

# **1. Towards the *North Sea-Baltic* Corridor work plan**

## **Background**

Transport is a vital element of European integration and smooth and effective cross border transport is a key element in the effectiveness of the Single Market and the creation of jobs and growth. Moreover, the construction of new transport infrastructure can provide many of those jobs. Similar to the environment, transport is a policy that is easily understood and can find support among the citizens of Europe at a time when the concept of European integration is under heavier criticism than ever before. Transport clearly requires cooperation between Member States on policies created by the Union to facilitate the smooth transit of goods, services and people throughout the European Union (EU) for the benefit of all its citizens.

In 1994 the EU initiated the trans-European transport network policy. In the first years, the policy concentrated on supporting 30 priority projects across the EU. With the reform of the TEN-T guidelines in the years before 2014 the concept of a dual layer structure was introduced, consisting of a comprehensive network and a core network based on a common and transparent methodology. Regulation No 1315/2013 of 11 December 2013 established the core network through nine core network corridors involving all the member states and covering the whole of the enlarged EU.

The core network corridors enable the Member States to achieve a coordinated and synchronised approach with regard to investment in infrastructure, so as to manage capacities in the most efficient way. It should be multimodal; that is to say it should include all transport modes and their connections as well as relevant traffic and information management systems.

During 2014 the Commission-designated consultancy *Proximare* prepared a Study ("The Study") on the Corridor by means of four reports presented to the four corridor fora held in March, June, October and November 2014.

This Work Plan will be based partly on the Study and partly on the input received from the four corridor fora which included participants not only from the eight Member States, but also from the infrastructure managers, the ports, the inland ports and the regions along the corridor. The fora proved to be important and constructive gatherings of stakeholders whose support is vital if the policy is to be successfully implemented.

The Study has taken an inventory of the infrastructure existing on the corridor, analysed the problem areas, reviewed the existing studies and assembled the 291 projects proposed by the Member States and the stakeholders for achieving the corridor concept along the whole alignment from Helsinki to Antwerp/Rotterdam/Amsterdam.



Figure 1: Screen shot of the northern network of the core network corridors showing the North Sea-Baltic in red with the main interconnection points with the other corridors

Under Article 42.1 of the Regulation the core network corridors are *"an instrument to facilitate the coordinated implementation of the core network. In order to lead to resource efficient multimodal, thereby contributing to cohesion through improved territorial cooperation, core network corridors shall be focused on a) modal integration, b) interoperability and c) a coordinated development of infrastructure, in particular cross-border sections and bottlenecks"*.

The 3200 km long North Sea-Baltic Corridor is one of these nine core network corridors and the only one to be situated exclusively in the North of Europe. It joins the Baltic Sea Region with the low countries of the North Sea Region by way of Helsinki, the Baltic States, Poland and Germany. While there is strong traffic in the western end of the corridor from the four largest ports in Europe (Rotterdam, Antwerp, Hamburg and Amsterdam) to the hinterland of the Low Countries and Germany up to Berlin, the flow then lessens from Berlin to Warsaw and, for rail at least, the connection with the Baltic States to the North from Poland is underdeveloped, although the maritime connection between Helsinki and Tallinn works efficiently.

The first ideas for improving the terrestrial connections of the Baltic States to the rest of the EU occurred during the negotiations for the accession of the three Baltic States which culminated in the Rail Baltic project for a new 1435 mm standard gauge rail connection from Tallinn to Warsaw thereby linking the new states with an interoperable faster direct rail line for the transport of goods and people and offering an alternative to the predominant traffic flows with Russia and Belarus. Therefore it is a strong strategic component in the North Sea-Baltic Corridor. It attempts to create new traffic flows in a North/South direction on the eastern shore of the Baltic and connect them to the well-established West/East flows between the North Sea ports, Berlin and Warsaw.

There exists a lot of untapped economic potential in the northern and eastern parts of the Corridor. For example, Finland and Estonia are front-runners in using the information technology sector for smart transport solutions and inter-city links. Meanwhile Poland is an industrial frontrunner among the newer Member States and is one of the EU countries which best weathered the recent economic crisis.

This Corridor needs to be looked at in the context of developing global transport routes. Finland and the Baltic States serve as a hub for the terrestrial connections to the eastern and northern markets in China, Russia, Asia and beyond, while the North Sea ports provide maritime access to the Americas and the rest of the global trading network. Also there is the possibility of connecting in the North to the developing ideas of the Northern Dimension Policy. Transferring goods entering through the Western gateways of the North Sea ports along the land connections and Motorways of the Sea towards the Eastern Member States provides possibilities for further development of the new Member States in the Eastern part of the Corridor.

The Baltic States and Poland have already proved that they are highly committed to the development of their infrastructure and will make the best possible use of the EU funding possibilities. With the improved transport connections in the eastern part of the Corridor, the Member States situated there can serve as a window for the goods coming from the East including the Asian Republics and China and from Russia in the North.

The creation and realisation of this Corridor from Helsinki to the North Sea ports will give a competitive advantage to all the Member States on the Corridor and will be of mutual benefit to all of them.

### **Main Objectives**

The North Sea-Baltic Corridor is linking some of the most important ports in Europe. These connections are not only between the ports themselves but crucially also with the hinterland of each of them - either the "last mile" connection into the port itself or the medium connections to the nearest inland node and the longer connections to the Core Network main corridor. The objective of the North Sea-Baltic Corridor is to link these ports by all available transport modes - not only by sea, but by rail, roads, inland waterways and air. In other words the links should be multi-modal as well as including relevant traffic and information management systems.

Firstly, the Corridor is not complete in the sense that it lacks a 1435 mm rail connection between Sestokai (22 kilometres inside the Lithuanian border with Poland) to Tallinn on the Gulf of Finland. This "break-of-gauge" is not only a missing link but also creates a bottleneck where the two gauges meet as passengers and goods are obliged to change trains from the 1435 mm gauge used in four of the Member States (BE, NL, DE and PL) to the 1520 mm gauge used in the Baltic States. This is why the Rail Baltic project for a new direct line is so important and must be a primary objective of the North Sea-Baltic Corridor.

A second important feature of the North Sea-Baltic Corridor is that of its important urban nodes that are the multi-modal connecting points (hubs) with other Corridor. Helsinki connects with the Scandinavian-Mediterranean Corridor. Warsaw and Poznan connect with the Baltic - Adriatic Corridor, while Berlin and Hannover connect with both the Orient - East Mediterranean and the Scandinavian- Mediterranean corridors. Further west, Cologne, Nijmegen, Liege and Brussels intersect with the Rhine - Alpine Corridor and at its western end points, Antwerp, Rotterdam and Amsterdam connect with the Rhine - Alpine and the North Sea -Mediterranean Corridors.

Developing the transport interconnectivity of the key urban nodes is a vital objective of the Corridor. These nodes of high economic importance are recognised as having crucial

importance not only to this Corridor, but also to the rest of the network. Actions taken at the crossing-points of the Corridors for improving interoperability, multimodality and interconnections are of crucial importance due to the complications found in them. Connectivity within these nodes requires special emphasis due to a very high level of congestion. Deployment of new info-technology solutions is highly relevant here.

A fourth objective of the Corridor (as with all the other eight corridors) is that the transport infrastructure requirements for all modes should be complied with by 2030; the date the core network should be completed.

The North Sea-Baltic Corridor links all the eight capitals of the eight Member States concerned and the corridor crosses eight national borders (1 maritime: FI-EE and seven terrestrial: EE-LV; LV-LT; LT-PL; PL-DE; DE-NL; NL-BE; DE-BE). Cross border sections (as defined) will have a high priority in the work to be carried out on the corridor.

Also the North Sea-Baltic Corridor links four older Member States with four newer Member States. There remain substantial divergences, in terms of transport infrastructure as well as economic and social, between the Eastern and Western parts of the EU. Those divergences need to be tackled in order to achieve a fully integrated European transport infrastructure network. This is another principal task for the North Sea-Baltic Corridor.

This Corridor is a clear example of a principal objective of the new TEN-T policy by connecting east with west and improving the accessibility of the eastern Member States. It is the northern-most Corridor connecting the developed Western markets with the Eastern markets. The Corridor is not there to create competition between countries and regions, but rather to invite cooperation through improved connections.

