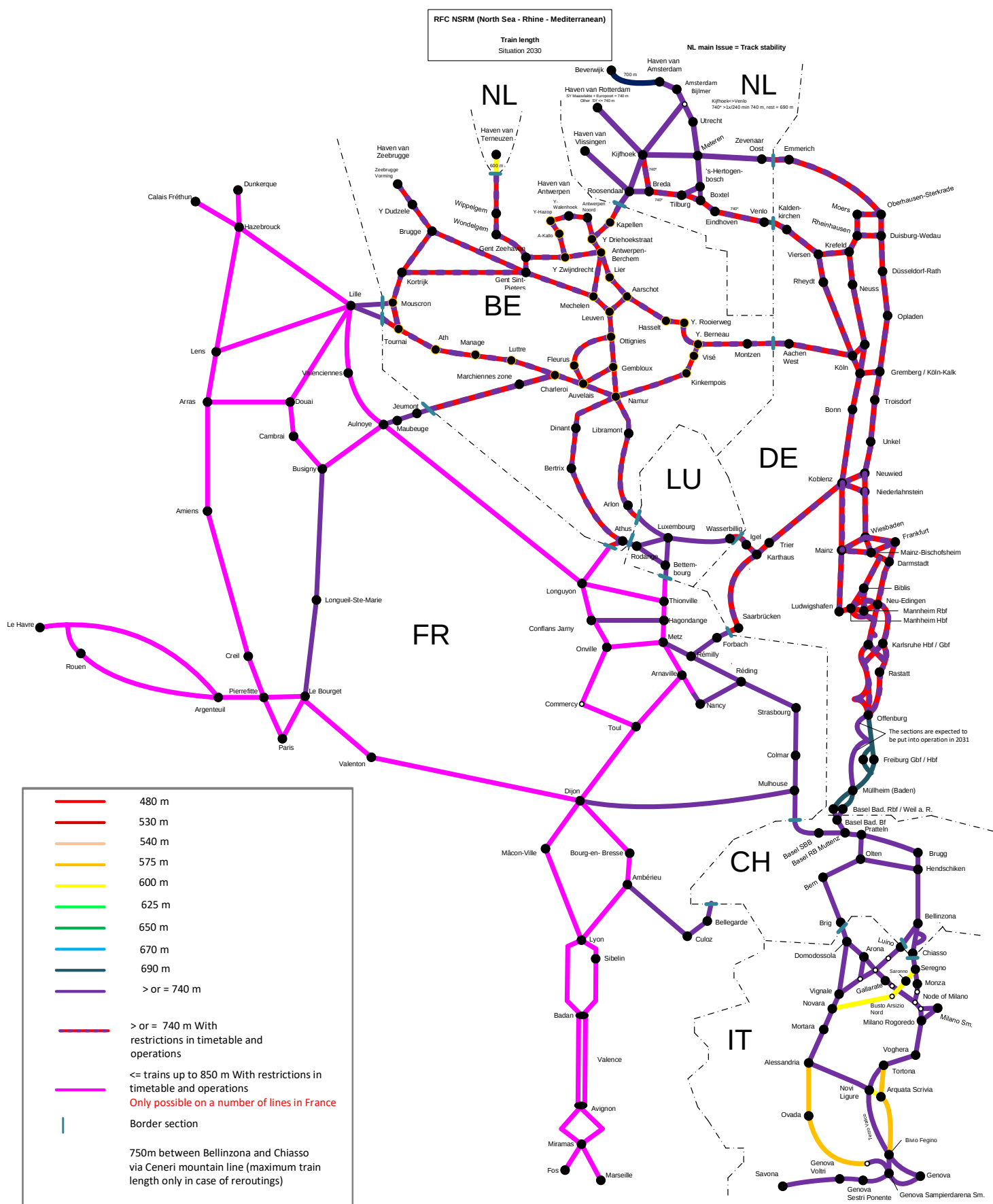


Figure 08: 740 m trains: Situation in 2025 – operational

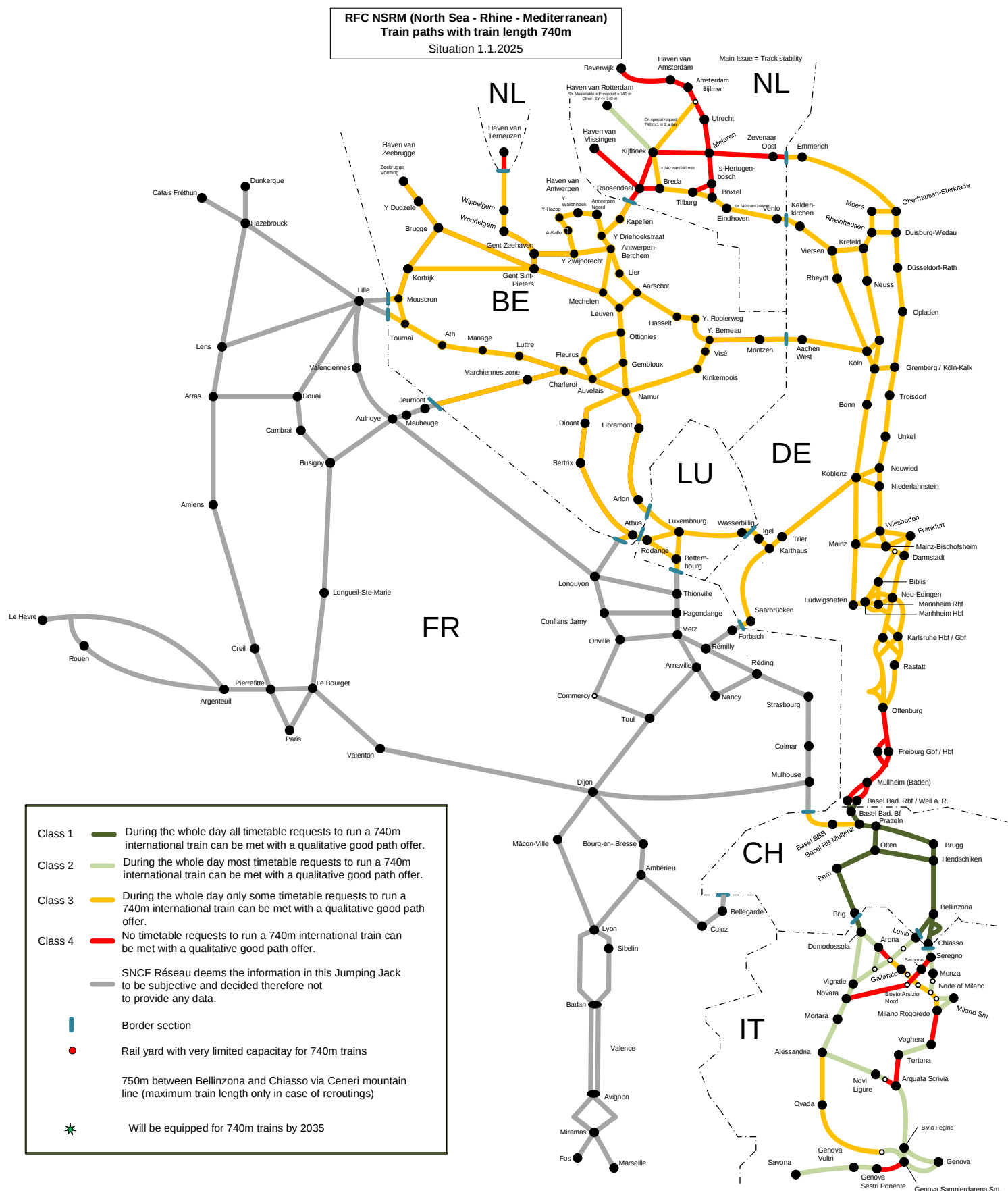
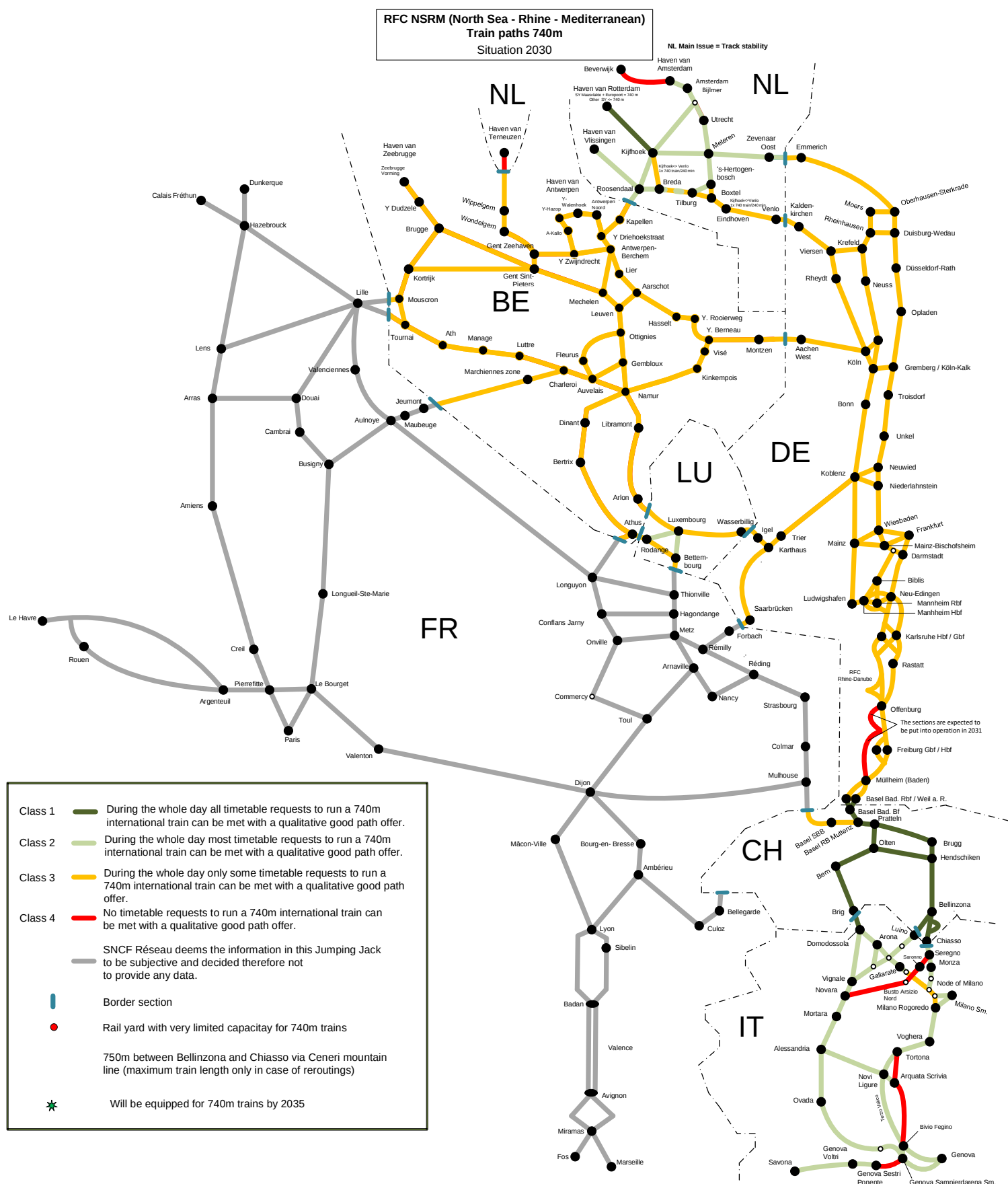


Figure 09: 740 m trains: Situation in 2030 – operational



2.1.5 Loading gauge

In Article 16 (8) of the TEN-T Regulation it is defined that Member states shall ensure that by December 31, 2040, freight trains with standard semi-trailers up to 4 meters in height, loaded at a height of at least 27 cm above the rail surface, can operate within the European transport corridors in their territory on freight lines that are part of the core network or extended core network. Compliance criteria are also defined and for cross-border sections the identification of the lines concerned shall be made in agreement with the neighbouring Member States concerned. At the latest by 19th of July 2027, Member States shall notify the European Commission of the lines concerned.

P400 is vital for railways as it allows the transportation of high-cube containers and semi-trailers up to 4 meters in height, as containerisation and the demand for larger shipping containers prompt the rail industry to increase their structure gauges to be able to compete with road transport in the long term.

This enhances efficiency by maximizing freight capacity and reducing the number of trips needed. It also ensures compatibility with international transport standards, promoting cross-border trade. Furthermore, using rail for large freight volumes supports environmental sustainability by reducing road transport reliance.

RFC North Sea – Rhine – Mediterranean has compiled overviews on the current and future situation (time horizon 2030) regarding profiles on Corridor lines (Figures 10 and 11), not considering the compliance criteria. The used profiles shown on the schematic maps indicate the following:

Example: P/C 80/400 refers to the loading gauge specifications for freight trains.

- P/C 80: This part refers to the profile class. The number 80 indicates the vertical clearance in decimetres for the overhead structures above the rail, allowing the train to pass safely.
- 400: This number indicates the horizontal clearance in centimetres, providing information about the width clearance needed for the train along the tracks.

Another schematic overview has been compiled to illustrate the present situation of the loading gauges on Corridor lines (Figure 12), indicating the maximum dimension of the top of the train and wagons. An overview of the loading gauges and their respective measurements can be found in the UIC guidelines on loading ([Link](#)).

Figure 10: Profiles Present situation (2025)