The North Sea-Baltic Corridor should (along with all corridors) provide the basis for the large scale deployment of new technologies and innovation which can help to enhance the overall efficiency of the European transport sector and help to reduce its carbon footprint. New technologies are especially important in the context of ports, Motorways of the Seas and logistics. Digitalisation of the overall logistics chain is a key driver for a modern and efficient transport system. The Corridor already has best practice examples for information technology solutions in the freight sector at both ends of the Corridor e.g. in the Helsinki-Tallinn twin-port and in the Dutch ports.

In order to achieve those objectives the availability of alternative fuel should be improved throughout the North Sea-Baltic Corridor. In particular, given the large water transport component in the corridor, the provision and use of LNG fuel for seagoing and inland vessels should be highlighted.

The North Sea-Baltic Corridor should cooperate closely with Rail Freight Corridor North Sea-Baltic (set up under Regulation No 913/2010) which provides a unified system for rail freight organisation and management along the majority of the North Sea-Baltic Corridor and which should be fully operational in 2015, while the extension to Latvia and Estonia should follow in 2020.

The interests of the 40 core network regions along the North Sea-Baltic Corridor as well as civil society affected by the projects of common interest have to be adequately taken into account during the development of the corridor.

The new core network corridor concept offers opportunities for stakeholders to contribute to the objectives of the new policy. It also provides a strong means of realising the respective potential of stakeholders and of promoting cooperation between them and of strengthening complementarity with actions by the Member States.

The Work Plan of the North Sea-Baltic Corridor shall take into consideration the work carried out in the four corridor fora and the two working groups on ports and regions organised during 2014. These meetings constitute the multi-level governance element of the core network corridor structure.

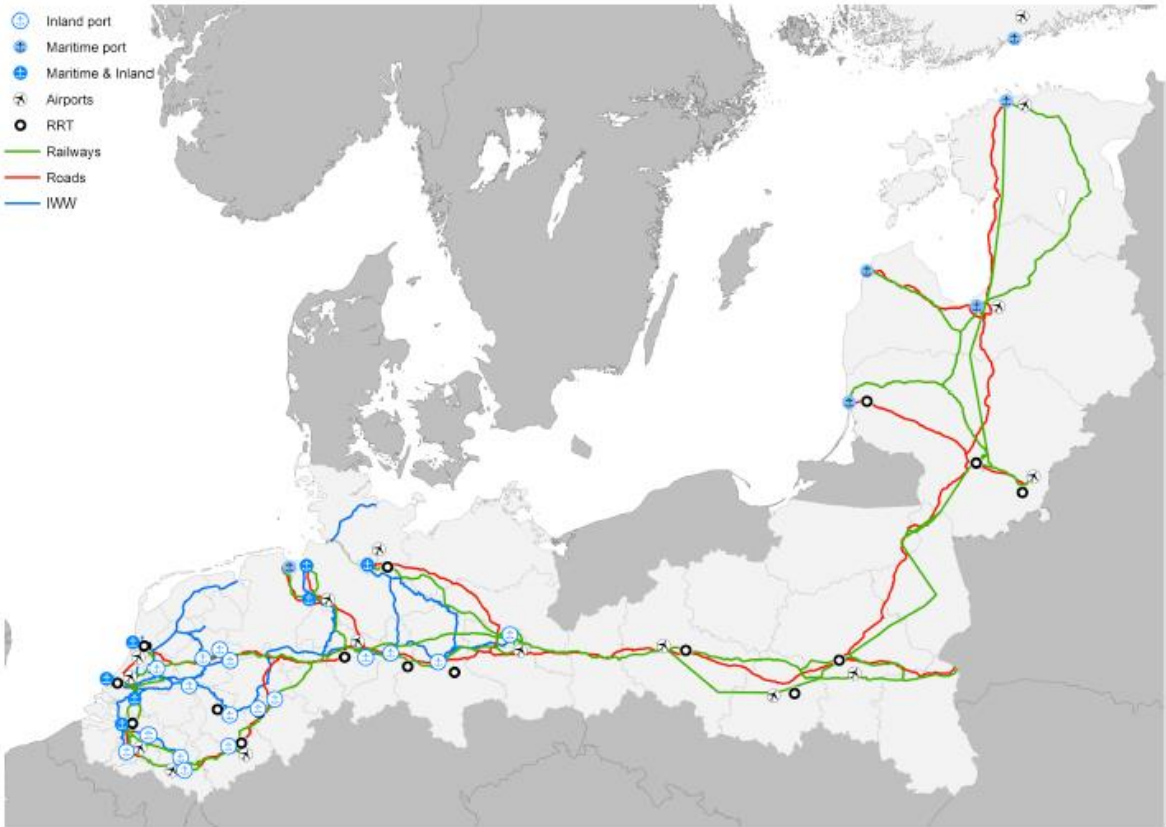


Figure 4: (above) North Sea-Baltic Corridor Map showing different Urban Nodes and transport interconnections by mode as well as catchment areas.

Compiling the year’s research on the new Corridor into the Work Plan is only the end of the beginning. The Work Plan will attempt to give a common vision, based on the compilation of the work of all stakeholders, on the process towards a final realisation of the Corridor. The topics covered in the Work Plan and the recommendations given for the future need to be looked at in the context of achieving efficiency along the whole Corridor. The common interest of all the Member States on the Corridor is the crucial driving force behind the Work Plan. It exists to provide a framework for the prioritisation of the various steps needed to realise the Corridor.

## **2. Characteristics of the Corridor**

### **Corridor alignment**

The North Sea-Baltic Corridor involves eight Member States connecting the Baltic Sea ports of Helsinki (FI), Tallinn (EE), Riga, Ventspils (LV) and Klaipeda (LT) with the North Sea ports of Hamburg (DE), Bremen (DE), Amsterdam, Rotterdam (NL) and Antwerp (BE).

The 3 200 km long multimodal corridor connects the capitals of all the Member States through which it passes: Helsinki (FI), Tallinn (EE), Riga (LV), Vilnius (LT), Warsaw (PL), Berlin (DE), Brussels (BE) and Amsterdam (NL). Among the 17 urban nodes there are 12 multi-corridor urban nodes: Helsinki (2 Corridors), Warsaw (2), Poznan (2), Berlin (3), Hamburg (3), Bremen (3), Hannover (3) Cologne (2) Brussels (3) Antwerp (3) Rotterdam (3) and Amsterdam (3).

The corridor has 16 core network airports, 13 maritime ports, 18 inland ports and 17 rail-road terminals. It also involves 40 EU Regions. It has therefore a potential to become one of the most economically diverse Corridors in the European Union.

There are also some crucial infrastructure elements which affect the Corridor but which are not part of the technical alignment. When looking at the full and effective functioning of the Corridor, they need to be taken into account as they serve important transport needs.

The lack of the Elbe and Weser IWW connections to Hamburg and Bremen and the missing IWW link from Berlin to the Oder River are anomalies, as although they are covered under other corridors, logically they should be included on the North Sea-Baltic Corridor. Also the Kiel Canal is an essential connection between the ports of the North Sea and the Baltic and provides benefits to both and as it is the main maritime link between the two seas it has to be considered, even if it is not on the core network corridor. Finally the Albert Canal in Belgium (while being covered by the Rhine –Alpine Corridor) has an importance for the North Sea-Baltic Corridor as well.

### **Compliance with the technical infrastructure parameters of the TEN-T guidelines**

#### **Rail**

The total railway network of the Corridor is 5,931 km long. The main technical complication is that the corridor is equipped with three different track **gauges**. The Belgium, Dutch, German and Polish networks are all standard UIC gauge (1435 mm). The Baltic States have the 1520 mm gauge (with the small exception of a 22 km section between Sestokai and the Polish border (which has dual gauge/parallel tracking of 1520mm and 1435 mm). The 1435 mm gauge is currently being extended from Sestokai to Kaunas. Finland uniquely has the 1524 mm gauge. However the Baltic and Finnish networks are isolated networks within the definition of Regulation (EU) 1315/2013 and are thus exempted from the requirements.