RFC NSRM (North Sea - Rhine - Mediterranean)
Profile
Situation 1.1.2025

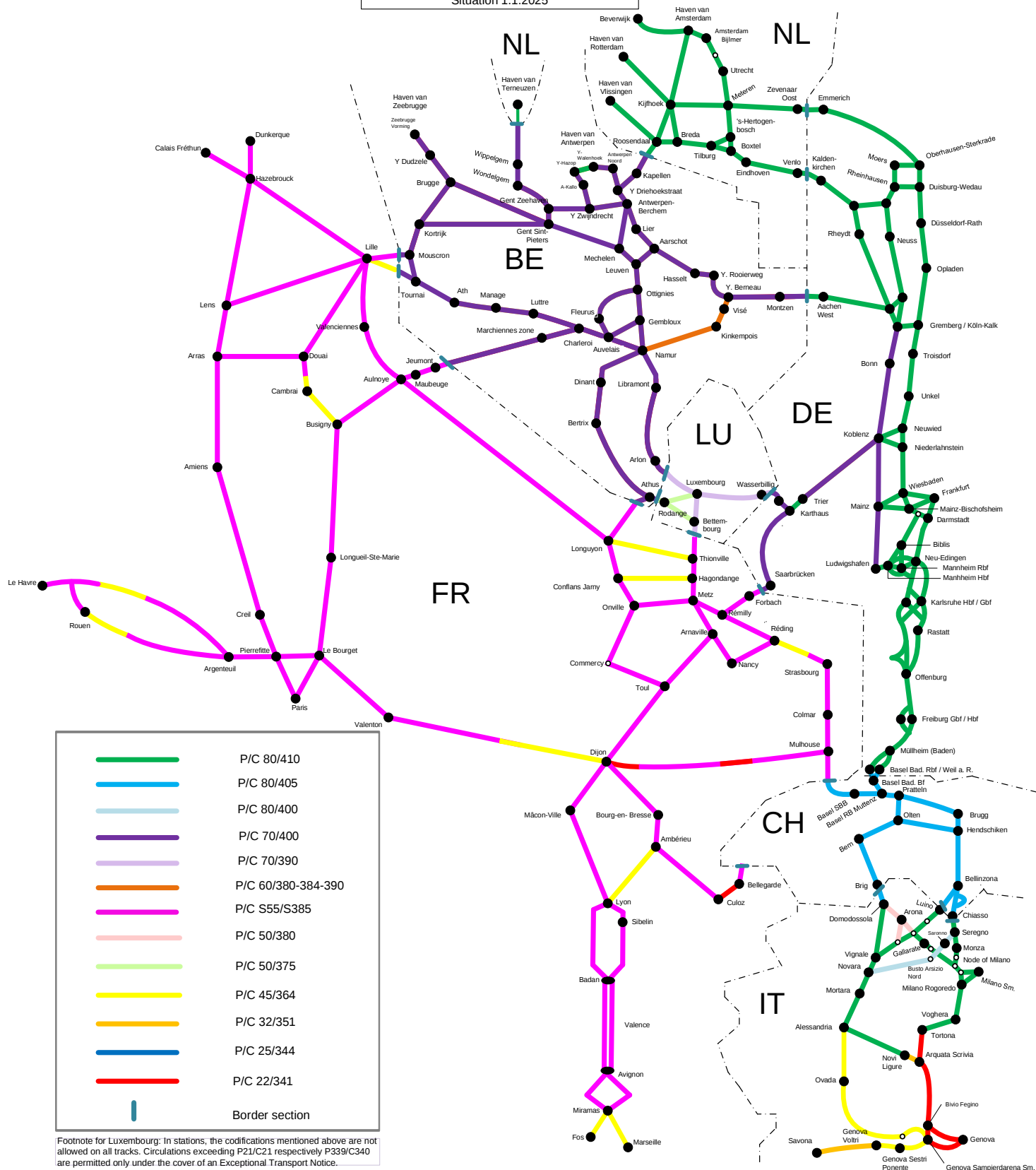


Figure 11: Profiles Expected situation in 2030

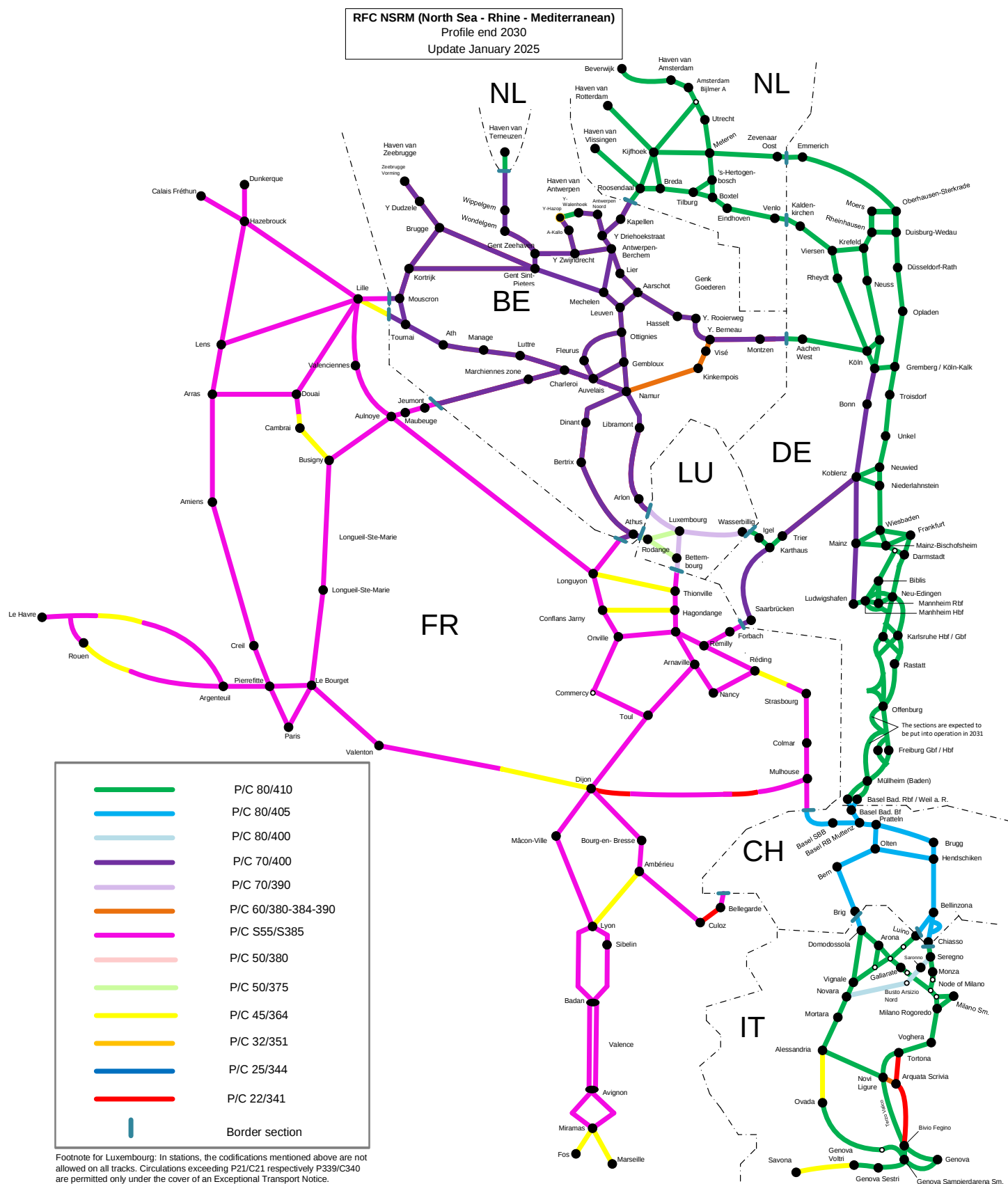
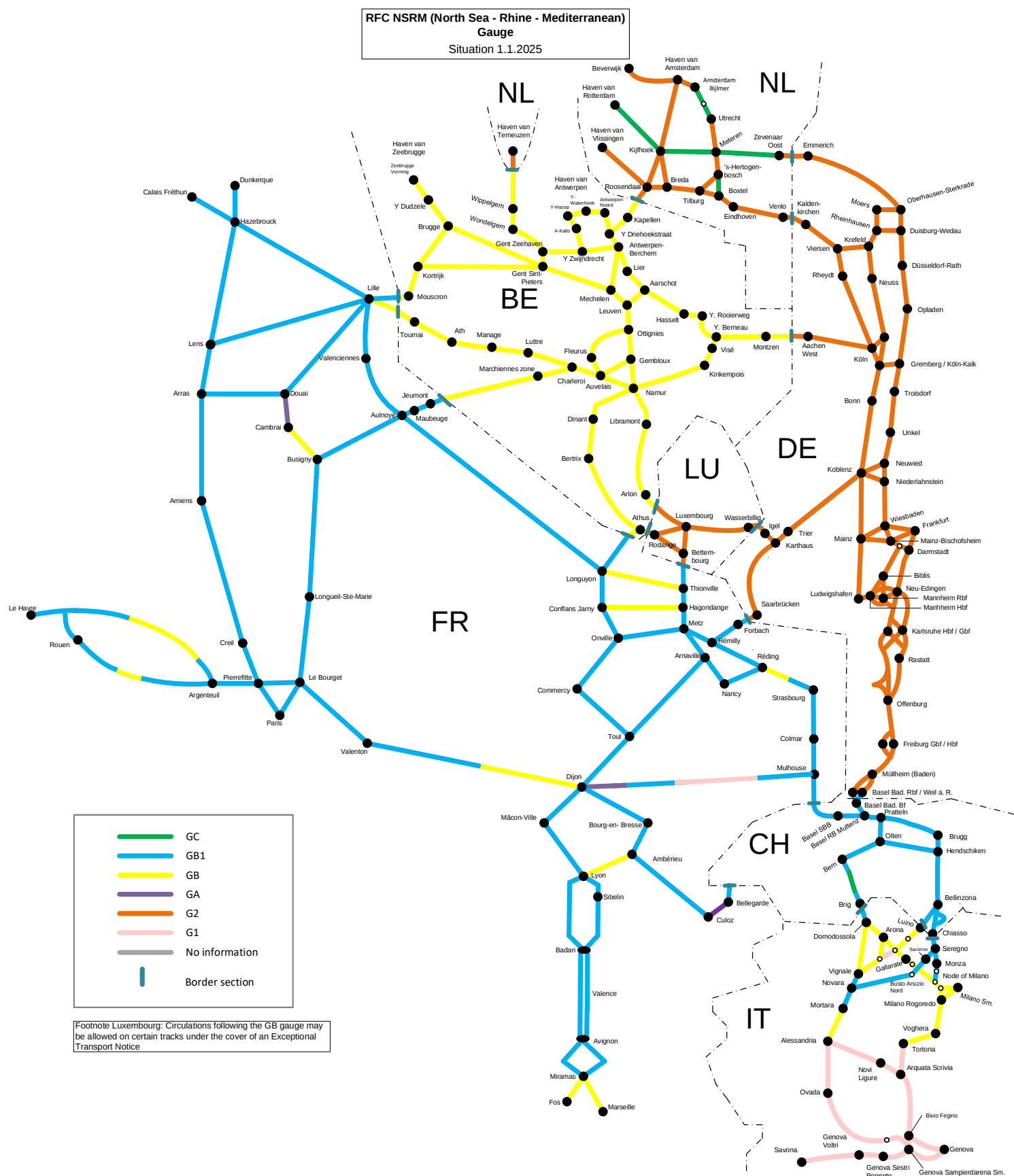


Figure 12: Loading Gauge on RFC North Sea – Rhine – Mediterranean



2.1.6 Design speed

The TEN-T Regulation states that on sections that connect a multimodal freight terminal with two urban nodes, or a multimodal freight terminal of an urban node with a border crossing point, more than 75% of the length of each section is designed for freight trains to operate at a minimum speed of 100 km/h. This applies for the lines of the core and extended core only.

This specific data is currently not available for the Corridor lines of RFC North Sea – Rhine – Mediterranean. Therefore, the Corridor has compiled the data of maximum speed for freight trains on lines belonging to the RFC, which can be seen on the schematic map in Figure 13.

2.1.7 ERTMS

This chapter contains details of the ERTMS deployment planning on RFC North Sea – Rhine – Mediterranean. The information is indicative and can differ from the National Implementation Plans (NIP) due to different update procedures, deadlines, and date of publication.

ERTMS, the European Rail Traffic Management System, is a major initiative aimed at harmonizing signalling and control systems across Europe's railways to enhance safety, increase efficiency, and facilitate seamless cross-border train operations. At its core is ETCS, the European Train Control System, which provides standardized rail traffic management and signalling capabilities. It's one of the two horizontal priorities of the TEN-T policy, the other being the European Maritime Space.

ETCS replaces national train protection systems with a uniform standard, ensuring trains can travel safely between countries without requiring different onboard equipment. It operates through a combination of onboard components and trackside infrastructure, communicating real-time data to manage train speeds, ensure safe distances between trains, and optimize rail network capacity.

The TEN-T Regulation defines in Article 19 that Member states shall ensure that ERTMS is implemented by 2050 on the comprehensive network, by 2040 on the extended core network, and by 2030 on the core network. Since the introduction of radio-based ERTMS also aids in eliminating national regulations that hinder operations, Member States should ensure that newly constructed lines starting from 2030, and the upgrading of signalling systems on existing routes starting from 2040, use radio-based ERTMS. Moreover, the entire Trans-European Transport Network should be equipped with radio-based ERTMS by 2050. The TEN-T Regulation also prescribes deadlines for the Class B decommissioning.

The ERTMS development is closely monitored by RFC North Sea – Rhine – Mediterranean on a voluntary basis. An overview on the deployment of ERTMS according to the current national planning can be found in Figure 14. Furthermore, Figures 15-18 show the indicative roll-out planning of ERTMS on Corridor lines with the deadlines 2026, 2029, 2032 and after 2032.

In addition to the National Implementation Plans provided to the European Coordinator for ERTMS, Matthias Ruete, RFC North Sea – Rhine – Mediterranean has decided to publish a comprehensive document on the development of ERTMS on the Corridor on a voluntary basis. The corridor sections as well as some subsequent sections of adjacent corridors will be shown with their planned completion dates, ETCS deployment type, ETCS system version, the planned development of the radio systems, the expected availability of class B/A-systems and an overview on the border crossings, as well as the expected decommissioning of the Class B systems.

In the following paragraph, the situation in the countries along the Corridor is described.

The Netherlands

In the Netherlands, deployment started on the Betuweroute between Kijfhoek and Zevenaar which was inaugurated in 2007 as a dedicated freight line only equipped with ETCS B2, SRS 2.3.0d. Between 2007 and 2015 the connection to the Port of Rotterdam (Havenspoorlijn with ETCS L1) and from Zevenaar Oost to the German border (ETCS L2) have been converted to ERTMS. The further national ERTMS deployment on the main RFC North Sea - Rhine - Mediterranean lines has been decided in 2019. The plan 2019 included ERTMS roll out also on Rotterdam - Venlo and Amsterdam - Betuweroute by 2030. It turned out that this plan was too optimistic and roll out plans are temporary halted. The revised plan includes Port of Vlissingen – Roosendaal (2029 – 2030) and Kijfhoek – Roosendaal – Belgian border (2031). At this stage it is not possible to provide information about new realisation dates for other lines.

Belgium

In Belgium, the outlined ERTMS implementation of the Corridor lines is part of a country-wide migration program by the end of 2027 (*), although Infrabel is still aiming to equip the mainline network by the end of 2025, in order to improve the safety level of train operations on the mainline network. All vehicles in Belgium have to be operable with ERTMS by end of 2027 (*) whereby ETCS L1 and L2 FS B2 and B3 infrastructure will be equipped with System Version 1.x to allow B2 and B3 locos. On the other hand, ETCS L1 LS B3 tracks shall be equipped with System Version 2.x in order to allow the operation in Limited Supervision. Railway operators are strongly encouraged to equip their rolling stock with baseline 3 to accommodate as much as possible future upgrades of the infrastructure such as ETCS2 without lineside signalling implemented also with the system version 2.X and gradually deployed from end 2028.

Since December 2016, the Class B system Memor/Crocodile is put out of service on the lines equipped with ETCS Level 1 FS version 2.3.0d, allowing only trains equipped with ETCS Level 1 (minimum Baseline 2) or under certain exceptions TBL1+ to run on these tracks. Nevertheless, a Royal Decree published in 2018, with the latest revision on 28 November 2023 (**) provides the progressive decommissioning of the Memor/Crocodile Class B system on the main tracks equipped with any level of ETCS, as soon as ETCS is in service, at the latest by 12.12.2027. From 12.12.2027, TBL1+ will be decommissioned on all main tracks and Belgium will become an ETCS only network. TBL 1+ is probably available on branch routes until 2028. In the next step, from 2026 L1 will be replaced by L2.

(*) mid May 2025 the Belgian federal Council of Ministers agreed to revise the “ETCS only” deadline for rolling stock and infrastructure from end 2025 to end 2027. Even though Infrabel is aiming to respect the original deadline of end 2025, the legal deadline is set at the end of 2027 for all for rolling stock and infrastructure.

(**) the procedure to adapt the Royal Decree with the new ETCS only deadline is ongoing.

Germany

In Germany, the roll-out planning on RFC North Sea – Rhine – Mediterranean has changed over the past years in the course of the further development of the strategy for the German network. So L1LS was completely dismissed in 2022 except for the cross-border lines to Switzerland. The awarding of ETCS L2 (SV 2.0) is tendered and contracted on the RFC since 2020. Putting into operation started in 2022. The operational use of ETCS on the lines of RFC North Sea – Rhine – Mediterranean is currently not mandatory in Germany and therefore the vehicle equipment is not compulsory. The existing Class B systems, especially PZB, will be kept operational in parallel to an ERTMS installation for a transition period. Decommissioning of Class-B systems is not yet decided.

In 2024 DB InfraGO published an ERTMS migration strategy for the period until 2029 and a revised NIP was handed over to DG Move by the Ministry of Transport. Since then, the framework conditions have changed in political, financial, and strategic terms. The impact on the ERTMS roll-out can only be assessed once budgets have been reallocated and projects have been reprioritized against the overall objective to establish reliable operations on the high-performance network. An update of the ERTMS migration strategy and the review of the NIP can only be decided upon as soon as the evaluation process is completed. Nevertheless, changes for the previously planned ERTMS roll-out on the former RFC Rhine-Alpine are currently estimated to be minor.

In 2024, the Federal Ministry of Transport, Building and Urban Affairs also ordered an update of the "Overall ETCS Strategy" for the economic, traffic-related and technical/operational introduction of ETCS. According to this, the recommendation for the "Overall ETCS Strategy" is, to include the definition of a technical target image for ETCS and digital signal boxes, supplementary measures, the development of an upgrading and retrofitting concept for the infrastructure and vehicles as well as measures to accelerate the equipping of vehicles with ETCS (e. g. funding instruments). The derivation and definition of specific measures are currently still under review.

France

In France, the ETCS roll-out has begun in Level 1 FS, system version 1.1, with two pilot sites located at the borders with Belgium and Luxembourg, hence allowing an actual ETCS transition between the three networks. These pilot sites have been in operation since 2016 and 2017.