The **ERTMS** signalling system is in operation on only 8% of the total length of the rail tracks of the Corridor adding up to 495 km on sections mainly in Belgium and The Netherlands. The Netherlands have the highest level of implementation with 75% of the network (350 km) covered. In Belgium 32% of the Corridor is equipped. There are three cross-border sections where ERTMS is in operation so far:

- on the high-speed line between Belgium and The Netherlands;
- on the high-speed line from Belgium to Germany at Aachen (9 km link);
- on the conventional line from Rotterdam to the German border in operation since 2014.

ERTMS on the conventional line between The Netherlands and Belgium (Rotterdam–Roosendaal–Antwerp) is expected to come into operation by 2020. ERTMS on the conventional line between Belgium and Germany is expected to come into operation by 2020 on the Belgian side of the border. Belgium expects to equip its network by 2022, while The Netherlands foresee the whole Corridor being implemented with the system by 2030. Poland also foresees deploying ERTMS on most parts of the Corridor, especially the East-West line. Germany intends to have its rail freight corridors and high-speed lines equipped with ERTMS until 2030. However, first works are planned in 2018. For several sections of the Corridor in Germany, no further plans have been indicated yet for the deployment of ERTMS. Therefore transitions to the German national system remain for an interim period on certain cross-border sections linking Germany with Belgium, The Netherlands and Poland. In the Baltic States, ERTMS is planned to be deployed in parallel with the construction of the standard gauge Rail Baltic North/South rail link by the mid-2020s. However there are plans to install or improve the GSM-R system on the existing 1520 mm rail network.

Detailed ways how to accelerate **ERTMS** equipment along the core network corridors will be described in a separate Work Plan by the European Coordinator. In his report, the ERTMS Coordinator will present a so called Breakthrough programme, which has been established in close cooperation with the railway sector and consist of a limited number of objectives to be reached by 2016, including a review of the current European Deployment Plan and the identification of a strategy for ERTMS equipment by 2030, as laid down in Regulation (EU) 1315/2013.

Regarding **traction** the whole Corridor is electrified in Belgium, The Netherlands, Germany and Poland, except for an approximate 60 km link between Oldenburg and Wilhelmshaven in Germany and a 100 km section between Ełk and the Lithuanian border. In Lithuania, only the Kaunas – Vilnius connection is electrified while in Latvia and Estonia sub-regional lines for passenger transport around the capitals are electrified. Cross-border traffic between the Baltic States and Poland can currently run only using diesel traction. Also, Poland uses a different voltage system for its electric traction, although this is not a defined interoperability problem. There are different voltage systems also across Member States, but this will not pose a cross-border problem if a locomotive is equipped with a relevant converter.

Only very limited sections of the network do not comply with the standard of the maximum 22,5t of **axle load**. Problems with axle load relate to the Eastern parts of

Poland. However the broader 1520 mm network in the Baltic States can support the required load.

The majority of the Corridor can accommodate the minimum **train length** of 740m (required under the TEN-T Regulation). However, problems remain in Belgium, where the whole network is not currently complying with the requirement due to existing train length restrictions of 650m during peak hours, as is the case in Germany. The Baltic 1520 mm network meets the requirements, though the Polish network from the Lithuanian border until Warsaw currently does not. Also, a section on the Polish network between Poznan and the German border does not yet comply with the Regulation.

In The Netherlands, the requirement of the **maximum line speed** of 100km for freight lines is fulfilled. However this is not yet the case from Berneau to the German border. The line speed for freight trains on the main East-West axes of the Polish network and on the Warsaw – Bialystok section towards Lithuania is generally sufficient, but there exist long sections with speed restrictions.

Between Ołeczek and Białystok the speed limits are between 80-and 120km/h and from Ołeczek until the Lithuanian border the speed is completely inadequate at 30-60km/h. The Warsaw freight bypass also has an inadequate speed of 40 – 70 km/h, but plans are foreseen to solve this problem. In Lithuania, the standard gauge 1435 mm railway currently being built along the existing 1520 mm alignment mm will have a speed limit of 120 km/h (80 km/h for freight transport).

### **Inland waterways**

The Corridor has an effective IWW network stretching from the North Sea ports to Berlin. All IWW sections on the Corridor are in the CEMT-classes IV-VIc, with a minimum height of 4m under the bridges and a lock width minimum of 9.5m. In Germany, almost half of the respective network within the North Sea-Baltic Corridor is class IV, the rest is class V and VI. In The Netherlands, only a short section of the network is class IV, the rest of the network being class V or higher. In Belgium the whole Corridor alignment is class VI.

All inland waterways in Germany and The Netherlands shall comply with the minimum required standard of CEMT IV by 2030. All rivers and canals meet the minimum draught requirement of 2.5m, except the Havel canal system. However, many canals in Germany meet only the minimum requirements and should be upgraded to match expected increase in demand. Furthermore, the requirement of minimum bridge height of 5.25m is not currently met on several canals in Germany. All inland ports in The Netherlands and Germany are connected to the motorway network. All ports are also connected to the railway infrastructure, except for the Deventer port in The Netherlands.

The Netherlands, Germany and Belgium have transposed the **River Information Services** Directive. A number of RIS applications have been deployed and the International data exchange for electronic reporting between Belgium, Netherlands and Germany is in operation. LNG is available as an **alternative fuel** solution for inland waterways transport at the nodes of Antwerp, Rotterdam, Amsterdam, Bremen, Bremerhaven and Hamburg and more nodes are planned in the future. In 2015, a mobile LNG-tank vessel will be available on the Rhine River system. However the real issue here is the cost of conversion of the barges to dual fuel engines.



## Ports

The Corridor has 13 Core maritime ports and 18 Core inland ports. The start and the end ports of the Corridor are the Finnish port of Helsinki at the eastern end and the Belgian port of Antwerp and the Dutch ports of Amsterdam and Rotterdam in the West.

The four North Sea ports, **Rotterdam, Antwerp, Hamburg and Amsterdam** (RAHA ports), are the four largest ports in Europe and therefore form the vital gateway at the western end of the Corridor. Their hinterland connections whether they are "last mile", medium connections to the nearest urban node or connections to the main North Sea-Baltic Corridor axis to the East are crucial for the efficient functioning of the Corridor.

Amsterdam, Rotterdam and Antwerp ports both have direct road and rail access, Inland waterways access to the ports also exists. Road cargo currently holds 50% of the modal share of the ports' connections. By 2030 the goal is to decrease it substantially and shift cargo to rail, inland waterways and short-sea shipping. There are sufficient hinterland connections by inland waterways.

Germany has four seaports on the Corridor: **Hamburg, Bremerhaven, Bremen and Wilhelmshaven**. Hamburg is the third largest German inland port and the largest railway port in Europe. Wilhelmshaven is the only German deep-water port of 18m. The ports have sufficient road and rail connections.

In Lithuania the ice-free **Klaipeda State Port** is the biggest Lithuanian transport node with well-developed hinterland connections on road and rail.

The **Freeport of Riga** in Latvia is the largest port in the Baltic States. The port is connected to the rail network, though there are plans to further modernise the port's railway network. The future plans foresee connecting the port directly into the TEN-T network via the Riga Northern Transport Corridor. Another Latvian port on the Corridor is an ice-free **Freeport of Ventspils** which has convenient road and rail access. There is a need to improve navigation safety in Latvian ports. The Muuga cargo terminal of **Tallinn Port** in Estonia has both rail and road connections, though finalising the main access road is still on-going

Helsinki has three ports which form part of the combined **Port of Helsinki** – West Harbour and South Harbour in the city itself serving mainly the passenger and *ropax* ferries serving Estonia and Sweden but with some freight capacity and the new Vuosaari Port to the East of the city which is mainly freight. Vuosaari has both road and rail connections to the national networks.

The Ports of Antwerp, Amsterdam and Rotterdam offer LNG as an **alternative fuel source**. The availability of the alternative fuels in German ports can be expected by 2025. A floating LNG terminal anchored in Klaipeda port opened in November 2014, and there are plans to start services of providing LNG fuels to ships. In the Helsinki ports LNG terminals are planned. There are no plans at present for LNG terminals in Latvian ports. In Tallinn no alternative fuel solutions are provided yet, though LNG and LPG terminals are planned. LNG supplies are available in Antwerp. Also the Port of Helsinki offers LNG delivery once every fortnight from a supply vessel.