The equipment of the route between these borders and the Swiss border near Basel is on-going (through Metz, Strasbourg and Mulhouse), with intermediate steps, the final achievement being scheduled end 2028, in L1FS, system version 1.1. There is still no date for the decommissioning of KVB on this route.

Following the updated SNCF Réseau strategy for its network, the rest of the Corridor will be equipped with ETCS level 2, without lateral signalling, and without Class B system which will be decommissioned along with the commissioning of ETCS. The NIP issued at the end of 2024 provides for a phased roll-out along the Marseille-Metz route, via Dijon and Lyon, to be finalized around 2040. This NIP has been designed to, as much as possible, take into account four constraints:

- The need for digital interlockings, hence leading to a fusion of the ERTMS program with the Network Centralized Control (CCR) program
- The financial subsidies to be allocated by the State
- The European request to stick to the TEN-T Regulation
- The ability of Railway Undertakings to equip with ETCS all their rolling stock that will use the sections equipped with Level 2 only.

Luxembourg

In Luxembourg, deployment of ETCS started in 2004 and was completed for the whole network in 2017. Since December 2019, only vehicles equipped with ETCS are allowed on the Luxembourgish railway network and the Class B system MEMOR II+ has been decommissioned. Today ETCS is the only train protection system in service. The whole network is operated in ETCS L1 FS with system version 1.y. Luxembourg will continue to use and further develop L1 FS in the future and has no plans to switch to L2.

Switzerland

In Switzerland, the operation of ERTMS in L2 has already been well proven since years on the high-speed line from Rothrist to Mattstetten (2006), as well as on the Lötschberg base tunnel line (2007), since 2016 on the Gotthard Base Tunnel and since 2020 on the Ceneri Base Tunnel. In addition, miscellaneous conventional ETCS L2 lines have been taken into service, mainly on the Gotthard route and between Lausanne and Brig.

The Class B systems ZUB and Signum have been replaced by ETCS L1 LS and EuroZUB/EuroSignum (Packet 44). This concept allows the operation of existing national vehicles and the use of vehicles equipped with ERTMS at the same time. ERTMS only operation with vehicles which support at least SV 2.0 is possible since 2017 on the Swiss standard gauge network. Besides this, Switzerland has already completed major investments for equipping the fleet with ERTMS. Studies for a further migration of vehicles are currently in progress.

Italy

In Italy, the successful operation of ERTMS in L2 has already been well proven since years on the high-speed line network, connecting Torino – Milan – Bologna – Firenze and Rome – Naples. For the conventional lines during the last years major investments have been made to upgrade the Class B system into SCMT, which is based on the use of balises thus presenting a good basis for the implementation of ERTMS. The present configuration of the corridor lines during a migration phase until 2030 will be mixed level lines with ERTMS and the existing Class B system. Later, following the deployment of ERTMS according to the recovery plan since 2022 all the new awarded ETCS lines will be L2 stand alone. And according to the new NIP released end of 2024 in Italy L1 will no longer be implemented. Likewise, ETCS L1 will be migrated to L2.

The operational scenario and the relevant risk management for the implementation of the new plan L2 has been defined. Go Live of ERTMS on the Italian RFC lines started on the border sections Iselle - Domo - Domo II and Pino-Tronzano – Luino in 2018 and 2019, equipment of the RFC North Sea - Rhine - Mediterranean network is expected to be completed stepwise until 2032. Decommissioning of the ClassB system is planned stepwise from 2025, depending on the progress of the vehicle equipment.

Figure 14: Overview on ERTMS Deployment

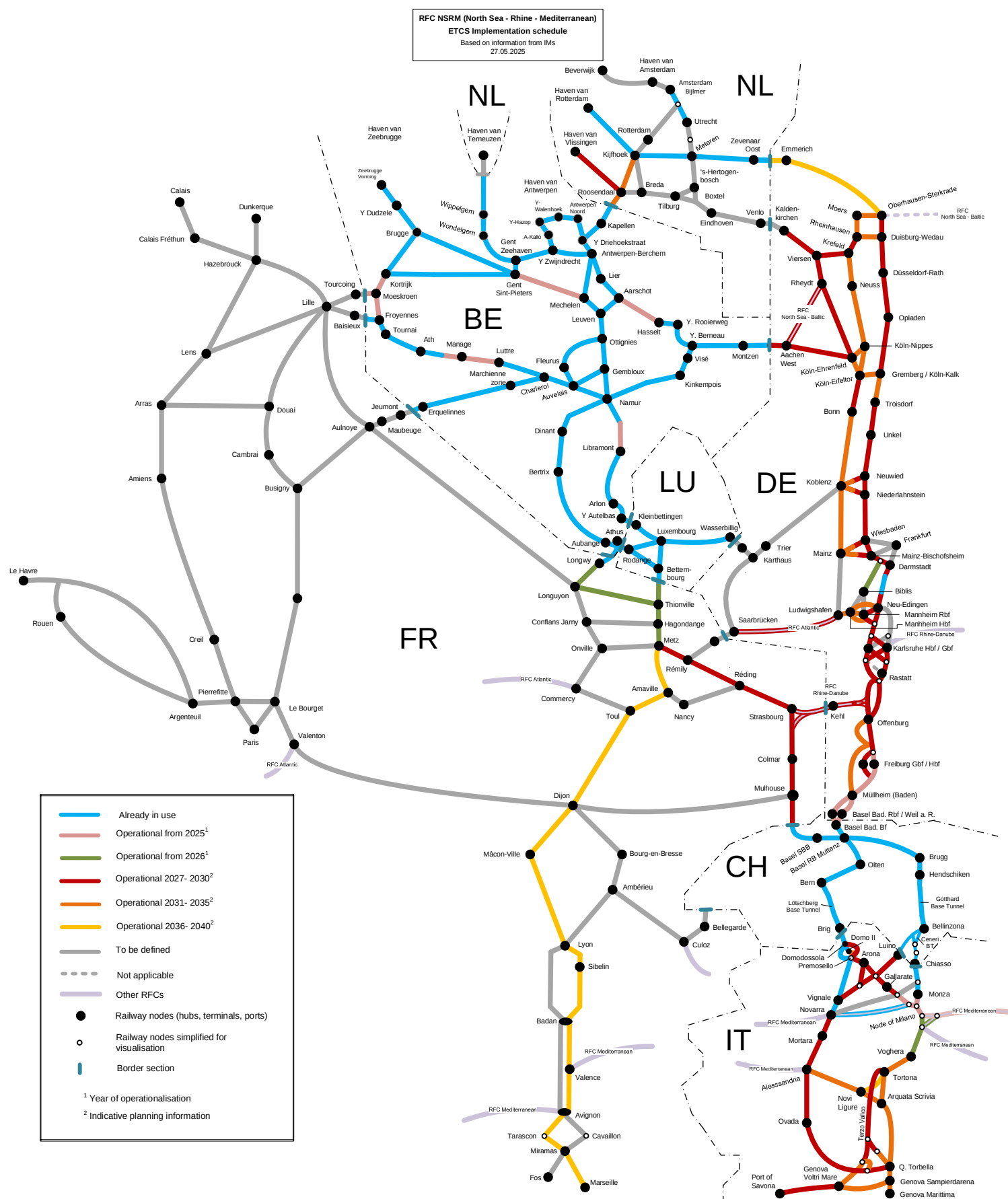


Figure 15: ETCS operational from 2026

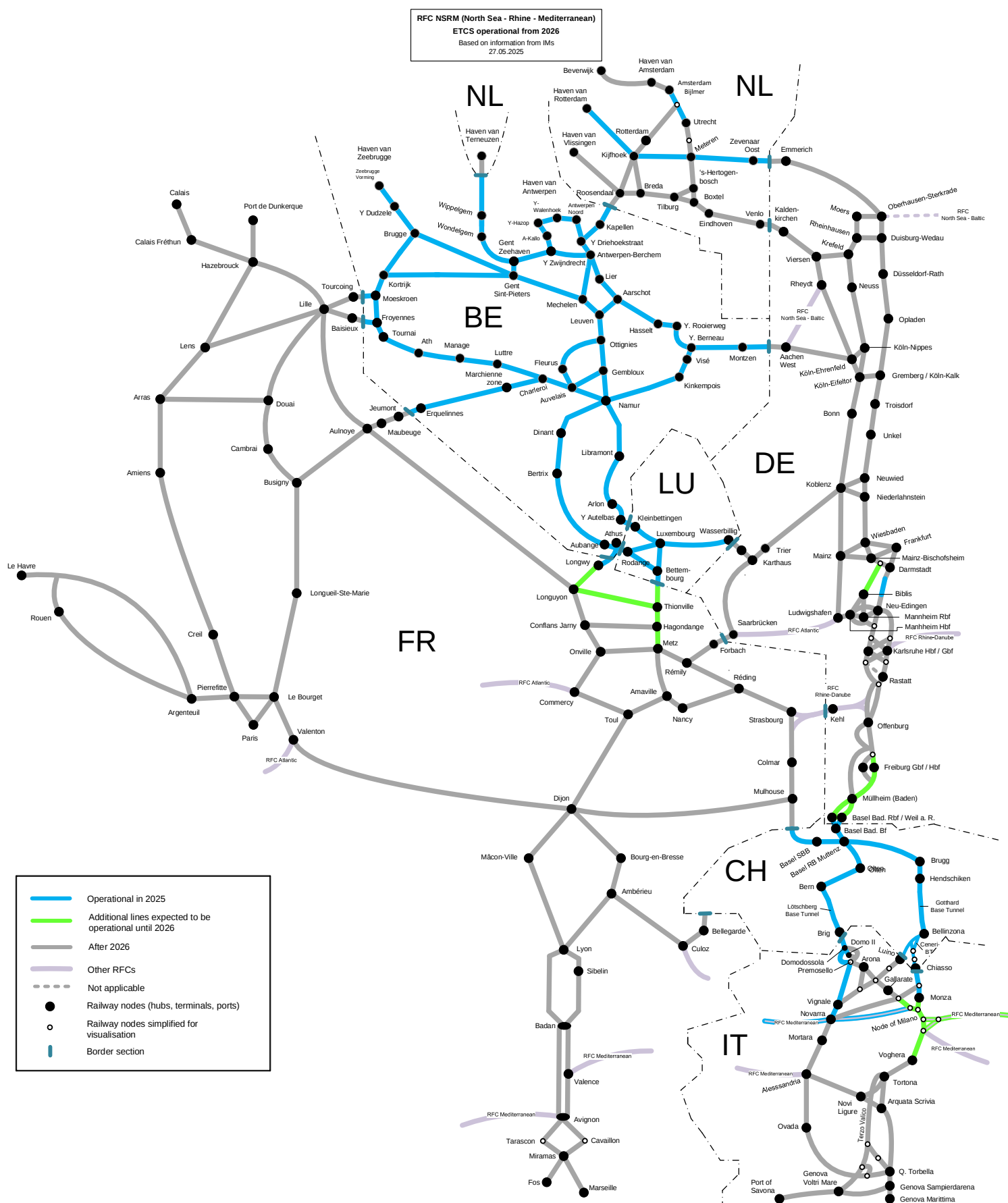


Figure 17: ETCS deployment from 2032

RFC NSRM (North Sea - Rhine - Mediterranean)
ETCS operational from 2032
Based on information from IMs
27.05.2025

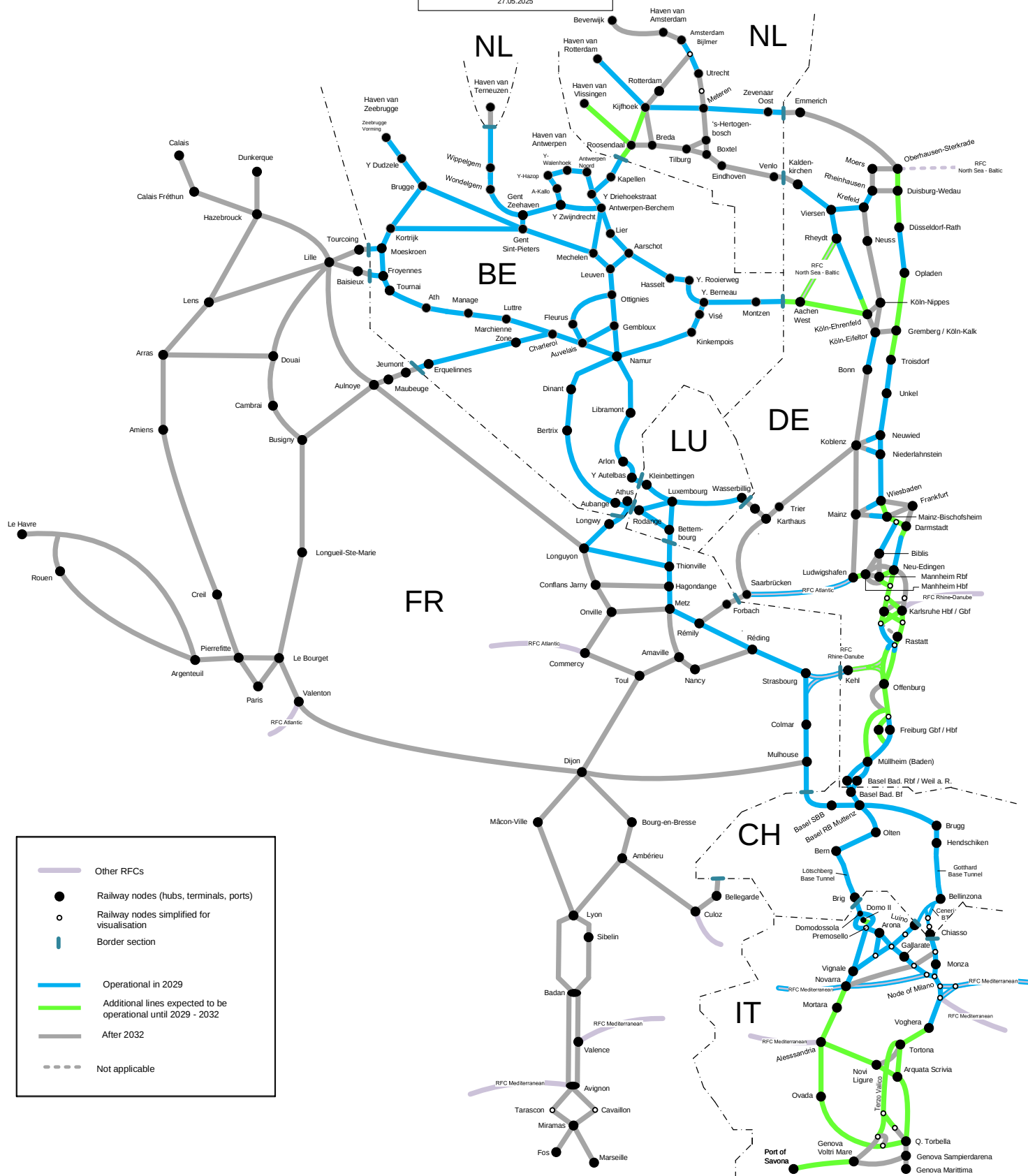
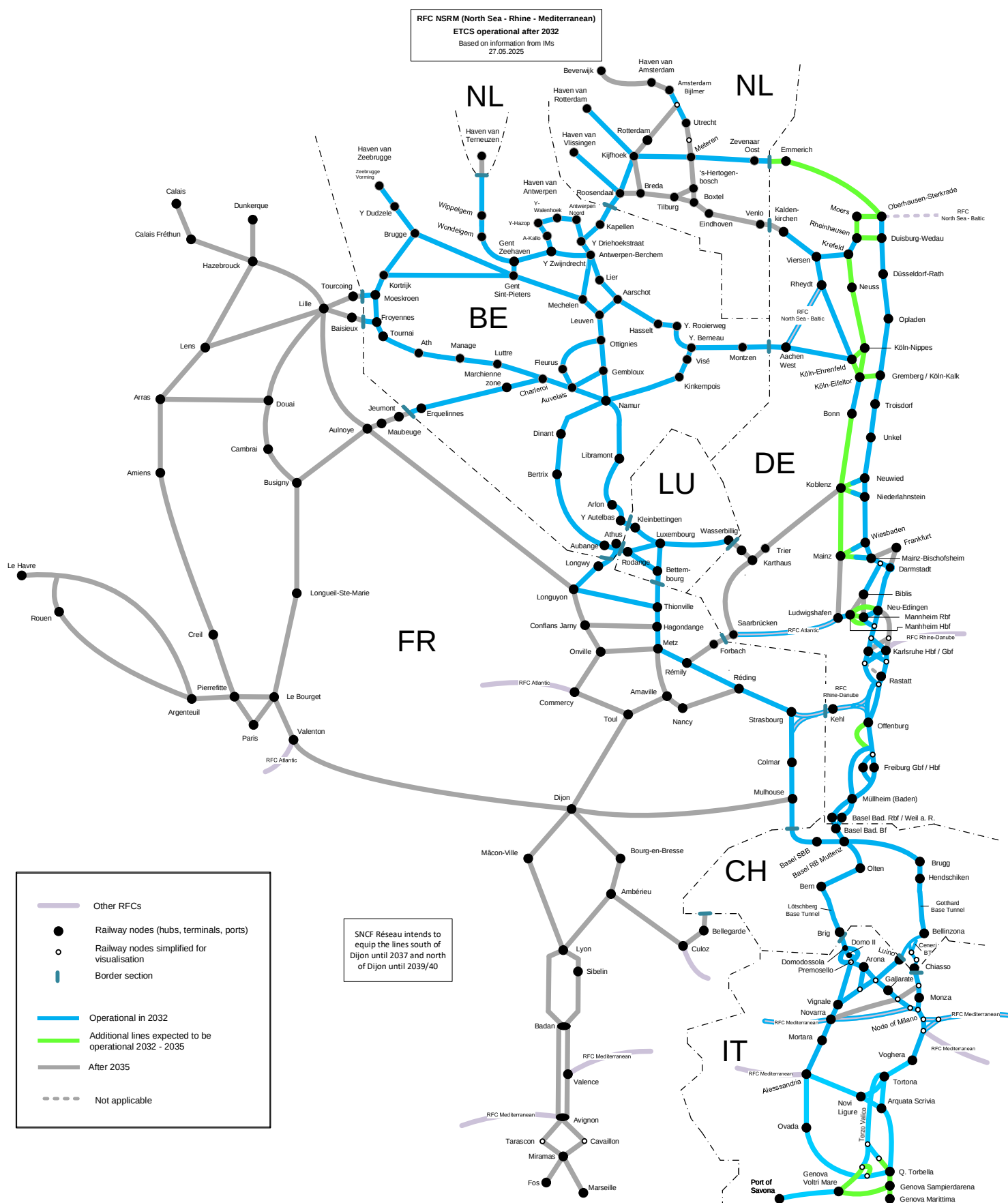