The ports of Antwerp, Amsterdam, Rotterdam, Helsinki and the Baltic ports as well as the German ports have sufficient facilities for collecting **waste and cargo residues**.

## **Airports**

**Regulation (EU) 1315/2013** sets an obligation that certain core network airports need to be connected by rail, (preferably high-speed) by 2050. Out of the 16 core network airports along the Corridor, eight airports on the Corridor (Helsinki, Riga, Warsaw, Berlin, Hamburg, Cologne, Brussels and Amsterdam) have this obligation. While Amsterdam, Brussels, Berlin and Cologne airports are already connected with high-speed rail, Warsaw and Hamburg airports have a link to a regional rail network.

In Brussels there is a rail link to the airport. Amsterdam airport has capacity issues relating to the rail tunnel and railway station. Riga and Helsinki airports do not yet comply with the requirement. In Helsinki a rail connection to the airport is foreseen to be completed in July 2015 and in Riga the plans to connect the airport to the railway system go in parallel with the developments of the standard gauge Rail Baltic project. This means that by 2030 the rail link to the airport is expected to exist.

Out of the airports with no obligation to connect to rail (Tallinn, Vilnius, Lodz, Poznan, Bremen, Hannover, Liege and Rotterdam) Vilnius and Hannover have rail connections. Bremen and Rotterdam airports have tram connections from the central train stations. In Tallinn airport, a railway station of the existing core network (and a future passenger terminal for Rail Baltic) is approximately 1.5 km away and a light rail connection is foreseen to be built over the next 4 years. For Łódź and Poznań airports, there are no plans for a rail connection at present. Realisation of a new rail link to the future cargo terminal at Liege airport is an objective.

## **Roads**

The main road link in Belgium from Brussels to the German border has six lanes, except for the last 20 km. Also, the motorway link to The Netherlands has six lanes, except for the last 40km from Antwerp to the Dutch border which has four lanes. Although the existing road network in Belgium meets the requirements of Regulation 1315/2013 and the capacity is quite high, there are major concerns with congestion.

The Dutch motorway network on the Corridor has four lanes on most sections. Plans exist to widen some more congested sections. The Dutch government gives a high priority to using more Intelligent Transport Solutions. The motorways on the most used sections between Amsterdam and Rotterdam are six or eight lanes. Despite the high capacity of the motorway network, congestion is still a major concern.

Almost all road sections on the Corridor in Germany are part of the German motorway system. There is a short section of around 10km on the A30 near Bad Oeynhausen where the motorway is missing. Another bottleneck on the German motorway system is the Berlin ring with only four lanes due to temporary capacity problems.

The Polish road network from the German border to Warsaw is a new four lane motorway, the A2. From Warsaw towards the Belarus border it is mainly a two lane national road. No further extension is currently foreseen. The connection from Warsaw to Lithuania is also mainly a two-lane national road; an expressway is in the planning stage.

The Via Baltica highway is the main artery for North-South traffic between Poland and the Baltic States. At the moment along the future route of the Via Baltica there is a clear shortage of high quality infrastructure which results in congestion. In Lithuania the Via Baltica road has two lanes, except for a section of 20 km North of Kaunas which has four lanes. The East-West connection from Klaipeda port through Kaunas to Vilnius is a four lane conventional road. In Latvia the Via Baltica is a two lane road with capacity problems on the Riga bypass in Baltezers, Iecava and Bauska, where some sections require widening the road from two lanes to four (including construction of bypasses). Bearing in mind the deficiencies of the Riga traffic system –lack of capacity, and a highly fragmented character - new traffic infrastructure must be created in order to have a reliable TEN-T link (last mile) and extend the TEN-T network to Riga port.. Except for the Riga ring road, the road to Ventspils port has also two lanes. In Estonia, most of the Via Baltica has two lanes, except the last 25 km to the capital Tallinn. The main problems of Via Baltica relate to road safety.

The situation with the **provision of alternative fuel sources** is that there is one clean fuel station already in operation between Antwerp and the Dutch border and there is one LNG station for trucks in operation (near Antwerp). Further clean fuel stations are planned. In The Netherlands, LPG is available at almost all service stations and a pilot hydrogen refuelling station has been recently completed in Rotterdam as part of the "blue corridor" linking with Germany (no stations at present) and Denmark (several stations but not part of the North Sea-Baltic Corridor). Establishing the network for alternative fuels is a key part of the government plans in The Netherlands. On-going projects aim at developing fast charging points for electric cars along major highways in The Netherlands and Germany. In The Netherlands, out of the planned 30 chargers, 14 will be located on the Corridor. In Germany and Poland there are sufficient LPG refuelling stations in the nodes. Though, LNG refuelling stations are significantly less present in Germany and in Poland and a clear gap is noticed. The same applies for the charging stations for electric cars in Poland. In Lithuania and Latvia there is provision for LPG refuelling on the road network and the number of LPG users is increasing. The provision of hydrogen infrastructure in Riga is in planning. The whole Estonian national road network is covered with fast-charging stations for electric and hybrid cars after every 40-60 km.

The Belgium, Dutch and German motorway network complies with the Regulation on **parking areas**, though these are congested at the borders due to the weekend driving ban in Germany. The Polish motorway from Warsaw to the German border is well-equipped with the parking areas. In Estonia, Latvia and Lithuania as there are currently no motorways but there is still a need to comply with the Regulation on parking areas and to address the other road safety issues that exist.

### 3. Results of the transport market study

For the first time, a transport market study was carried out for the whole Corridor. It assessed transport demand and the resulting traffic flows as well as the capacity of the infrastructure. The current situation and the forecast for 2030 were looked at:

#### Freight transport

Loading Country	Mode				
	Total	Rail	Road	Inland Waterways	Short Sea Shipping
FI	100%	0%	2%	0%	98%
EE	100%	4%	10%	0%	86%
LV	100%	6%	11%	0%	84%
LT	100%	24%	19%	0%	57%
PL	100%	11%	89%	0%	0%
DE	100%	6%	50%	30%	15%
NL	100%	4%	29%	58%	8%
BE	100%	4%	39%	49%	8%
Corridor area	100%	6%	34%	38%	22%

Table 1: Modal split of corridor-related international freight transport flows by country in 2010

At the national level there is a very **high dominance of road transport** (69%) in the countries along the Corridor. For the corridor-related freight traffic, the picture is more balanced - expressed in freight tonnage; inland waterways accounts for the highest volumes, whereas rail traffic is only very limited.

Inland waterways are only relevant in the western part of the Corridor, whereas in the Baltic States and Finland **short-sea-shipping** is by far most important mode of transport. At the national level, rail transport takes the biggest share in the Baltic States and short-sea-shipping is important for Finland, the Baltic States, Belgium and The Netherlands. In Poland, the dominance of road in international traffic is very clear. Rail has a bit bigger share in domestic freight, but also here the dependence on road is very high. Germany has the most balanced modal split for international traffic.

As shown on the following maps, the most substantial freight flows on the Corridor are in the western section between Germany, Belgium and The Netherlands.

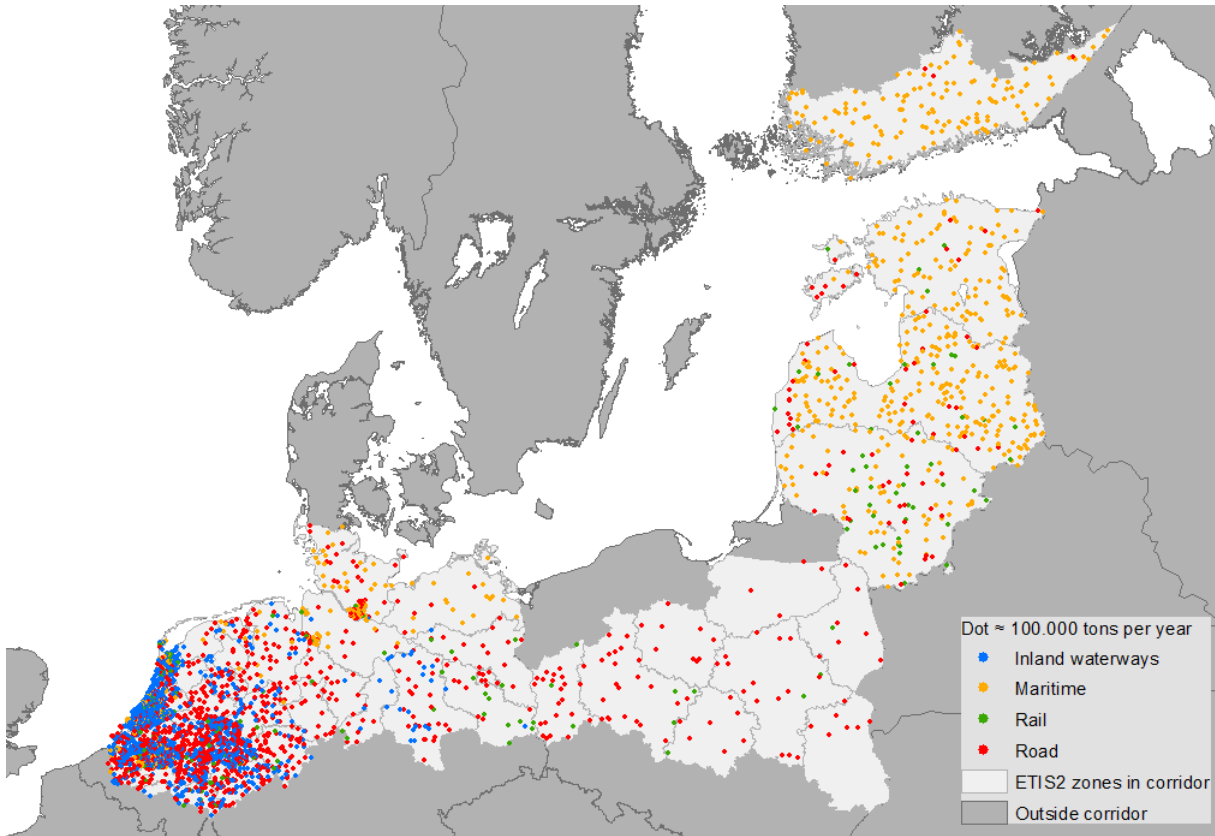


Figure 5: Origins of international freight transport flows within the corridor catchment area by transport mode

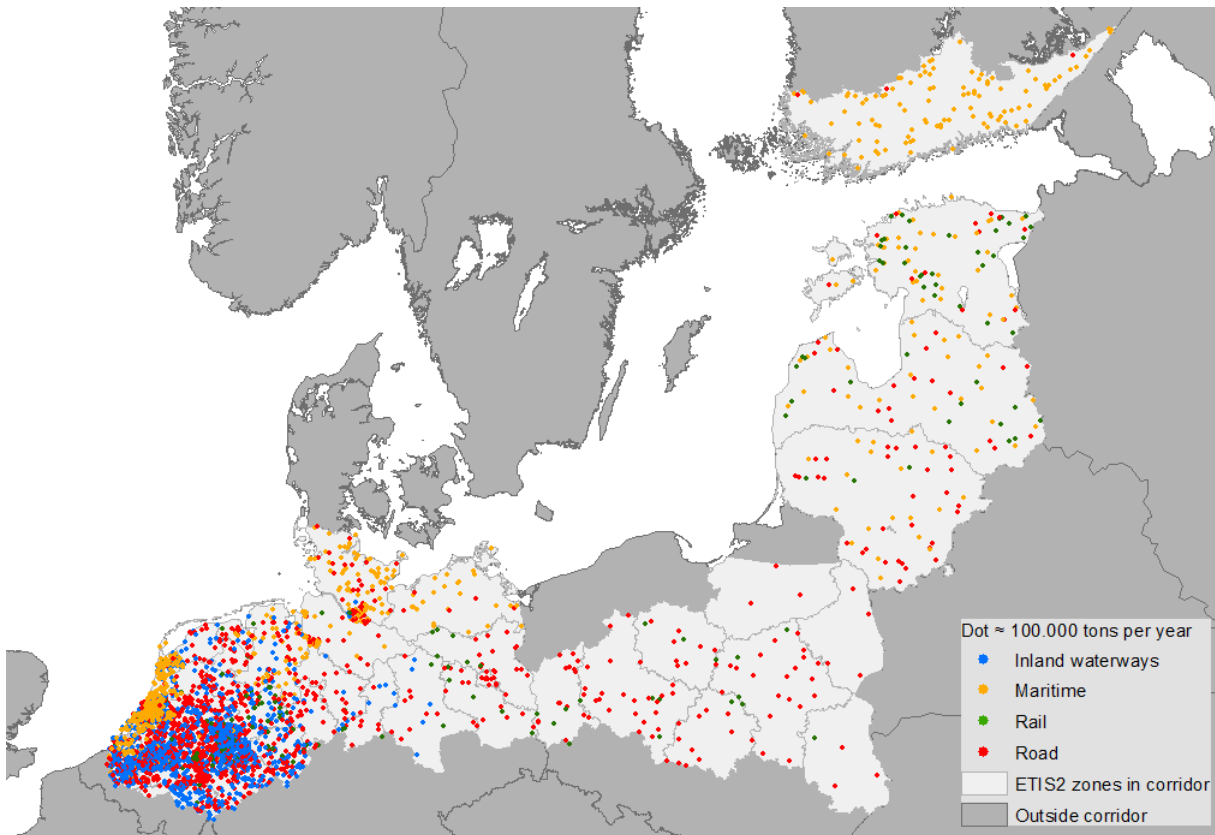


Figure 6: Destinations of international freight transport flows within the corridor catchment area by transport mode

The future anticipated requirements for freight traffic in 2030 show substantial variations between the countries and the transport modes. For the Corridor as a whole, the highest growth rates are expected to be in road haulage (+42%). This is especially the case in the central and eastern parts of the Corridor. Inland waterways have the lowest expected growth rate (+22%). Rail freight is expected to grow substantially in Lithuania, The Netherlands and Belgium, whereas an increase in road freight is expected to be limited in Lithuania and Belgium. On the other hand, in Latvia and Poland quite a substantial increase is expected in road freight. As a result, the modal share balance would be further tilted in favour of road transport if no remediating action would be taken.

The Study also indicates that already today the capacity of the road infrastructure in the western end of the Corridor is limited as congestion is a daily phenomenon. The Via Baltica road between Warsaw and Tallinn is only an expressway (not a motorway) and some capacity problems are noted now on the Polish section. Railway capacity for cross-border traffic is often problematic due to technical barriers like a lack of the ERTMS signalling system or the lack of harmonisation of the infrastructure when it comes to train length and axle load. At some ports, there is a capacity issue in terms of future container terminal handling, which may lead to future congestion. The inland waterways vessels and the freight volumes are expected to rise, therefore capacity issues may evolve in terms of lock capacity and bridge height.

### **Passenger transport**

At the national level, road transport is by far the most dominant mode for passenger transport. For all the countries along the Corridor, the share of road transport in 2012 was on average between 77-91% (respective examples being Latvia and Lithuania). Estonia and Latvia have a relatively high share of bus transport and the highest share of rail transport (9%) is in Germany and The Netherlands.

The total number of international passengers within the Corridor catchment area in 2010 was estimated at over 49 million passengers. In line with the findings at national level, road transport represents the highest share of the corridor-related cross-border passenger transport. Road transport is very high (86-90%) in Germany, Belgium and The Netherlands. In Germany, 8% of flows are on rail and this is the highest share out of all the countries. Bus transport has a high share in the Baltic States (28-36%). The corridor-related passenger volumes are highest between Germany, Belgium and The Netherlands.

Airports are important entry and exit points to the Corridor and therefore important feeders for other modes of transport, such as rail and road. They offer an important alternative for intra-EU links, especially for the eastern and northern parts of the Corridor.