Figure 18: ETCS deployment after 2032



2.1.9 Customer Information Platform

RFC North Sea – Rhine – Mediterranean uses the Customer Information Platform ([CIP](#)) to display the actual infrastructural information of the Corridor. CIP is an interactive, Internet-based information tool, that has been developed together with other RFCs as well as RailNetEurope. By means of a Graphical User Interface, CIP provides precise information on the routing, selected terminals and specific track properties, as well as ICM lines and their re-routing options of the participating RFCs. There is also the option to create and download overviews of the line properties along dedicated routes by using the dynamic tool “Route Planning”.

In addition to the TEN-T parameters, RFC North Sea – Rhine – Mediterranean also provides information on the following parameters in CIP:

- Number of tracks
- Class B signalling systems
- Gradient in both directions
- Usage of the line (passenger, freight, combined)
- ERTMS Information.

CIP is also used as a publication platform for corridor documents such as performance reports, corridor information documents and others. Those can be accessed under “[Information Documents](#)”.

2.2 Corridor Terminals

According to Article 2(c) of the RFC Regulation a terminal means *“the installation provided along the freight corridor which has been specially arranged to allow either the loading or the unloading of goods onto or from freight trains, and the integration of rail freight services with road, maritime, river and air services, and either the forming or modification of the composition of freight trains; and, where necessary, performing border procedures at borders with European third countries”*.

RFC North Sea – Rhine – Mediterranean uses the pre-existing lists of terminals based on this definition, which were published in the Implementation Plans of the former RFCs North Sea – Mediterranean and Rhine-Alpine, supplemented by terminals located on the previously uncovered routes of the new Corridor. The full list can be found as Annex A to this Implementation Plan.

This list does not take into account the identification of the multimodal freight terminals as defined in the TEN-T Regulation nor the thresholds applied to include terminals and ports in Annex II of the TEN-T Regulation.

Furthermore, Article 36(3) of the TEN-T Regulation calls on the Member States to identify the multimodal freight terminals and to carry out a market and prospective analysis of these terminals on their territory by 19th of July 2027 at the latest. This analysis must examine the current and future freight traffic flows across different transport modes. It should also identify the existing multimodal freight terminals within the trans-European transport network and assess whether there is a need for new terminals or additional transshipment capacity at existing ones. Furthermore, the analysis must evaluate how to ensure an adequate distribution of multimodal freight terminals with sufficient transshipment capacity to address identified needs, considering terminals located in border regions of neighbouring Member States.

Once the results of this study are available RFC North Sea – Rhine – Mediterranean will align its terminal list as part of a future update of the Implementation Plan.

2.3 Bottlenecks

On RFC North Sea – Rhine – Mediterranean only capacity bottlenecks on the railway infrastructure are monitored.

The calculation of bottlenecks for rail infrastructure is quite complicated. National calculation methodologies at IMs and national decision processes on infrastructure development are different and a common bottleneck analysis for RFC North Sea – Rhine – Mediterranean turned out to be an impossible task. Therefore, it was decided to set up the present CBA on the basis of the national investment plans to identify the infrastructural bottlenecks. This is a joint corridor approach, consisting of a combination of the national information provided by the different IMs. The information in this document has been compiled by the WG Infrastructure & Terminal of RFC Rhine - Alpine and collaborators from SNCF Réseau, CFL and FERROVIENORD.

The WG members gave information on the expected capacity bottlenecks in the future years for their own countries. This information was then presented in jumping jacks (JJ's) showing where the capacity bottlenecks can be found on the entire Corridor.

ProRail, Infrabel, SBB, BLS, CFL and SNCF Réseau opted to make a distinction between actual Capacity Bottlenecks (when the demand nearly exceeds the available capacity – indicated in red) and potential Capacity Bottlenecks (where demand is showing an evolution that might cause capacity problems – indicated in yellow). ProRail, Infrabel, SBB, BLS, SNCF Réseau and CFL determine (potential) capacity bottlenecks by applying a certain percentage to the capacity (use). Italy also identifies actual Capacity Bottlenecks. However, in Italy, the concept of a potential capacity bottleneck does not exist. RFI and FERROVIENORD only know sections/nodes with limited capacity.

In Belgium, the results of a new study in 2023 identified a number of potential bottlenecks for 2030. The study was based on the assumption that freight traffic will increase by 100% in 2030 as described in the Vision Rail 2024. A summary can be found [here](#) (in French).

In Switzerland, SBB Infrastruktur and BLS Netz focus only on the allocated capacity for freight traffic to determine the existence of bottlenecks, as this presents a more accurate view in the context of the national instruments to secure equitable train paths for freight and passenger traffic on the Swiss rail network (Network usage concept (NNK) and network usage plans (NNP)). All other IMs chose to take both passenger and freight traffic into account.

DB InfraGO AG shows capacity bottlenecks when capacity exceeds the demand, i.e. when the section is congested. This information is drawn from the document on “overloaded railways” (Überlastete Schienenwege ÜLS).

ProRail takes a differentiated look, assessing dedicated freight nodes, shunting yards (SY) and switches on the one hand and all lines including Havenspoorlijn and Betuweroute A15 on the other hand. Bottlenecks on dedicated freight nodes, shunting yards and switches are determined with the use of overloaded hours, while capacity on lines is calculated in basic hour patterns. This method is not used by any other IM.

To be able to use this information in the Ministries of Transports decision processes, this bottleneck information is shown in different ways. These different ways actually represent the remaining (possible) bottlenecks from the point of view of the status of decision making of the related project planning and investments on the Corridor.

These decision processes are not the same in all involved countries, but using the available five stages in decision making / lifecycle of a project can be distinguished:

- Realised (RD), meaning that the building process was completed and the project is operational. This stage is not considered in the CBA.
- Realisation (R), meaning that all necessary decisions are taken and money is available. The necessary funds are in place The building process is ready to start or has already started.
- Secured (S), meaning that all necessary decisions are taken and money is available and the necessary funds are in place.
- Planned (P), meaning that already first decisions are taken and financial reservations are planned. In other words plans for the project have been approved and also the budget is planned.
- To be decided (TBD), meaning that solutions how to solve problems are known, but no formal decisions are taken yet, and financial funds are not yet known. In other words, concrete plans for the project still need to be developed.

The jumping jack in Figure 19 shows the actual situation (2025) of the (potential) bottlenecks, taking into account the projects with Realisation (R) status (see 2.3.1).

The jumping jacks in Figures 20 – 22 show the evolution of the (potential) bottlenecks in 2030 (see 2.3.2) when:

- a) only the projects with the Realisation (R) status and Secured (S) status are taken into account (R + S),

- b) when both the projects with the Realisation (R) status, Secured (S) status and the Planned (P) status are taken into account (R + S+ P)
- c) when the projects with the Realisation (R) status, Secured (S) status, Planned (P) status and the projects with the To Be Determined (TBD) status are taken into account (R+ S+ P+ TBD).

The used project information is published in CIP. For the bottlenecks in Germany, information on projects can also be found in the '*Plan zur Erhöhung der Schienenwegkapazität*' (PEK), which is the plan to increase rail capacity, linked to each individual bottleneck.

2.3.1 Current Situation 2025

In the **Netherlands** there is a bottleneck on 6 sections:

- Kijfhoek-Breda
- Breda-Tilburg
- Tilburg-Boxtel
- Boxtel-Eindhoven
- Eindhoven-Venlo
- Venlo-Border

This is mainly caused by the diverted trains due to the single and double track Emmerich-Oberhausen closures in 2025.

Five nodes are marked as a bottleneck: SY Botlek, SY Waalhaven Z, SY Lage Zwaluwe/Moerdijk, Port of Amsterdam (mainly environmental restrictions) and SY Venlo,

One section is marked as a potential bottleneck:

- the section between Kijfhoek - Breukelen

Four nodes are marked as a potential bottleneck

- Port of Vlissingen
- Europoort
- Pernis
- Kijfhoek

In **Belgium** two nodes are marked as bottlenecks:

- the node Gent Sint-Pieters (congested)
- the node Lier (Y. Nazareth)

Six sections are marked as potential capacity bottlenecks.

- the section between Brugge and Gent
- the section between Gent and Melle
- the section between Gent and Zwijndrecht Fort
- the section between Antwerpen Berchem and Lier
- the section between Aarschot and Hasselt
- the section between Namur and Libramont

In **Germany** there are 5 bottlenecks:

- the section between Kaldenkirchen and Viersen.
- the section between Aachen West and Stollberg.
- the section between Hürth-Kalscheuren and Remagen.
- the section between Mannheim – Zeppelinheim (the relevant section for RFC North Sea – Rhine – Mediterranean is Gross Gerau – Biblis).
- the section between Offenburg and Basel Bad Rbf (the relevant sections in the ÜLS are between Offenburg – Abzw. Gundelfingen and Abzw. Leutersberg – Weil am Rhein).

In **Switzerland** there are 2 bottlenecks

- the section between Bellinzona and Pino border
- the section between Frutigen and Brig (Lötschberg Base Tunnel)

Between Genève and the French border there is a potential bottleneck.

In **Italy** 4 sections are marked as bottlenecks:

- the section between Luino and Laveno
- the section between Busto Arsizio and Rho
- the section between Voghera and Tortona
- the section between Saronno and Seregno

Seven sections are marked as sections which exceed the limited capacity threshold

- the section between Gallarate and Busto Arsizio
- the section between Rho and Milano Rogoredo
- the section between Milano (Rogoredo) and Pavia
- the section between Pavia and Bressana Bottarone
- the section between Genova Sestri Ponente - Genova Sampierdarena
- the section between Busto Arsizio Nord and Saronno
- the section between Novara RFI and Novara NORD

In **Luxembourg** there is one bottleneck:

- the section between Luxembourg city and Bettembourg station.

In **France** 5 sections are marked as potential bottlenecks

- the section between Lille and Douai
- the section between Argenteuil and Dijon
- the section between Dijon and Ambérieu
- the section between Bettembourg Frontière and Metz
- the section between Badan and Avignon

One node is marked as a potential bottleneck:

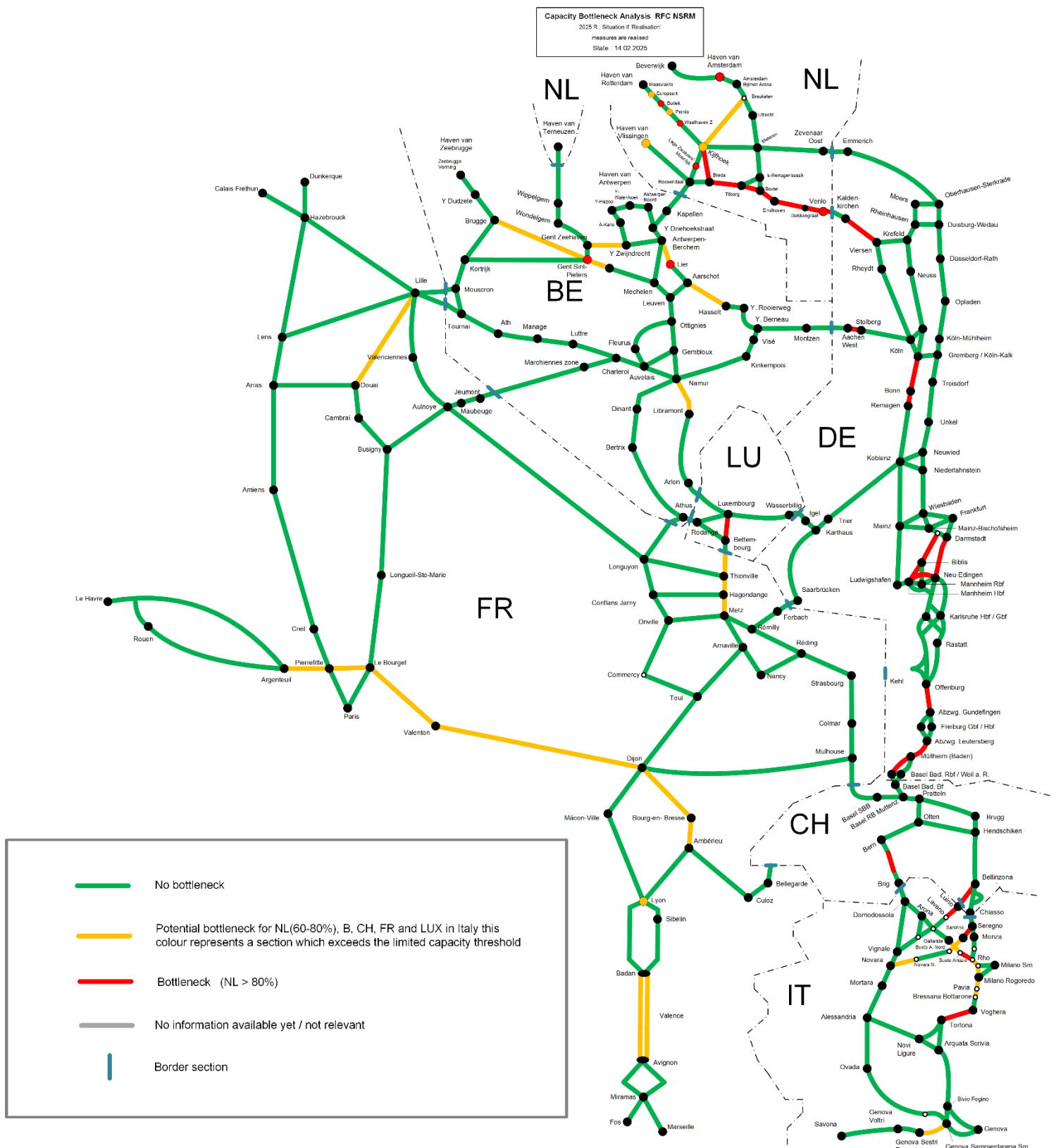
- the node of Lyon

Number of sections with Capacity Bottlenecks in 2025	Bottlenecks 2025 R	Potential bottlenecks 2025	Section which exceeds limited capacity threshold
Netherlands (+nodes)	11	5	-
Belgium (+ nodes)	2	6	-
Germany	5	*	-
Switzerland	2**	1	-
Italy	4	-	7
Luxemburg	1	-	-
France + nodes	-	6	-

* Potential bottlenecks have not been identified by DB InfraGO AG

** For the bottleneck between Bellinzona and Pino border no infrastructure measures are foreseen, because the combination between the Chiasso and Luino lines provides sufficient capacity.