For the Corridor as a whole, the forecast for 2030 shows a higher growth rates for rail passenger transport than for road. Road growth rates are higher in the eastern and central parts of the Corridor. In the western part of the Corridor the growth rates for rail transport are substantially higher.

The market study has shown that there will be quite a substantial growth in both freight and passenger transport along the Corridor, however, rail transport has a very limited share in the cross-border traffic which is not in line with the overall EU policy objectives.

There is a need for greening transport through initiating the modal shift from roads to rail, inland waterways and short-sea-shipping. In this respect, the Study shows that we have a clear need for actions related to improving the quality and capacity of the railways and the inland waterways to accommodate a future growth in demand. Further actions will need to be considered to make inland waterways and rail more attractive.

#### **4. Critical issues on the North Sea - Baltic Corridor**

The overall goal is to have a fully operational and functional Corridor. This section will present the critical issues of the infrastructure which currently still hinders the functionality of the Corridor to provide a smooth freight and passenger transport. Solving the most critical issues will contribute to the better performance of the Corridor.

An important aspect to keep in mind is the overall European transport policy goal of shifting medium and long-distance freight from road transport to more sustainable modes of transport like railways, inland waterways and short-sea-shipping.

##### **Cross-border links**

The **most critical cross-border issue on the Corridor** is the missing 1435 mm UIC standard gauge railway line from Tallinn to the Polish border through the Baltic States. The standard gauge is completely lacking across two **national borders from Estonia to Latvia and Latvia to Lithuania**. Even though Lithuania hopes to complete a dual gauge/parallel 1435/1520 mm track from the Polish border to Kaunas this will have restricted speed limits of 80 km/h for freight and 120 km/h for passenger. The line is also currently without electrification or ERTMS.

Without the **Rail Baltic** new line the flow of goods and services from the rest of the Single Market cannot pass easily by rail into the Baltic States and on to Finland or vice versa. The Corridor cannot operate at its full potential when the situation of two different gauges will remain in place. The freight and passenger traffic is currently low because the infrastructure in the North/South direction is not adequately connected or interoperable. The Baltic States can highly benefit from the symbiosis of the new Rail Baltic railway and the current dominant East/West trade flow. The Baltics also need to become better connected to the rest of the EU for the strategic reasons in the current geopolitical realm.

In Poland the railway is electrified from Warsaw to Elk, although there is not yet any ERTMS implementation and the line speed is not fulfilling the requirement set in the Regulation. Poland is currently carrying out up-grading works on the section Warsaw – Sadowne and plans for Sadowne – Białystok are well prepared. Problems still remain on the Białystok – Lithuanian border section. Regarding the sections north of Białystok, Poland is carrying out a new feasibility study that should allow determining how the sections on Polish territory can be developed in conformity with the TEN-T and CEF Regulations taking into consideration the environmental issues as well as economic justification for each alternative. The results of the feasibility study shall be fully taken

into account by the Member States involved in order to obtain a fully functional Rail Baltic. Cooperation will be engaged between all five Member States in order to prepare for the project implementation, supported by the European Coordinator whenever required and with substantial (in the order of 85%) financial support from the CEF. This shall lead to the submission of the necessary requests for co-funding in the second and third CEF call and to the detailed second Work Plan in 2016. To support the Member States holding shares in it, the Joint Venture is fully responsible for coordination, implementation and facilitation of Rail Baltic Project.

Furthermore, within the framework of the North Sea Baltic Corridor, Vilnius is of course one of the capitals to be connected. In that perspective, a joint agreement has been reached that Vilnius will be connected by a 1435 mm line to the Rail Baltic north/south axis at Kaunas ensuring that all Baltic capitals and Warsaw are connected in the same network, in line with the Shareholder Agreement of the Joint Venture RB Rail AS.

As regards the coherent development of the cross-border section between Lithuania and Poland, an action plan will be deployed following the above mentioned feasibility study in order to ensure that the requirements of the Regulations are fulfilled as well as in line with the Shareholder Agreement of the Joint Venture RB Rail AS..

## **Bottlenecks**

### ***Rail bottlenecks***

High volumes rail freight lines currently pass through the urban nodes along the Corridor. This is especially the case for the multi-corridor nodes where in addition to the traffic from the East-West connections, North-South traffic from the Baltic Sea ports brings additional traffic. Shared freight and passenger lines within urban areas limit the traffic capacity for passenger transport, but also have environmental consequences.

In the **Helsinki** node the medium-distance connection has problems however because of the bottleneck of the railway network of the capital region.

Both in **Warsaw and Poznan**, a dedicated city bypass is foreseen to separate freight and passenger traffic with an overall goal to increase line capacity for both. It will allow better connections for passengers within the urban nodes.

Also in **Bremen**, a freight bypass rail link is needed to divert the freight traffic from Bremerhaven passing through Bremen central station which is reaching saturation point.

The last section of the rail line from **Oldenburg to Wilhelmshaven** port has no electrification. Improvement of this hinterland connection could greatly contribute to better freight connections and an increase in traffic.

**Antwerp** port hinterland connections need improvement. The large quantities of freight between Antwerp and Leuven influence the Mechelen node where traffic should be diverted from the urban area. On top of that, in its actual configuration the route through the city of Mechelen leads to a system break affecting the continuity of long-distance and cross-border high speed rail services. The rail by-pass of Mechelen is necessary in order to allow an increase in the speed, punctuality and capacity of this section.



Improved freight connections to Germany would be an aspiration for the future. For example **the Iron-Rhine** axis, even though not part of the technical alignment of the Corridor could provide an improved and quicker connection for freight traffic to the Ruhr area. Further studies are intended to take place in the oncoming years to study all the options.

In addition to good freight connections, smooth, comfortable and efficient rail connections for passengers are important for the functioning of the Corridor and for giving it identity among European citizens. From the West until Warsaw rail connections for international passenger transport is in operation and the train, whether high speed or conventional, provides an acceptable service for travellers and often is more attractive than the air alternative particularly for shorter distances. However from Warsaw eastwards, the international passenger service does not provide the service to attract many rail passengers. The Corridor could provide an excellent service for long-distance international passenger travel by rail if improvements were carried out. To achieve this more efficient, faster and fully functioning passenger Corridor, all Member States should aspire to further raise the speed of the passenger trains not only on the whole Baltic States – Berlin axis, but also on the Hannover – Amsterdam section. Taking into account the developments of the new Rail Baltic project; due consideration should be given to the continuation of the higher-speed passenger lines. The Rail Baltic project could inspire also other Member States on the Western part of the Corridor.

### ***Interoperability***

In order to reach our final target to achieve an interoperable and competitive railway network, three conditions need to be fulfilled along the corridors: sufficient infrastructure quality, harmonisation of national rules throughout Europe and the introduction of the **ERTMS signalling system**. Implementation of interoperability actions, such as the 740m train length standard, harmonisation of operation and authorisation rules would have a direct impact on productiveness.

The Work Plan of the European ERTMS Coordinator will describe in details the proposed way how to accelerate the implementation of the ERTMS equipment along the Core Network Corridors. In cooperation with the railway sector, a so called Breakthrough Programme for ERTMS has been established that consists of a limited number of objectives to be reached by 2016. One of those objectives is the review of the currently valid **European Deployment Plan** and to identify a strategy for ERTMS deployment by 2030, as laid down in the TEN-T Guidelines.

It is on the cross-border sections that ERTMS is most helpful for interoperability. Currently however, only three **cross-border sections** are in operation:

- on the high-speed line linking Belgium and The Netherlands
- on the high-speed line from Belgium to Germany at Aachen (9 km link);
- on the conventional line from Rotterdam to the German border in operation since 2014.

The remaining cross-border sections still face the difficulties for the interoperability of signalling systems and there are different timetables for its implementation on cross-border sections. On the main rail cross-border section between The Netherlands and

Germany ERTMS should be fully implemented by 2030 in The Netherlands, but is not yet foreseen on the adjoining border section in Germany. On the conventional rail cross border section between Belgium and Germany ERTMS should be fully implemented on the Belgian side of the border by 2020. On the conventional line between Belgium and The Netherlands, ERTMS is expected to come into operation by 2020.

The railway network on the Corridor has a **break-of-gauge** point 22 km inside the Lithuanian border (although this point will extend to Kaunas by the end of 2015). This is currently slowing long-distance cross-border freight traffic between the Baltic States and the rest of the Europe as well as preventing an efficient passenger service between Warsaw and Vilnius. The railway network of the eastern part of the Corridor is therefore not fully integrated into the Corridor.

**Non-electrification** of the cross-border lines only influences the Baltic States and their connection to Poland. The Corridor has different voltage systems in use, but this problem can be solved having a converter on the locomotive and is not a recognised interoperability problem.

The required **axle-load** is different on the lines between Belgium and The Netherlands and between Poland and Lithuania. Also the required **train length** differs between Belgium and The Netherlands, Belgium and Germany and Poland and Lithuania.

All these interoperability issues between the Baltic States and Poland should be resolved once the fully interoperable Rail Baltic line will be functional from Tallinn to Warsaw.

### ***Ports and Motorways of the Sea bottlenecks***

The Corridor has a heavy concentration of maritime ports. For the development of this Corridor, **ports have a particular strategic relevance** as these are the main gateways between the EU market and its commercial partners in the globalised world beyond.

However, some port capacity issues have been identified along the Corridor. Problems relate both to the navigability of the ports and terminal capacity. In some cases, freeway access to the ports needs to be improved by the dredging activities, especially in Ventspils (by improvement of maintenance dredging equipment), Riga (through capital dredging activities) and Klaipeda ports. Adequate ice-breaking capacity is a challenge for Helsinki, Tallinn and Riga port. In certain cases, the existing terminals cannot accommodate the increase in the passenger numbers.

Limited **hinterland connections** also hinder capacity. Last-mile connections need to be present to allow a smooth connection from national rail and road networks to the port territory. These connections are of the utmost importance for the overall functioning of the Corridor. At the same time, medium- and long-distance connections need to also be adequate in capacity and fully interoperable. The insufficient capacity of some city bypasses, both for rail and road, often prove to be a bottleneck of the port capacity.

Ports in urban nodes require special attention because *ro-pax* terminals are often placed in the middle of the city centre. Freight access to these ports is usually a big challenge because often the last-mile connections to these ports are streets or railway lines used also by urban passenger transport. For passenger transport overall good inter-

connections between the port terminal, urban transport and rest of the transport network is needed. This is still not always the case.

For the maritime port of **Antwerp**, accessibility by rail and road is considered as a major problem. Projects to accommodate this problem are either on-going or at least in planning. The share of road haulage in 2012 was 56%, but the goal is to shift more to rail and inland waterways.

**Amsterdam and Rotterdam** ports both have direct road and rail access, though capacity issues do exist. Projects have been planned in both ports to deal with the problem in the future. Access to the Amsterdam port from the sea is provided by the IJmuiden sea locks. The capacity of the locks is at its limit and therefore a bigger lock is needed at the latest by 2019. Access by road to Rotterdam port is a major concern due to congestion.

In **Riga** the connection to the road network only exists through small roads and city streets – highly fragmented. The future plans foresee connecting the port directly into the TEN-T network via the Riga Northern Transport Corridor. In Riga port there is a need for breakwaters reconstruction, adapting the rail and road access to the users' needs, as well as deepening of Riga port fairway. At the same time – both in Riga and Ventspils – it is necessary to upgrade the relevant infrastructure to promote the development and strengthening of Motorways of the Sea connections with ports in Sweden and Northern Germany.

At the Muuga cargo terminal of **Tallinn Port** in Estonia the passenger and *ro-pax* terminal have limited road access through the city streets; further developments for better connections are planned. Public transport access is only by bus with future plans to link the terminal with light rail.

In **Helsinki** congestion is an issue around the West and South harbours that are located in the city centre and serve the *ro-pax* ferries. The West Harbour is also facing capacity problems because of increasing traffic flows with Tallinn.

Special attention should be given to the **Kiel Canal**, which links two seas – the North Sea and the Baltic. Even though not part of the technical alignment of the Corridor, it forms an important element in the Motorways of the Seas chain linking different sections of the maritime part of the Corridor. The Kiel Canal is essential for the functioning of the Corridor as it reduces the time spent at sea for seaborne traffic, lowering greenhouse emissions and cutting time and cost. It is an essential element in the short-sea-shipping concept of the Corridor. Also the Kiel Canal is a multi-corridor concern having a common European interest as its capacity and efficient functioning is essential to several Corridors and Member States.

Some of the ports already provide possibilities for **alternative fuels** in the ports, but the up-take is not sufficient yet. More fuel terminals are needed within the Motorways of the Seas concept. An accompanying problem is a low take-up of vessels being modified to have bi-fuel engines. This is a difficult issue requiring cooperative actions by both, the ports and the operators.

Several ports have also started cooperating in using the ICT solutions for providing better and more efficient services and streamlining the services across the border. This also

requires much more attention, cooperation and further action. It must be remembered however that for a Motorways of the Sea project two ports are required.

### ***Inland waterways bottlenecks***

Member States with extensive inland waterways networks on the Corridor, (BE, NL and DE), have indicated as a policy goal the shifting of hinterland freight traffic to and from the ports from road to inland waterways and rail. Currently most of the inland waterways networks in these three countries correspond to the requirements and can largely accommodate current traffic needs; however problems are bound to arise taking into account future goals. Freight capacity of the barge vessels is increasing noticeably. Sections of the inland waterways and locks cannot accommodate the size of the new barges and therefore some sections of the network are becoming a bottleneck in the future which will limit the use of this sustainable transport mode and create a potential problem for the network.

At present the most important capacity bottlenecks for the inland waterways network are the **Amsterdam Sea Locks** and the **Beatrix Locks**. The future accessibility to Amsterdam port depends on the extension of the IJmuiden locks. The capacity of the lock is no longer sufficient to accommodate the new generation of seagoing vessels and cannot deal with future traffic demands. The Beatrix Locks capacity needs to be increased to accommodate larger vessels and to enable them to continue further into the Dutch hinterland, especially to support the policy goal of cargo modal shift from roads to inland waterways. The Beatrix locks are the guarantee for good IWW connections between the ports of Antwerp, Rotterdam and Amsterdam.

In addition to these two specific issues, some inland waterways sections in Belgium and several in Germany need attention. In order to facilitate continuous transport of containers with two layers without restrictions,, the height of the bridges needs attention.

The capacity of the **Albert Canal** is important. Even though it is part of the Rhine-Alpine Corridor and not included in the technical alignment of this Corridor, it still acts as a continuity of the Corridor. The Albert canal has a limited height of several bridges and there is a capacity issue of the waterway between Wijnegem and Antwerp.

The availability of alternative fuels for inland waterway barges is starting to become available, but additional action is needed to diversify choices and provide access to the fuel at more diverse locations.

### ***Road bottlenecks***

Capacity issues have been identified on the Dutch, Belgian and German motorways as these are heavily used in a densely populated and economically dynamic part of Europe. The problems are especially noticeable in and around **urban nodes**, where city bypasses and ring roads are often very congested.

One particular bottleneck identified by the Study was around Bad Oyenhausen on the German motorway network where almost 10 km of the **A30 motorway**, which is the main road artery of the Corridor, is missing.

An important road connection between Poland and the Baltic States is the **Via Baltica** highway. It is currently the main road artery for cross-border cargo and passenger flows along the Corridor on the section between Warsaw and Tallinn and serves as the main freight connection as the international rail traffic, both for freight and passengers, is very small. Almost the full length of the Via Baltica is a two lane conventional road. However the main city bypasses and limited sections before the urban nodes have four lanes to accommodate the higher traffic demands; however capacity bottlenecks on some sections of the city bypasses still exist hindering the efficiency of the traffic flows. One identified capacity bottleneck is the connection from Warsaw until the Lithuanian border.

A noticeable problem on the Via Baltica road is the safety question due to heavy road use. It is not a motorway or expressway in the sense of the Regulation, and therefore per se does not have to comply with the safe and secure parking requirements. But it is to be highly encouraged that **road safety improvements** should be undertaken.