Figure 19: Capacity Bottlenecks in 2025 (R)



2.3.2 Situation 2030

In 2030, as can be seen in Figures 20 – 22, the situation improves in some countries and worsens in others.

In the **Netherlands** there will be a bottleneck in 2030 on 6 sections

- Roosendaal- Breda
- Breda – Tilburg
- Tilburg - 's-Hertogenbosch
- Venlo – Venlo Border
- Kijfhoek – Breukelen
- Zevenaar Oost - Border

In the Netherlands 9 nodes are identified as bottlenecks in the R+S and R+S+P scenarios:

- Europoort
- Botlek
- Pernis
- Waalhaven Zuid
- Kijfhoek
- Tilburg Industrie
- Venlo
- Venlo Gekkengraaf
- Haven van Vlissingen

In the 'R+S+P+TBD' scenario the nodes Tilburg Industrie and Waalhaven Zuid are no longer bottlenecks.

Three sections are marked as potential bottlenecks

- the section between Maasvlakte – Kijfhoek (Havenspoorlijn)
- the section between Cup Valburg – Zevenaar Oost
- the section between Roosendaal – Roosendaal grens

In the Netherlands, the CBA 2030 sections are based on the Referentieprognose (RPGV2021), the most recent traffic forecast for the Netherlands carried out in 2021. The new forecasts are not yet available. The CBA 2030 nodes are based on individual bottleneck analyses.

In **Belgium** 8 sections/regions are marked as bottlenecks:

- the Gent region: Gent Dampoort / Y. Oost Driehoek Ledeberg / Y. West Driehoek Ledeberg, Y. Noord Driehoek Ledeberg / section Y. Melle – Y. Melle West
- the section between Gent and Zwijndrecht Fort: from Sint Niklaas – Lokeren – Y. Bernadette
- the Antwerp region: Y. Driehoekstraat / Y. Schijn / Y. Walenhoek / Y. Holland Y. Antwerpen Schijnpoort / Y. Drabstraat
- the section between Antwerpen Berchem, Lier and Aarschot: from Y. Aubry – Lier – Y. Nazareth
- the section between Antwerpen Berchem and Mechelen
- the Aarschot region: section Y. Nazareth - Y. Noord Driehoek Aarschot
section Y. Noord Driehoek Aarschot - Y Zuid Driehoek Aarschot
section Y Zuid Driehoek Aarschot – Y. Holsbeek
section Y. Noord Driehoek Aarschot - Diest

- the section between Y. Rooierweg and Tongeren
- the section between Fleurus and Auvelais

Two sections are marked as potential bottlenecks:

- the section between Diest and Hasselt
- the section between Auvelais and Namur (Ronet Formation)

In **Germany**, there are 5 bottlenecks:

- the section between Kaldenkirchen and Viersen.
- the section between Aachen West and Stolberg.
- the section between Hürth-Kalscheuren and Remagen.
- the section between Mannheim – Zeppelinheim (the relevant section for RFC North Sea – Rhine – Mediterranean is Gross Gerau – Biblis).
- the section between Offenburg and Basel Bad Rbf (the relevant sections in the ÜLS are between Offenburg – Abzw. Gundelfingen and Abzw. Leutersberg – Weil am Rhein).

In **Switzerland** there are 2 bottlenecks (R + S + P)

- the section between Bellinzona and Pino border
- the section between Frutigen and Brig (Lötschberg Base Tunnel)

Between Genève and the French border there is a potential bottleneck.

In **Italy** three sections remain classified as bottlenecks in both the R+S and R+S+P scenarios:

- the section between Luino and Laveno
- the section between Voghera and Tortona
- the section between Saronno and Seregno

Four sections remain marked as sections which exceed the limited capacity threshold

- the section between Milano and Pavia
- the section between Pavia and Bressana Bottarone
- the section between Busto Arsizio Nord and Saronno
- the section between Novara RFI and Novara NORD

In the 'R+S+P+TBD' scenario, the section of Saronno-Seregno is no longer considered a bottleneck.

In **Luxembourg**, there are no bottlenecks identified for 2030. A potential bottleneck has been identified for the section between Bettembourg station and the border of France. In addition, there will be a major TCR in Luxembourg city (node) which will reduce capacity on the sections Luxembourg – Bertrange and Luxembourg – Leudelange.

In **France**, the 5 sections and the node identified in 2025 as potential bottlenecks are still marked in 2030 as potential bottlenecks as the investment projects foreseen to meet capacity needs will not have been implemented by 2030.

These sections & node are:

- the section between Lille and Douai
- the section between Argenteuil and Dijon

- the section between Dijon and Ambérieu
- the section between Bettembourg Frontière and Metz
- the section between Badan and Avignon
- the node of Lyon

Number of sections with Capacity Bottlenecks in 2030	Infrastructure with plans R+S	Infrastructure with plans R+S+P	Infrastructure with plans R+S+P+TBD	Potential bottlenecks	Section which exceeds limited capacity threshold
Netherlands (+nodes)	15	15	13	3	-
Belgium	8	8	8	2	-
Germany	5	5	5	*	-
Switzerland	2**	2**	2**	1	-
Italy	3	3	2	-	4
Luxemburg	-	-	-	1	-
France + nodes	-	-	-	6	-

* Potential bottlenecks have not been identified by DB InfraGO AG

** For the bottleneck between Bellinzona and Pino border no infrastructure measures are foreseen, because the combination between the Chiasso and Luino lines provides sufficient capacity.

Figure 20: Capacity Bottlenecks in 2030 (R + S)

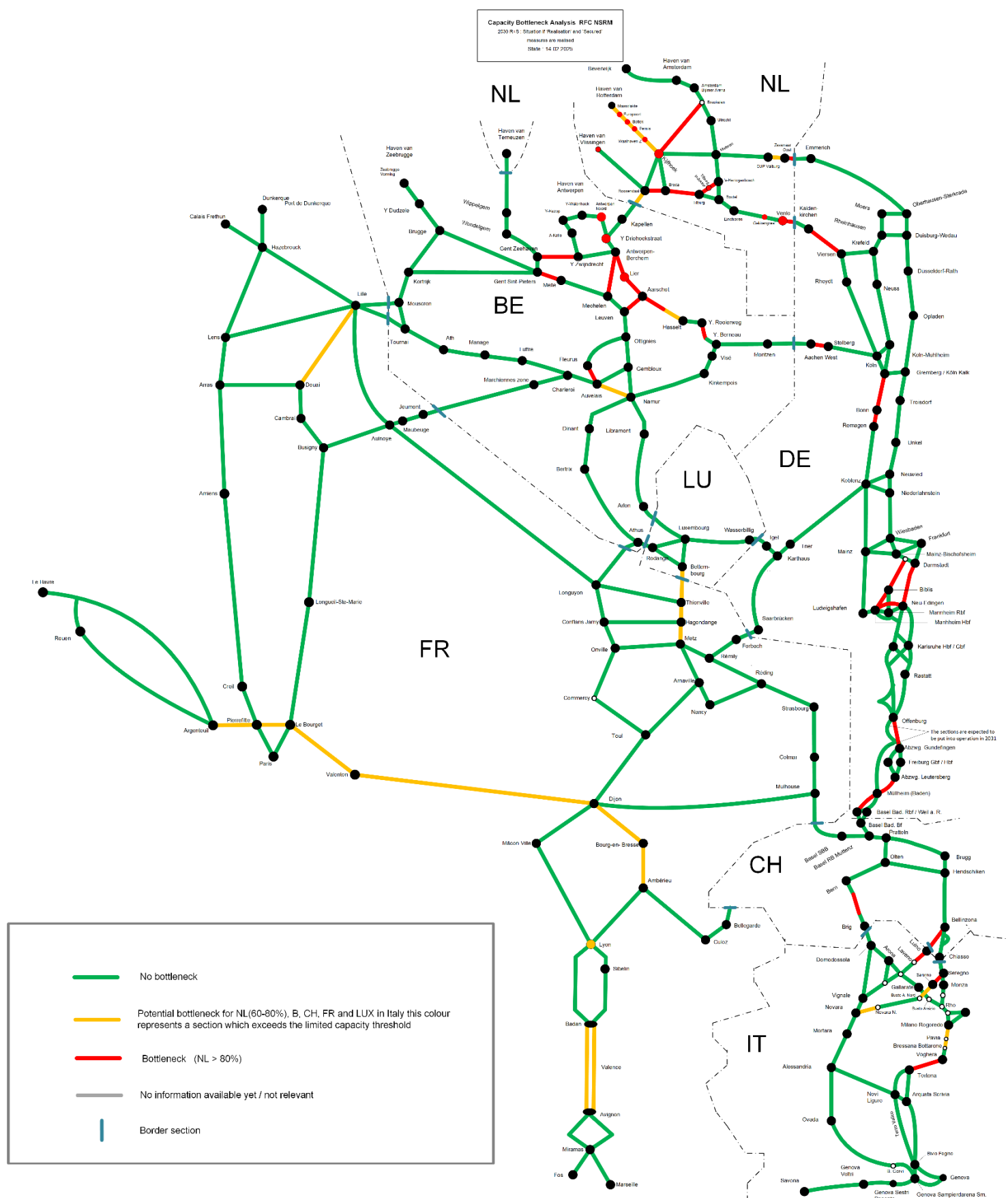


Figure 21: Capacity Bottlenecks in 2030 (R + S + P)

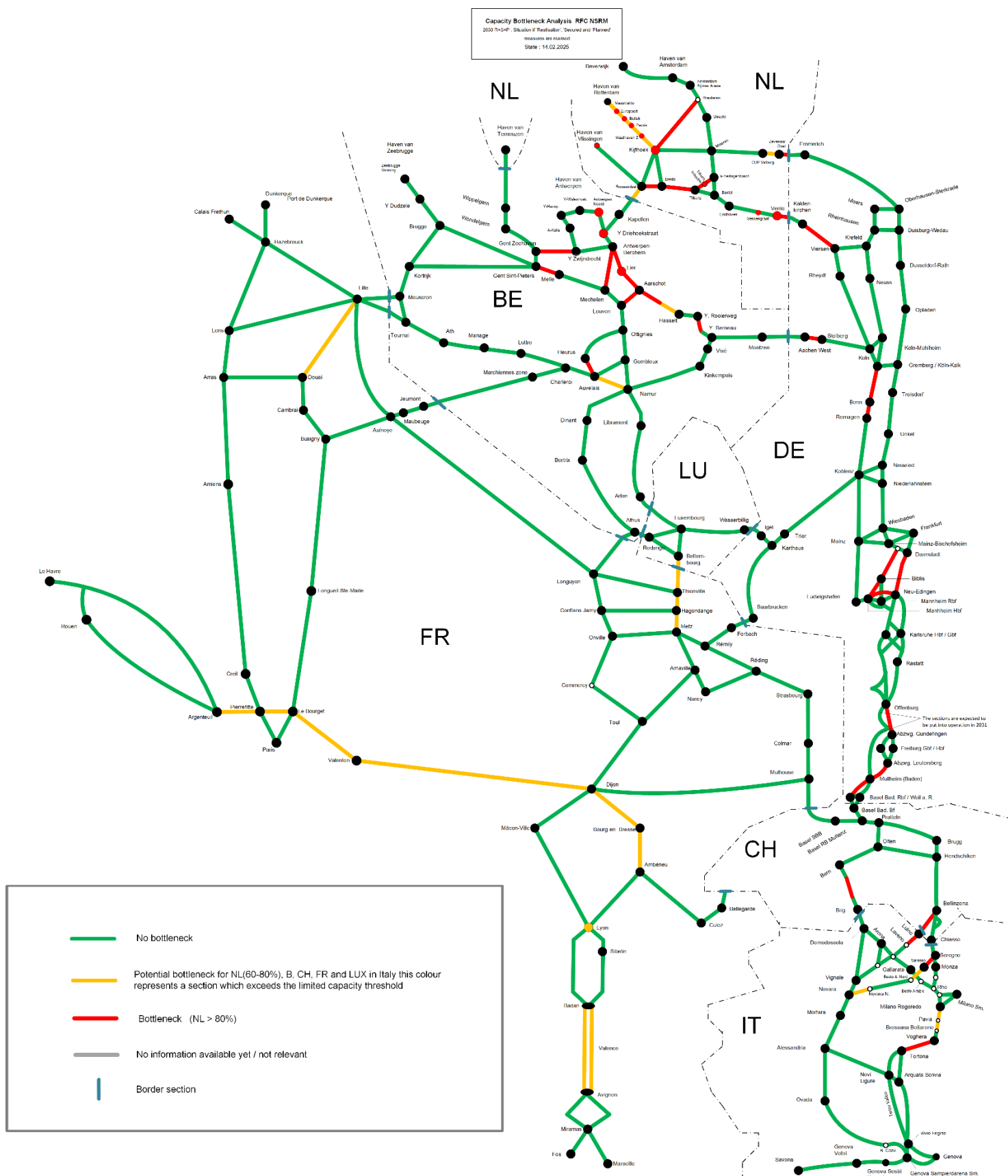
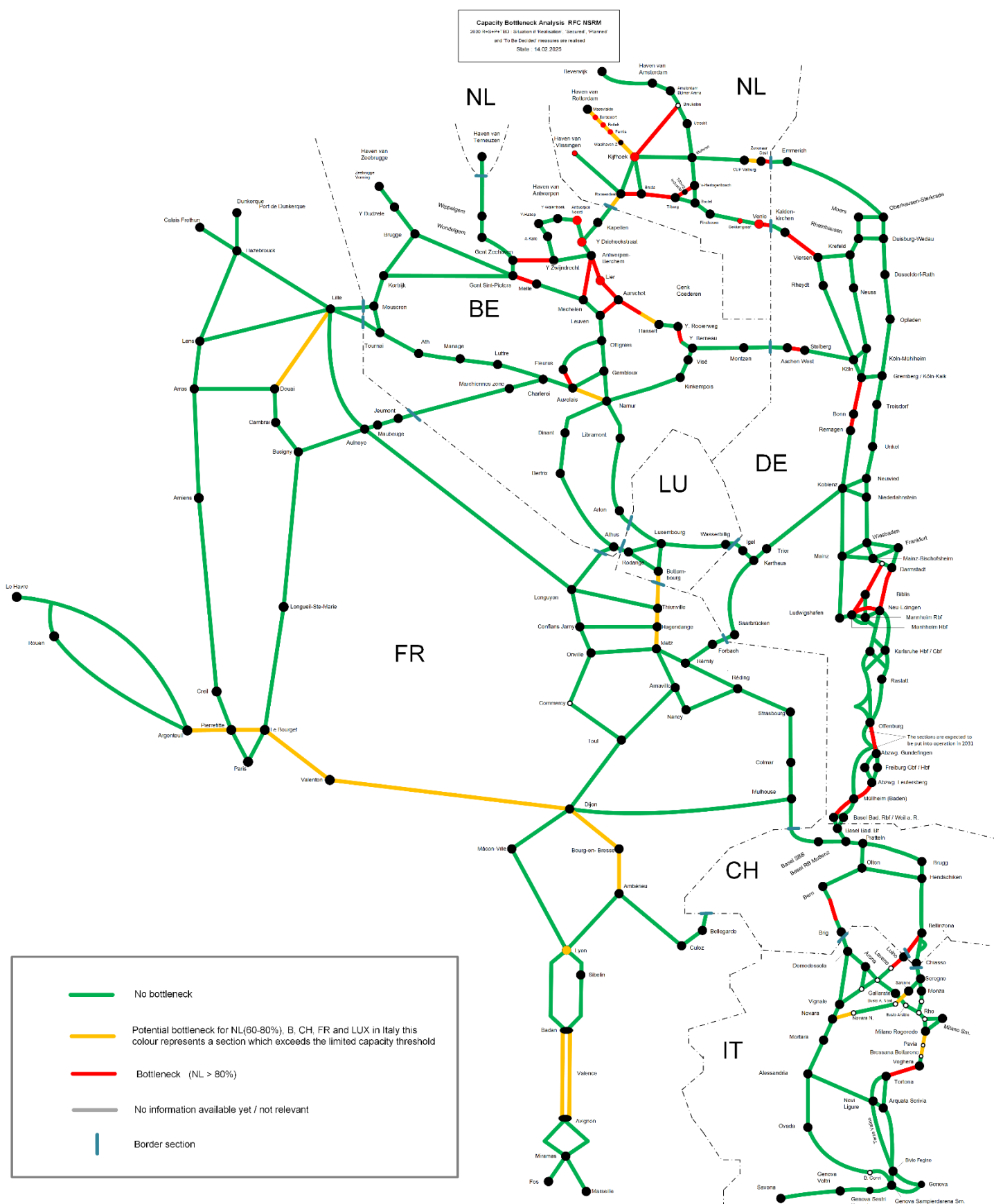


Figure 22: Capacity Bottlenecks in 2030 (R + S+P+TBD)



2.3.3 Conclusions

Until 2030, several (potential) capacity bottlenecks are expected to emerge. Even if all currently planned/identified infrastructure projects are realised (situation R+S+P+TBD), there will still remain (potential) capacity bottlenecks on RFC North Sea – Rhine – Mediterranean. In several cases, especially in Germany, the planning of infrastructure implementation for the identified capacity bottlenecks goes far beyond the year 2030. It is crucial for rail operations on RFC North Sea – Rhine – Mediterranean, that all planned infrastructure projects are realised in the best possible way and as quickly as possible. It is also crucial to create new projects and ensure their funding to alleviate all bottlenecks in order to improve the capacity on the Corridor.

2.4 RFC Governance

The governance structure as described in the RFC Regulation with an Executive Board, Management Board and Advisory Groups is maintained, but has been adapted for the new alignment. It ensures that the objectives and ambitions of the Corridor are met.

The **Executive Board** (ExBo) consists of the representatives of the respective Transport Ministries from the countries involved and makes key decisions regarding the strategy and the cooperation on the Corridor. The Executive Board is co-chaired by the Ministries of Transport of Belgium and Switzerland.

The ExBo for RFC North Sea – Rhine – Mediterranean was established officially as of 1st of January 2025 after the Ministers of Transport of the Netherlands, Belgium, Luxembourg, France, Germany, Switzerland and Italy have signed an [arrangement](#) to constitute the Executive Board in December 2024. Ireland decided to make use of Article 8(2b) of the RFC Regulation. Representatives from Ireland will not be part of the Executive Board or the Management Board of this corridor even though Ireland is strongly supportive of the establishment of this Corridor and its governance.

The **Management Board** (MB), consisting of high-level management representatives from the IMs and ABs involved, oversees the effective implementation of the Corridor. A second IM in Italy, FERROVIENORD, was also included. Figure 23 shows the organisational structure implemented by the Management Board to fulfil the tasks deriving from the RFC Regulation.

At the time of publication, the Management Board is chaired by Guus de Mol (ProRail). Vice-Chair is Britta Schreiner (CFL Infrastructure).

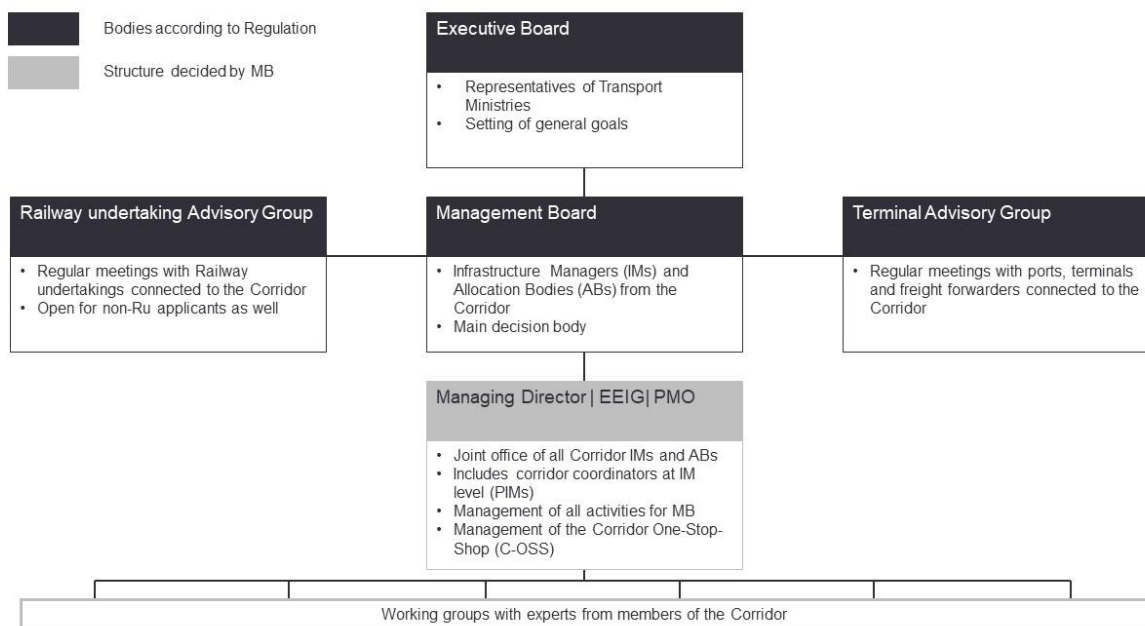


Figure 23: Organisational chart of the Corridor

The Management Board has decided to establish an EEIG (European Economic Interest Grouping) that is a legal entity to assist the MB. The responsible infrastructure managers (IM) / allocation bodies (AB) of the Corridor countries are members:

- ProRail (for the Dutch network)
- Infrabel (for the Belgian network)
- DB InfraGO AG (for the German network)
- CFL Infrastructure (for the Luxembourgish network)
- SNCF Réseau (for the French network)
- RFI (for parts of the Italian network)
- FERROVIENORD (for parts of the Italian network).

or contractors:

- ACF (the Luxembourgish allocation body)
- SBB Infrastruktur (for parts of the Swiss network)
- BLS Netz (for parts of the Swiss network)
- TVS (Trassenvergabestelle) (Swiss allocation body)

of the EEIG.

The MB has established a Programme Management Office (PMO), which functions as the permanent working organization of the IMs. Some IMs choose to support the PMO by Programme Managers.

The Corridor One Stop Shop (C-OSS) facilitates train path management for international rail freight. It presents the single point of contact allowing applicants to request and receive answers regarding infrastructure capacity for international freight trains on the Corridor.

The PMO is led by a designated Managing Director and oversees the goals and activities of the dedicated Corridor Working Groups. At the time of publication of this Implementation Plan, the role of Managing Director is held by Martin Cygon (DB InfraGO AG) and Yann Le Floc'h (SNCF Réseau), whereas the role of Deputy Managing Director is held by Riccardo Ortolani (RFI).

The Railway undertaking Advisory Group (RAG) and the Terminal Advisory Group (TAG) are advisory groups to the Management Board. With the amended RFC Regulation their role has been enhanced. They are consulted and can provide opinions on the Corridor performance as well as on the infrastructure development and investment needs of the Corridor (see chapter 6). These platforms facilitate the involvement of railway undertakings and non-RU applicants (RUs), terminal operators, and other stakeholders in the intermodal transport chain, ensuring that their opinions and requirements are considered in the Corridor's development from a user-centric perspective. Both groups are chaired by Speakers selected among the participating representatives. Both Advisory Groups have slots in the meetings of the Executive Board and Management Board of RFC North Sea – Rhine – Mediterranean.

The Rail Freight Governance closely cooperates with the European Coordinator. For the ETC North Sea – Rhine – Mediterranean Prof. Paweł Wojciechowski was appointed European Coordinator for the newly merged Corridor in September 2024.

3. Transport Market Study

According to Article 9(3) of the RFC Regulation, the Management Board of the Corridor “shall carry out and periodically update a transport market study relating to the observed and expected changes in the traffic on the freight corridor, covering the different types of traffic, both regarding the transport of freight and the transport of passengers. This study shall also review, where necessary, the socio-economic costs and benefits stemming from the development of the freight corridor.” Hence, a TMS is required for the alignment of RFC North Sea – Rhine – Mediterranean. The study was carried out between December 2024 and May 2025 and builds on the joint TMS Update that was carried out in 2024 by the then 11 RFCs under the umbrella of RNE.

Annex B contains the executive summary that describes the results of the analysis of the current and future freight transport market along the RFC North Sea – Rhine – Mediterranean lines. The study employs a comprehensive network-wide analytical and modelling approach (NEAC model) to define the catchment area, modal split, and to estimate current and future international freight transport volumes for rail, road, inland waterways, and maritime shipping.

In the base year 2022, the total estimated volume of all international freight transported in the catchment area was 759 million tonnes. The share of rail transport amounted to 14% (107 million tonnes transported). Inland shipping captured 29%, road transport was the predominant mode, accounting for 44%, and maritime shipping accounted for 13%. Among the types of cargo, general cargo, including intermodal transportat and containers, made up 50% of the total freight, highlighting its prominence. Dry bulk followed at 36%, and liquid bulk constituted 14% of the total volume.

Regarding the short-term future market (2030), the study used three different scenarios:

- 1) Reference or background Scenario:** This scenario describes the economic developments (in terms of GDP changes) impacting rail transport's future, based on the EU Reference scenario 2020-2050 and the World Economic Outlook 2023 for countries outside the EU. It projects a 10% growth in rail volumes from 107 to 118 million tonnes by 2030, but the rail share stays at the base year level. Inland shipping is expected to grow by 13%, road transport by 11%, and sea shipping by 18%.
- 2) Projects Scenario:** This scenario shows the impact of ongoing and planned rail infrastructure projects with a completion date by 2030. This scenario forecasts a 0.3% growth for all international transport compared to the Reference scenario, increasing the total volume for rail by 2 million tonnes to 120 million tonnes.

- 3) Sensitivity Scenario:** This scenario shows a hypothetical development for rail transport assuming that the following TEN-T requirements would be achieved in addition to the infrastructure investments in the Projects scenario: full deployment of ERTMS, 740 meter trains can operate everywhere, 22.5 t axle load is possible everywhere, the track gauge meets the European standard (1,435mm), and the P394 intermodal loading gauge is possible. Compared to the 2022 base year, a 26% growth in volume for rail (from 107 to 135 million tonnes) is anticipated.

In conclusion, the analysis shows the significant benefits of infrastructure projects and achieving TEN-T requirements for future rail transport growth.

However, it is important to keep in mind that, like any study, the TMS has certain limitations, related to the assumptions made and the data available. The conclusions are based on the analysis carried out by the company responsible for the study.

4. List of Measures

According to Article 9 of the RFC Regulation, in the initial Implementation Plan the measures for fulfilling the requirements of Articles 12 to 19 are described, including the One-Stop-Shop, capacity allocation, coordination of works, authorised applicants, traffic management, traffic management in the event of disturbance, information on the conditions of use of the freight corridor and quality of service on the freight corridor.

After the start of the Corridor, the state of play and further developments regarding concrete measures and procedures is decided by the Management Board and included in the Corridor Information Document (CID – see 4.7), section 4 “Procedures for Capacity, Traffic and Train Performance Management”.

A more detailed description of the following sub-chapters will be available in the CID for TT2027 and onwards, to be published on the 12th of January 2026, when the capacity offer will be published.

4.1 Coordination of planned temporary capacity restrictions

In line with Article 12 of the RFC Regulation, the Management Board of the freight corridor shall coordinate and ensure in one place the publication of planned Temporary Capacity Restrictions (TCRs) that could impact the capacity on the Corridor. TCRs are necessary to keep the infrastructure and its equipment in operational condition and to allow changes to the infrastructure necessary to cover market needs. The Corridor will publish twice a year a list of the already known TCRs for the three subsequent timetable years on the RFC website and in CIP.

4.2 Corridor One-Stop-Shop

According to Article 13 of the RFC Regulation, the Management Board of the Corridor has established a C-OSS. The tasks of the C-OSS are carried out in a non-discriminatory way and it maintains confidentiality regarding applicants. The Corridor One-Stop-Shop is the single contact point for applying for Corridor capacity in the form of Pre-arranged Paths (PaP) and Reserve Capacity (RC) via a single tool, PCS (Path Coordination System). On RFC North Sea – Rhine – Mediterranean, the C-OSS consists of two capacity managers. The process of how to apply for capacity and the rules for capacity allocation will be further described in the Corridor Information Document for TT2027 and onwards.

4.3 Corridor Allocation Principles

The decision on the allocation of PaPs and RC on the Corridor is taken by the C-OSS on behalf of the IMs/ABs concerned. As regards feeder and/or outflow paths, the allocation decision is made

by the relevant IMs/ABs and communicated to the applicant by the C-OSS. Consistent path construction containing the feeder and/or outflow sections and the corridor-related path sections has to be ensured. All necessary contractual relations regarding network access have to be dealt with bilaterally between the applicant and each individual IM/AB.

Referring to Article 14.1 of the RFC Regulation, the Executive Boards of the Rail Freight Corridors agreed upon a common Framework for Capacity Allocation. The document will be provided with the Corridor Information Document TT2027 and onwards.

4.4 Applicants

Applicant means a railway undertaking or an international grouping of railway undertakings or other persons or legal entities, such as competent authorities under Regulation (EC) No. 1370/2007 and shippers, freight forwarders and combined transport operators, with a commercial interest in procuring infrastructure capacity for rail freight.

Applicants shall accept the general terms and conditions of the Corridor as stipulated in the CID by accepting the respective check-box in PCS before placing their requests. Without accepting the general terms and conditions, the applicant will not be able to send the request.

In case of a non-RU applicant, it shall appoint the RU that will be responsible for train operation and inform the C-OSS and IMs/ABs about this RU as early as possible, but at the latest 30 days before the running day. If the appointment is not provided by this date, the PaP/RC is considered as cancelled, and national rules for path cancellation are applicable.

More detailed information, for instance the national deadlines for nomination of the executing RU for feeder / outflow paths can be found in the Corridor Information Document for TT2027 and onwards.

4.5 Traffic management

In line with Article 16 of the RFC Regulation, the Management Board of RFC North Sea – Rhine – Mediterranean will promote to put in place procedures for coordinating traffic management along the freight corridor. Traffic management is the prerogative of the national IMs and is subject to national operational rules. The goal of traffic management is to guarantee the safety of train traffic and achieve high quality performance. Daily traffic shall operate as close as possible to the planning. National IMs coordinate international traffic with neighbouring countries on a bilateral level. In this manner, they ensure that all traffic on the network is managed in the most optimal way.

4.6 Traffic management in the Event of Disturbance

The goal of traffic management in case of disturbance is to ensure the safety of train traffic, while aiming to quickly restore the normal situation and/or minimise the impact of the disruption. The overall aim should be to minimise the overall network recovery time. In order to reach the above-mentioned goals, traffic management in case of disturbance needs an efficient communication flow between all involved parties and a good degree of predictability, obtained by applying predefined operational scenarios at the border. In case of disturbances, IMs work together with the concerned RUs and neighbouring IMs in order to limit the impact as far as possible and to reduce the overall recovery time of the network. In case of disruptions lasting 3 days or longer with a high impact on international traffic (if equal to or more than 50% of the trains on the affected section that operate on more than one network need or are expected to need an operational treatment), the initiating IM shall declare a case of International Contingency Management (ICM).

To allow continuation of freight and passenger traffic flows at the highest possible level despite an international disruption and to ensure non-discriminatory treatment of the RUs, transparency of the status of the disruption and its impact on traffic flows for all relevant stakeholders across Europe, the IMs should apply the rules and procedures defined in the '[Handbook for International Contingency Management](#)' (ICM Handbook) approved by the RNE General Assembly. According to the ICM Handbook, the Corridors act as facilitators with respect to the disruption management and the communication process. RFC North Sea – Rhine – Mediterranean will publish updated re-routing overviews in CIP including the most important parameters of those lines for different sections on the Corridor in line with the ICM Handbook.

In addition, RFC North Sea – Rhine – Mediterranean has a back-up organisation (SBB Infrastruktur) during night, at weekends and during public holidays.

4.7 Corridor Information Document

The Corridor Information Document (Article 18 of the RFC Regulation), consisting of the sections 1-4, mainly describes the conditions of use of the Corridor. This Implementation Plan is published separately and is included also as a link in section 1 of the CID. A common structure and common texts have been developed for all RFCs under the umbrella of RNE, to facilitate the consultation by applicants. The first Corridor Information Document for RFC North Sea – Rhine – Mediterranean will be published in January 2026 (for TT2027).

4.8 Quality Evaluation

In line with Article 19(2) of the RFC Regulation the Management Board shall monitor the performances of the rail freight services on the Corridor and defined qualitative and quantitative objectives and targets (see Chapter 5).

The results of this monitoring will be published in the Annual Report of RFC North Sea – Rhine – Mediterranean, that will contain a dedicated section describing the views and assessment of the performance by the Advisory Groups. The Annual Report will be approved by the ExBo. It will be published for the first time in June 2007 for the year 2006, the first year of operation of the new Corridor.

5. Ambitions and objectives of RFC North Sea – Rhine – Mediterranean

RFC North Sea – Rhine – Mediterranean is one of the major rail freight corridors in Europe, linking major North Sea ports in the Netherlands, Belgium and France to key economic and industrial hubs across Luxembourg and Germany. Running through Switzerland extending to Northern Italy and ending in the Mediterranean ports of Marseille/Fos-sur-Mer and Genoa, the Corridor connects thriving metropolitan regions and major logistics centres. Thus, RFC North Sea – Rhine – Mediterranean plays a vital role in supporting the European economy and enabling sustainable transport solutions.

In certain areas on RFC North Sea - Rhine – Mediterranean capacity remains limited due to infrastructure constraints and ongoing construction works. While progress has been made on major projects in recent years, such as improving connections at significant hubs, several key upgrades are still underway and will not be completed before 2030. For instance, improvements on vital sections, such as bottlenecks in cross-border areas and access to several terminals, are still in progress. As more upgrades and enhancements are planned for the years ahead, further restrictions on available capacity are already anticipated, and additional capacity will only be available on some sections well after 2030.

Capacity and punctuality are closely interconnected challenges for RFC North Sea – Rhine – Mediterranean. The high levels of utilization across major parts of the Corridor, especially in and around Metropolitan areas, in combination with capacity bottlenecks, have put increasing pressure on punctuality in recent years. As construction activity on Corridor lines is set to increase further in the coming years, the primary objective of the Management Board of the Corridor will be to stabilize punctuality at an acceptable level despite these challenges. The Corridor aims at delivering a high-quality and reliable service while meeting the growing demands for rail freight transport, thus contributing to increase the market share of rail freight traffic by 50% by 2030, and other goals laid down in the [Sustainable and Smart Mobility Strategy](#) of the European Commission.

The European Coordinator of the ETC North Sea – Rhine – Mediterranean shall draft a work plan by 19 July 2026 at the latest, and subsequently every four years. This plan will provide a detailed analysis of the implementation status of the ETC within his responsibility, along with compliance with the TEN-T requirements as well as priorities for the future development. Once the work plan is published, the governance of RFC North Sea – Rhine – Mediterranean will align its objectives with the ones of the European Coordinator.

5.1 Introduction

The ambitions of the Corridor arise from both the TEN-T and the RFC Regulation, which serve as the guiding star for the work of the North Sea –Rhine– Mediterranean Corridor. The following chapter outlines the qualitative as well as quantitative objectives based on the above-mentioned regulations, as well as the RFC/RNE KPIs and the Train Performance Management on RFC North Sea – Rhine – Mediterranean.

5.2 Qualitative Objectives

The primary objective for RFC North Sea - Rhine - Mediterranean is to establish rail freight as the backbone of sustainable, efficient, and seamless goods transport across the regions it connects. The Corridor aims at enhancing the share and capacity of rail freight, reducing greenhouse gas emissions and minimizing environmental pollution, while simultaneously delivering significant social and economic benefits. By addressing bottlenecks, closing missing links, and improving cross-border sections, the Corridor strives to enable uninterrupted freight flows and reinforce its strategic importance for international trade and logistics within the European Union.

A key focus of the Corridor is to improve interoperability and the integration of rail freight with other modes of transport, thereby creating a cohesive and flexible multimodal logistics network. To achieve this, the infrastructure along the Corridor shall be designed to support zero-emission and low-emission rail transport, fostering energy-efficient operations that contribute to the EU's climate and sustainability goals. Operational efficiency will further be enhanced by optimizing traffic management, capacity usage, and the overall performance of rail services.

Maintaining and upgrading existing rail infrastructure along the Corridor is critical to ensuring resilience against climate change, improving safety, and guaranteeing reliable operations. Embracing digitalization and automation, including the deployment of ERTMS on the Corridor lines, will play a vital role in streamlining operations, improving punctuality, and creating a smarter and more competitive rail freight network.

RFC North Sea – Rhine – Mediterranean also aims to alleviate negative impacts on urban areas and densely populated regions caused by transit traffic by helping to advance the modal shift. Moreover, the Corridor seeks to support to reduce congestion, air pollution, and noise emissions, thereby contributing to healthier and more sustainable urban environments by encouraging a modal shift from road to rail.

Finally, the Corridor is committed to facilitating efficient border crossings for rail freight, minimizing delays, and ensuring non-discriminatory access for all market participants. These goals

collectively aim to position the Corridor as a cornerstone of sustainable and competitive rail freight transport in Europe.

5.3 Quantitative Objectives

The Rail Freight Governance of RFC North Sea – Rhine – Mediterranean shall make all possible efforts to ensure by 31 December 2030, that the quality of services provided to railway undertakings and the technical and operational requirements for infrastructure use support the operational performance of rail freight services along the European Transport Corridor and to meet the target values, as described in Article 19 (1 a&b)) of the TEN-T Regulation and also referred to in Article 19(3) of the RFC Regulation and described below in the following paragraphs.

The progress in achieving these target values will be described in the Annual Report of RFC North Sea – Rhine – Mediterranean (see 4.8).

5.3.1 Operational priority 1: Dwell time at inner European borders (Article 19, 1(a))

For each internal cross-border section, the dwell time of all freight trains crossing the border between two Member States shall not exceed 25 minutes on average. The dwell time of a train on a cross-border section refers to the total additional transit time that can be attributed to the existence of the border crossing, regardless of procedures or factors of an infrastructural, operational, technical, or administrative nature. Dwell time does not include any time that cannot be attributed to the border crossing, such as operational procedures carried out in facilities near the border crossing but not related to it.

In addition to this, RFC North Sea – Rhine – Mediterranean will extend this objective to the borders between the involved Member States and Switzerland.

Although the predecessors of RFC North Sea – Rhine – Mediterranean have already been monitoring the dwell time at border sections (see 5.4), this might not exactly fit the definition of dwelling time as described here and this is also not comparable with what is published at the moment. From 2026 some new borders have to be taken into account for which no historical data is available. Therefore, the IMs and RFCs concerned together with RNE, are analysing how to interpret this dwell time and to agree on a common and harmonised way of measuring this objective.

As the new alignment of RFC North Sea – Rhine – Mediterranean will officially become operational from the date of publication of the capacity offer on 12 January 2026, RFC North Sea – Rhine – Mediterranean will start monitoring this operational priority from 2026 onwards and will

report on it for the first time in its Annual Report (see point 4.8 above) for 2026, to be published in 2027.

The following border sections will be observed by RFC North Sea – Rhine - Mediterranean for dwell time:

Border sections on RFC North Sea – Rhine – Mediterranean	
Zevenaar Oost (NL)	Emmerich (DE)
Venlo (NL)	Kaldenkirchen (DE)
Sas van Gent (NL)	Zelzate (BE) ¹
Roosendaal (NL)	Essen (BE)
Montzen (BE)	Aachen West (DE)
Arlon (BE)	Kleinbettingen (LU)
Athus (BE)	Pétange (LU)
Moeskroen (BE)	Tourcoing (FR)
Y Aubange (BE)	Pétange (LU)
Y Aubange (BE)	Mont-Saint-Martin (FR)
Y Froyennes (BE)	Baisieux (FR)
Erquelinnes (BE)	Jeumont (FR)
Thionville (FR)	Bettembourg (LU)
Wasserbillig (LU)	Igel (D)
Forbach (FR)	Saarbrücken (D)
St Louis Haut Rhin (FR)	Basel St. Johann (CH)*
Pougny-Chancy (FR)	La Plaine (CH)*
Basel Badischer Bf. (DE)	Basel SBB PB/RB (CH)*
Brig (CH)*	Domo II (IT)
Brig (CH)*	Domodossola (IT)
Chiasso SM (CH)*	Bivio PC Rosales (IT)
Luino (CH)*	Ranzo (IT) – S. Abbondio (IT)

Table 01: Border sections on RFC North Sea – Rhine – Mediterranean

** indicates borders between Member States and Switzerland*

¹ is currently measured only on the Belgian side

5.3.2 Operational priority 2: Punctuality of trains crossing a border along the RFC (Article 19, 1(b))

It is the aim of RFC North Sea – Rhine – Mediterranean that at least 75% of the freight trains crossing at least one border along the Corridor shall arrive at their destination, at their scheduled time or with a delay of less than 30 minutes, provided that the delay is attributable to the Infrastructure Manager(s) within the Union. Delays that occur in and are attributable to third countries crossed by freight trains shall not be taken into account.

Although the predecessors of RFC North Sea – Rhine – Mediterranean have already been monitoring the punctuality on Corridor lines, this does not exactly fit the definition of the requirement as described here. The threshold currently used is equal or less than 30 minutes and no distinction is being made related to the reason of delays by IM, RU, or others. Punctuality is measured at RFC Entry and RFC Exit, which might not be the final destination of the train. Additionally, new lines have been added which are not yet monitored. Therefore, the IMs and RFCs concerned, together with RNE are analysing how to interpret this punctuality target and to agree on a common and harmonised way of measuring this objective.

The first punctuality measurements for RFC North Sea – Rhine – Mediterranean, which will also include the Corridor lines in Switzerland, will be carried out in 2026 and published in the Annual Report for the Corridor in mid-2027.

5.4 Common RNE / RFC KPIs

The following KPIs previously published for both RFC Rhine-Alpine and RFC North Sea – Mediterranean will also be published by RFC North Sea – Rhine - Mediterranean and are defined in the “RNE Guidelines for Key Performance Indicators of Rail Freight Corridors”, which have been agreed on RFC level and in the RNE General Assembly and were consulted with stakeholders. They are grouped in 3 categories: Capacity Management, Operations and Market Development (see Figure 24).

The definition of these KPIs can be either found in the RNE guidelines ([link](#)), the guidelines for punctuality monitoring ([link](#)) or the Framework for capacity allocation (see 4.3).



Figure 24: Set of common RNE/RFC KPIs (source: rne.eu/rail-freight-corridors/rfc-kpis/)

The consultation of the European Coordinator and the Advisory Groups on relevant KPIs for the Corridor will be carried out after the publication of this Implementation Plan.

A joint reporting of the KPIs by the RFCs will be available on the website of RNE ([link](#)). Additionally, these KPIs will also be included in the Annual Report of RFC North Sea – Rhine – Mediterranean (see 4.8). It will be published for the first time in June 2027 for the year 2026, the first year of operation of the new Corridor.

5.5 Train Performance Management

The aim of the Corridor Train Performance Management (TPM) is to measure punctuality, analyse weak points and recommend corrective measures, thus managing the performance of international train services and improving punctuality across borders and handover points.

Furthermore, monthly KPI reports on punctuality will be published when the Corridor becomes operational in January 2026 in CIP/Information Documents/Key Performance Indicators/ RFC North Sea – Rhine – Mediterranean ([link to CIP](#)).

The Corridor's Infrastructure Managers and Allocation Bodies have launched several initiatives to improve quality at border crossings, known as Quality Circle Operations (QCO). The aim of these initiatives is to improve punctuality by adapting operational procedures and to optimise the quality of service.

In recent years, the two RFCs Rhine-Alpine and North Sea-Mediterranean have already initiated projects to improve quality. The Quality Core Group is an initiative launched by the Ministries of Transport along RFC Rhine-Alpine to foster quality improvements together with the major stakeholders. Another project, Rail Collaborative Decision Making (R-CDM), aimed at making the transport chain more predictable by introducing timestamps at different stages of the transport process, was supported by RFC North Sea – Mediterranean. The results of both initiatives will be analysed in the coming period by the boards of RFC North Sea – Rhine – Mediterranean.

6. Cooperation & consultation in the frame of the Implementation Plan

To achieve its defined objectives, RFC North Sea - Rhine - Mediterranean relies heavily on the cooperation with railway undertakings (RUs) and terminals and ports, as they are central to the operational success and overall performance of the Corridor. As the entities at the front lines of rail freight transport, RUs and terminals provide critical insights into the real world challenges and opportunities within the logistics chain, enabling the Corridor to deliver practical, user-oriented solutions.

RUs play a pivotal role in delivering efficient and reliable rail freight services along the Corridor. Their expertise in train operations, customer requirements, and logistical constraints is essential for identifying and addressing issues such as punctuality, capacity shortages, and cross-border interoperability. Close cooperation with RUs ensures that infrastructure and service improvements reflect the actual needs of the market, facilitating better utilization of the Corridor and fostering a competitive environment for freight transport operators.

Terminals, as key hubs within the logistics chain, enable the seamless transfer of goods between different modes of transport, such as rail, road, and waterways. Their efficiency, accessibility, and integration into the Corridor infrastructure have a direct impact on the quality and attractiveness of rail freight services. Joint efforts with terminals ensure that last-mile connections are optimized, handling times are reduced, and the coordination between different transport modes is smooth and effective.

Moreover, RUs and terminals are essential partners in removing bottlenecks and resolving capacity issues, especially in congested urban areas and cross-border sections that are crucial for international freight flows. Their operational input helps identify priority investment areas and ensures that resources are allocated to maximize impact. This cooperation is particularly important for meeting the Corridor's overarching goal of shifting freight from road to rail while reducing greenhouse gas emissions and environmental impacts.

6.1 Procedure of the cooperation with the advisory groups

By building on a strong partnership with RUs and terminals, RFC North Sea - Rhine - Mediterranean creates a platform for shared responsibility and coordinated action, called the Railway undertaking Advisory Group (RAG) and Terminal Advisory Group (TAG), respectively (see chapter 2.4). These Advisory Groups meet regularly and are consulted on several topics related to the Corridor.

In addition, the RAG and TAG Speakers have a dedicated slot in the Management Board and Executive Board meetings to raise issues of their concern. The close cooperation ensures that all stakeholders work towards the common goal of providing high-quality, efficient, and sustainable rail freight services, strengthening the Corridor's position as a key driver of green logistics in Europe. RFC North Sea – Rhine – Mediterranean will make dedicated areas available for the two advisory groups on its own website as soon as it is operational in order to support cooperation between members.

The consultations of the advisory groups concern:

- The corridor development and investment needs (see 6.2)
- This draft Implementation Plan, including the relevance of the selected KPIs (see 6.3).

6.2 Views and assessment of advisory groups regarding Corridor development from the European Transport Coordinator

In line with Article 52 (6a) of the TEN-T Regulation and Article 11 of the RFC Regulation, the Advisory Groups of RFC North Sea – Rhine – Mediterranean were consulted on the infrastructure and investment needs of the Corridor as an input to the work plan of the European Coordinator.

Basis for the consultation was the project list received from the European Coordinator. The consultation was launched on the 25th of April and lasted until 13th of June 2025. Two information telcos with RAG and TAG were held on the 7th and 13th of May with participation of the involved ministries.

The following opinion of the **Railway undertaking Advisory Group** was received:

Overall comments on timing, legal status, process and content

The “Railway Investment List Overview” was received on 25 April 2025 from the RFC Management Team, and shared with the members of the RAG. In order to facilitate the consultation process, two Webinars were organised by the RFC Management Team (on 7 and 13 May 2025) to allow for questions from RAG members, and this was very much appreciated by those who were able to participate.

Whilst the detailed responses from individual RUs to the consultation can be found in the documents that we provide in Annexe to this letter, we felt that it is important to point out a number of factors which made the consultation harder than we would have expected.

1. Timing

For a thorough evaluation of the quality and necessity of the projects listed, at least six weeks of analysis and reaction time are required, and these should fall outside common holiday periods such as mid-July to end of August and the Christmas to New Year period. This allows RUs to analyse the information, and to discuss and coordinate their responses with other corridor RAGs.

The time allowed to the RUs to respond in this process was unrealistically short. By the time we received the information for this consultation, only three weeks were then given for a response to be made, and these weeks included official holidays in some countries. As several crucial points were missing in the initial information, we subsequently lost valuable time in finding the answers.

2. Legal status and process

We were not certain what legal status the RAG input would receive, nor whether this will be a recurring process in which input can be revised. This made RUs hesitant to react at all, or without adding a reserve to their comments.

3. Content

To be able to give a meaningful assessment of the appropriateness and relevance of these projects, and to get a measure of their urgency relative to other projects, the RU's must know whether the works conform to / or make the infrastructure conform to the TEN-T technical parameters and the deadlines prescribed by the TEN-T Regulation, and to which part of the TEN-T network it belongs: core network (2030 deadline), extended core network (2040 deadline), or comprehensive network (2050 deadline).

This information is crucial, as what matters to RUs is to have an end-to-end view of the effect of the investments on the TEN-T parameters (in particular profile and train length), and this was not possible given the information provided.

Prioritisation for RFC North Sea – Rhine – Mediterranean

Despite the reservations listed above, the RUs on the corridor were able to identify two priority infrastructure enhancement projects which did not appear on the investment list, and which we feel need addressing with the relevant parties.

We therefore ask that the following two issues be taken into account as part of the consultation:

1. Loading Gauge Enhancements to allow P400 Metz – Strasbourg – Basel

- The Railway Undertakings active on the RFC NSRM remain committed to developing rail freight, and contributing to the shift of freight traffic from road to rail, in line with the objectives of the policies of the European Commission.
- The major growth area of the past decade has been in the transportation of unaccompanied semi-trailers by rail, using pocket-wagons, across the continent, requiring lines to be compliant to wagons carrying “P400” coded semi-trailers.
- The former RFC “North Sea Mediterranean” has lagged behind in this field due to the restricted loading gauge profile of some of its key sections, in particular through the Vosges Tunnels between Metz and Strasbourg, as well as through the tunnels between the FR/CH border and Basel.
- **The RAG members were therefore astonished to find no mention of the projects to enable the transport of P400 gauge trains on these lines in the Investment List Overview.**
- We ask as a priority that these projects be integrated into the next version of the Investment List.

2. Improved Resilience on Diversionary Routes

- As you are aware, the NSRM corridor is a strategic asset for the flows of freight between the North Sea ports and Northern Italy, and the regions in between. Major investments of the past few years, such as the construction of the Gotthard Base Tunnel, have greatly increased the capacity of the corridor.
- In order to fully exploit the available capacities, additional investment to remove capacity bottlenecks are required, and we appreciate the inclusion of such schemes in the investment list.
- Whilst this increased investment is welcome, the required works invariably give rise to extended periods of track closures, during which time the already-constrained capacity is put under even more stress. Examples of this include the extended works on the Rheintal-bahn between Karlsruhe and Basel.
- In order to allow these vital works to be carried out, with a minimum of impact on the logistical flows of our customers, it is vital to work to improve the capacity of the available diversionary routes, and we are therefore disappointed that some relatively minor schemes (such as allowing the carriage of P400 gauge trains on the “Gäubahn”) are not included in the investment list. The argument given to us is that these lines are not part of the TEN-T corridor. We, as users of the infrastructure, see this as a form of administrative short-sightedness – in order to achieve the levels of resilience required by the market we need to look further than the constraints of the TEN-T label, and consider moderate investment in alternative routes.

Conclusion by the Railway undertaking Advisory Group

Despite the issues faced by the RUs listed above, we have been able to identify two priority issues which we feel need addressing in the final list of investments to be made to the corridor. Whilst the RAG members have also been able to give feedback on some of the other investments proposed, the process would have been facilitated if a more comprehensive explanation of the proposed investments, and in particular their relevance for the achievement of the TEN-T parameters, had been stated. The Speakers did request this information from the Corridor Managers, who have been most obliging in trying to obtain this for us. However, they had to inform us that this information could not be shared with the RUs at this stage.

Therefore, the RUs and the Speakers do not consider their input to this consultation as definitive, nor are they in any way bound to it.

We conclude from the above points that the process is not quite harmonised with the possibilities and constraints of all the actors involved. For a future consultation, we strongly recommend that all these points are resolved.

The following text was received from the **Terminal Advisory Group**:

Several high-priority projects have been proposed by the Terminal Advisory Group to address capacity constraints and enhance cross-border operational efficiency within the rail freight network.

One of the key projects concerns the upgrade and reconstruction of intermodal terminals in the Port of Zeebrugge. The planned extension of tracks up to 740 meters is intended to accommodate longer trains and expand terminal capacity, in response to increasing demand and the current trend toward full utilisation.

In addition, targeted capacity enhancement measures in the Aachen–Köln region have been identified as critical. This area is currently facing serious infrastructure limitations, which restrict the development of rail freight services. Furthermore, the proposed extension of rail access routes to strategic port areas seeks to offer viable alternative corridors and reinforce the resilience of international freight flows across European borders.

6.3 Results of the consultation of the draft Implementation Plan

The draft Implementation Plan of RFC North Sea – Rhine – Mediterranean was consulted with the Advisory Groups, applicants and other relevant stakeholders. The consultation took place from 22nd of May until 13th of June.

As foreseen in Article 9 of the RFC Regulation, the opinion of the Advisory Groups can be found under chapter 6.3.1 and a summary of the consultation of the other stakeholders under 6.3.2.

6.3.1 Feedback from the Advisory Groups

The following unedited comments have been received by the Railway undertaking Advisory Group.

a) Consultation Time

We appreciate the given time schedule of 3 weeks to give feedback on the implementation plan, as we requested it with the last implementation plan.

b) Lines (Chapter 2.1)

In the view of RU, the following lines should be part of the corridor and are missing today:

- **Gäubahn** : Schaffhausen – Singen – Rottweil – Böblingen – Sindelfingen – Kornwestheim – Heidelberg – Bruchsal. The Gäubahn serves as the primary alternative route to the

Rhine Valley, linking Karlsruhe and Basel—the vital artery of north-south transport in Germany, accommodating up to 200 freight trains daily. This critical line is frequently closed for construction work.

- The connection from **Offenburg to Kehl**, extending to Strasbourg, links the left and right banks of the Rhine. This route enables the rerouting of freight trains via Offenburg, Strasbourg, and Basel in the event of construction work on the Rhine Valley.
- The line from **Thionville to Trier, via Apach/Perl**, is also a surprising omission from the corridor. This line is in itself an important freight axis, providing the most direct line from Lorraine and Southern France to the Ruhr region and Northern Germany, but also acts as a vital diversionary route when routing of trains between France and Germany via Forbach is not possible due to works. This line is also used as an important diversionary route when works between Bettembourg and Trier prevent freight trains from crossing directly between Luxembourg and Germany, as has regularly been the case for several weeks per year over the past 15 years.

c) 740 m Train length (chapter 2.1.4)

It is important to mention, that not only lines but also stations and receiving tracks of terminals where the trains arrive and depart need to be fit for 740 trains (end-to-end effect of measure). This is a great need especially on the Italian network.

Furthermore, we note that SNCF Réseau did not provide any information, because they deem “the information in this Jumping Jack to be subjective and decided therefore not to provide any data”. This greatly diminishes the value of the jumping jack, the implementation plan, indeed the entire corridor. To enable international traffic, common definitions and understanding of parameters are essential such that an end-to-end harmonized corridor can be achieved. It is the task of IMs on the corridor to work together to overcome national thinking.

d) Profile (chapter 2.1.5)

We would like to highlight the importance of the 4-meter corridor on the following lines

Left Rhine through Vosges Tunnels (including Basel – Strasbourg - Metz)

Domodossola - Sesto Calende - Milano

Chiasso - Milano – Gallarate (“Milan curve”)

Gäubahn including Swiss access to it (Schaffhausen – Singen – Stuttgart)

e) ERTMS (chapter 2.1.7)

The RU appreciate the clear vision on the ETCS Deployment available through the jumping jacks. It is however crucial, that this information is binding such that RU can prepare their investments.

Furthermore, the approval procedures for locomotives differ from country to country and are sometimes so complicated and lengthy that several railway undertakings face major financial risks.

To ensure the binding nature of ETCS Deployment information and simplify the approval procedures for locomotives, it is essential to establish standardized guidelines across countries, provide financial support mechanisms for railway undertakings, and create clear communication channels among stakeholders.

f) Terminals (chapter 2.2)

List of terminals to be completed, e.g. Novara Boschetto (HUPAC), Busto Arsizio (Fascio HUPAC), Melzo Scalo, Gent Zeehaven and further.

g) Bottlenecks (chapter 2.3)

Due to national definitions of bottlenecks it is very difficult to give feedback to this chapter.

h) Transport Market Study (chapter 3)

Since a new Transport Market Study under the Name of EuroLink at RNE is being generated, the current version was not taken into consideration.

i) TCR (chapter 4.1)

Temporary Capacity Restrictions (TCRs) currently represent one of the most significant obstacles for RU in operating effectively within the corridor. The amount of TCRs and their consequences severely disrupts efficient planning and resource deployment, significantly impacting train operations. The announcement that the rolling highway between Novara and Fribourg will cease operations by the end of 2025 due to construction work serves as a stark warning. We need TCRs for a future-proof rail network. However, they must be planned and realized in a way enabling RUs to sustain their operations during this transition. Many RUs are currently facing huge challenges, resulting in a loss of customers and traffic to road transport. Consequently, the corridor should enhance its efforts in coordinating TCRs. As RUs, we require viable detour capacities with stable planning and essential parameters such as train length, weight, profile, and electrification. The requirements are placed on RUs by their customers, who fail to understand that the railway sector is unable to comply to their requirements.

j) Traffic Management (chapter 4.5)

Traffic management is often done with a very national perspective, sometimes even regional. Small disturbances often lead to train refusals on a large scale leading to a blockage on the entire corridor, which is very time-consuming and resource-intensive to restore. It is therefore

necessary, that the corridor enhances the cross-border management in order to manage buffer capacities and disturbances in a farsighted and cooperative manner.

k) Ambitions and objectives (chapter 5)

The current ambitions and objectives primarily align with the requirements of the TEN-T and the RFC Regulation. While these are necessary, we expect the corridor to establish more concrete and ambitious goals that will foster a collective effort among all Infrastructure Managers to achieve them collaboratively. These goals should be defined with specific metrics and timelines.

l) Dwell times (chapter 5.3.1)

To be clear: RUs are in favour of short (or no) dwelling times at borders as well. But in Logistics, whenever two production steps do not produce at the same rates, buffer zones are needed in between. In rail operations, different countries do not always operate at the same train rate, especially in real-time operations. This is why we need buffers along the corridor, especially at border sections, to compensate for different real-time train rates, to rearrange resources and transport concepts. It is therefore important that dwell times at borders are measured and treated respecting this operational context.

Conclusion

We trust that our feedback will be taken seriously to foster a truly cooperative environment. We are looking forward to seeing an intense international and cross-border collaboration between the Infrastructure Managers, them being the foundation of the rail freight corridor, to overcome national barriers and enhance rail freight across borders.

The Executive Board and Management Board of RFC North Sea - Rhine - Mediterranean would like to thank the Advisory Group for the comments and continued support of the Corridor. Some of the comments by the Advisory Group are therefore answered by the Corridor down below. Where it was not possible to answer the comments in the process of the Implementation Plan consultation, e.g., due to missing data or necessary in-depth discussion, the subjects addressed will be taken up and analysed in more detail in subsequent meetings with the Advisory Groups.

Point B – Additional Lines

The Management Board will look into updating the overviews on technical specifications in the upcoming 6 months to include the above-mentioned lines.

Also, once the Implementation Plan has been published, the corridor will draw up and publish a re-routing catalogue in which the lines mentioned could be included.

Point C – 740 m train length

Where stations are not adapted for 740 m trains, this is already indicated in the graphical overviews. Furthermore, not all terminals are owned by the Infrastructure Managers, making it difficult to analyse all receiving tracks along the Corridor.

A further analysis of 740m train objective has to be conducted by the Member States following Art. 19(2) of the TEN-T Regulation. The Corridor will endeavour to adapt the points raised around the study. After the study, the graphical overviews will be updated accordingly.

The Executive Board recalls that the lines of the Rail Freight Corridor (RFC) are aligned with those defined in Annex III of Regulation (EU) 2024/1679 on Union guidelines for the development of the trans-European transport network, without prejudice to Article 11(3) of the same Regulation. However, the Executive Board acknowledges the need for cooperation between the RFC and the infrastructure manager responsible for lines outside the RFC's scope, in order to facilitate rerouting in the event of temporary capacity restrictions.

Point D – Profiles

The Executive Board has duly noted the request submitted by the RAG concerning this matter. It recognises the necessity of advancing the resolution of the loading gauge issue along the corridor. This matter is of strategic importance for strengthening the corridor's resilience and increasing its capacity to accommodate P400 trains. This is without prejudice to the provisions laid down in Regulation (EU) 2024/1679, particularly Article 16 concerning exemptions in this regard. The loading gauge remains a long-term strategic objective for the Executive Board and will continue to feature prominently on the agenda of its forthcoming meetings. The Executive Board also notes that an updated list of investments will be established by the end of the year, within the framework of the European Coordinator's workplan, which will also provide an opportunity to consider additional projects in this regard.

Point E – ERTMS

The Executive Board reaffirms the commitment of its members to advancing the deployment of ERTMS along the corridor lines. Given that the implementation plan is a non-binding legal instrument, the Executive Board refers to the respective ERTMS national implementation plans, which will be duly considered in the forthcoming ERTMS European deployment plan. The Executive board takes note of the concerns on stability on the deployment for the RUs and will reflect on that. It also recalls the relevance of the current European legislation and the applicable Technical Specifications for Interoperability (TSIs) in this context. Regarding approval procedures for rolling stock and trackside deployment, the Executive Board reminds stakeholders that this

matter lies outside the remit of the Rail Freight Corridors. Member States remain actively engaged in the process of reducing national rules, under the oversight of the European Union Agency for Railways (ERA).

Point F – List of Terminals

The list of terminals (Annex A to this document) has been updated accordingly.

Point H – Transport Market Study

The Corridor would like to stress that the study conducted by RNE is not called “EuroLink”, but called “European Transport Market Study”.

Point I - TCRs

The Executive Board and Management Board of the Corridor recognise the need for international coordination of the traffic flows due to construction works. The corridor will continue to endeavour to further intensify cooperation between IMs with the focus on traffic flows instead of purely looking at TCRs.

Concrete proposals will be discussed in upcoming meetings of the Railway undertaking Advisory Group.

Point J – Traffic Management

In recent years, the Infrastructure Managers have initiated working groups, called Quality Circle of Operations, at border points along the Corridor with the aim of easing border procedures. The Executive Board and Management Board support the implementation of the European Traffic Management Network. The Infrastructure Managers of the Corridor will endeavour the possibility of better data exchange on an international level, enabling integrated steering of the train product.

With regard to the request concerning buffer tracks along the corridor, the Executive Board awaits an opinion from the Management Board, to be based on use cases submitted by the stakeholders, as agreed during the RAG Meeting held on May 22.

Point K – Ambitions and objectives

The objectives and ambitions mentioned in Chapter 5 will be adapted in the course of the publication of the European Transport Coordinator's Work Plan and published as part of an update of the Implementation Plan. As soon as the coordinator's work plan is available, the Executive Board and Management Board will invite the Advisory Groups to discuss possible objectives. The Management Board and Executive Board of RFC North Sea – Rhine – Mediterranean invite the Advisory Groups to communicate their prioritized objectives they foresee for this Corridor.

Point L – Dwell times

The objective on dwell time is given by the Regulation. The Management Board is fully aware that logistic buffers and other activities can take place in a border section. In these situations where the KPI is not reaching the defined target level, the Management Board will conduct additional analyses to investigate the reasons behind longer dwell times and here we will take the mentioned reasons into account before coming to measures. This analysis will be done on a border by border basis to take into account regional necessities. The outcome can lead to adoptions for States, Infrastructure Managers and Railway undertakings alike.

In recent years, working groups, known as Quality Circles of Operations, have already been set up for many border points on the Corridor to improve border processes and thus the border standing times. Further information on the work of these groups, to which the RUs are also invited, will be made available after publication of the Implementation Plan.

6.3.2 Feedback from other stakeholders

No comments from stakeholders other than the Advisory Groups have been received.