There is a need for roads to provide sufficient capacity for freight and passengers, although the solution might not always be a further expansion of the road network. Deployment of **Intelligent Transport Solutions** along the Corridor is to be encouraged. Available real time information on congested road sections can help the users to better plan their movements. At the same time, it would also contribute to increased road safety. In Member States along the corridor ITS-related investments are already ongoing. For instance, Poland will implement a national traffic management System (NTMS) before 2020, deploying ITS traffic management on national roads. The NTMS will fully cover the North Sea-Baltic Corridor in Poland.

Another aspect to consider is the overall **modal shift** from road to more environmentally-friendly modes, both for freight and passengers.

Availability of **alternative fuels** is not sufficient on the Corridor motorway network. The First developments are encouraging but more work needs to be carried out if full use is to be made of the new technologies.

## **Connections to airports**

Airport connections are mainly relevant for passenger transport. Sufficient connection to the airports needs to exist. Rail or light rail connection is of course preferred depending on the feasibility of the cost of the connection in relation to the volumes of the passengers. Adequate access by road should also be present.

**Helsinki** airport is expected to have a heavy rail link opening in July 2015, but it is also important how the airport connection will be connected into the urban transport and long-distance train network. Various projects are underway to create these links. **Amsterdam** airport has capacity issues relating to the rail tunnel and railway station.

**Tallinn, Riga, Lodz and Poznan** airports are currently served only by road access, sufficient for the time being. Road access to Poznan airport might become a problem once traffic volumes increase. Riga airport has a requirement to be connected to the rail network. The solution is foreseen in the context of the Rail Baltic project, whereby the new fast conventional European-gauge rail line shall pass directly through Riga airport with a new rail passenger station to be constructed at the airport. Tallinn airport is planned to be connected to the rail network (including to the future Rail Baltic passenger

terminal) by tram connection. A feasibility study for a rail link to Poznan airport has been completed, but due to current low passenger numbers at the airport the project has been put on hold.

## **5. Recommendations and outlook by the European Coordinator**

The Member States and other stakeholders have indicated a total of **291 projects** which are intended to contribute to the realisation of the Corridor. The total cost of realising all the projects presented would be €133 billion at current prices. By far the biggest project portfolio is foreseen for the rail sector with 122 proposed projects. As this proposed project portfolio far exceeds the finance available there is a clear need for prioritisation of the investments in favour of those that are not only quickly realisable but also those which will have the most EU added value and benefit the Corridor concept the most for the reasons I have already explained. It is important to indicate which are the most important bottlenecks and critical aspects to be dealt with for the timely implementation of the Corridor in its full length and capacity.

This Work Plan intends to set a framework for the implementation of the North Sea-Baltic Corridor and I expect that it will guide the many discussions which I will have in the future with each of the eight Member States and their Ministers. This Work Plan shall allow every Member State to see how they are concerned by a particular issue. But there are some critical projects which need to be implemented. When prioritising the investments, it is important to think beyond the purely national concept towards true Corridor planning.

The functioning of the EU internal market is fully interdependent with the transport systems due to increased cross-border traffic flows. Therefore the challenges of the infrastructure do not end at the border. Cooperation and coordination between the Member States are needed for a timely and parallel implementation of this new European Transport Policy. The work in the framework of the Corridor should steer this process.

For the countries with only one Corridor passing through their territory, the efficient functioning of the corridor is even more important because it is the only connection to the rest of the core network and to the EU internal market. The Corridor infrastructure will form the main structure for the rest of the connections with which it is linked. For example, for Finland and the Baltic States, efficient Motorways of the Sea connections and port capacity play a crucial role in the connection with the network.

**The top priority issues to be addressed for the functioning of the Corridor are in my view, the following:**

- **timely implementation of the missing cross-border link – the Rail Baltic project;**
- **the major bottleneck of the Amsterdam Sea Lock;**
- **the hinterland connection – rail, road and inland waterways – of the main ports;**

- **the interoperability of the railway network in close cooperation with the "North Sea – Baltic" Rail Freight Corridor;**
- **the importance of the main urban nodes, particularly the multi-corridor nodes.**

The most crucial issue which needs action is removing the missing rail link in the Baltic States and realising a proper interoperable railway from Tallinn to Warsaw. All the Member States concerned by the line need to work together with the same vision and timetable so that this major infrastructure project can be realised by the mid-2020s. Currently the main share of the international freight traffic between Tallinn and Warsaw is by road. Rail Baltic will create a backbone of the multimodal transport system in the Baltic States and will have a very positive effect on modal shift from road to rail particularly as there are no motorway standard roads currently planned in the Baltic States.

The Rail Baltic line should be seen as a skeleton for further connections. The Motorways of the Sea link between Helsinki and Tallinn, together with good multimodal solutions and an operating Rail Baltic line will open many more possibilities to connect the freight and passenger traffic of that region with the rest of the European network and other Corridors.

It will also contribute to improved connections from Western and Central Europe to the markets of the neighbouring countries. The Rail Baltic will complete a loop in the Baltic transport chain along with the Scan-Med Corridor which can now consist of a rail and maritime connection between the Nordic countries, the Baltic States, Poland and Germany.

The dominant transport flow by rail in the Baltic States is for the moment still very much the East/West freight traffic to the ports of the Baltic Sea. The East/West flows exist also in Finland and Poland. All these connections can provide substantial feeding for the foreseen North-South Rail Baltic connection. These countries can then be seen as a gateway to the European market in the West. Despite the current geo-political situation, the Eastern and Northern emerging markets have a huge potential for the Corridor. The North-South Rail Baltic connection will be insurance for the Baltic States that they will be truly integrated into the European network and traffic flows.

As European Coordinator, I will therefore pay particular attention to the development and implementation of the Rail Baltic project and would like to assist all the Member States concerned and the Joint Venture based in Riga to ensure a coordinated and timely implementation of this project from Tallinn to Poland. This will in particular concern the interconnection of the nodes to the new Rail Baltic line.

Secondly, this Corridor is hugely dependent on the **ports** at both ends. Efficient connections with the rest of the network, both for passengers and freight, are crucial. The catchment of international traffic is the key factor for the success of the Corridor and the economies of the respective Member States. The major ports at both ends of the Corridor can support an increase of traffic of the whole Corridor, but also its hinterland if they are well connected. The "last-mile" connections to all the ports are therefore of major importance.

More efficient logistics solutions for transferring cargo to the hinterland connections are needed both in the Baltic and the North Sea ports. The aim of an efficient modal shift from road to rail and inland waterways can only then be fully achieved.

The **Motorways of the Sea** policy has particular importance for this Corridor. There is a need to encourage the ports to cooperate more closely to improve their interconnectivity and upgrade the relevant infrastructures in order to promote the development of Motorways of the Sea connections. Mobility has been facilitated greatly by the ICT solutions. The Helsinki-Tallinn twin ports have created an efficient cross-border economic connection. This cooperation should serve as a benchmark for other ports as further e-links between ports are encouraged.

When it comes to the ports of this Corridor, an important current physical bottleneck is the access to the European network from the North Sea through the **Amsterdam Sea locks** which is one of the most important doorways to the European network. The capacity of the lock currently hinders the biggest vessels from accessing the port of Amsterdam and therefore limits the possibilities to further increase the cargo flows of the Corridor along the inland waterways and the railway network towards the heart of the Single Market.

An important element in relation to ports and Motorways of the Sea is the **Kiel Canal**. Even though it is not part of the Corridor, as stated before, it remains a crucial connection in the Motorways of the Sea link on the Corridor. The Kiel Canal should be seen as a common interest to several countries and Corridors. For the North Sea-Baltic Corridor it crucially helps to facilitate the maritime connections of the Corridor - being the most direct connection between the North and Baltic Seas.

**Inland waterways** need to be brought fully up to the standards when it comes to locks, bridge clearance and canal draught. Actions are needed for example on the Beatrix locks, Twente Canal and on the German canal system.

As a former mayor of the City of Strasbourg I will pay particular attention to the **urban nodes** on the Corridor since they serve as connecting points linking different transport modes. I am of the firm opinion that for the Corridor to be fully functional there needs to be an excellent connectivity between the network infrastructure and the urban nodes, including the urban and regional traffic. The multi-corridor urban nodes allow special coordination to achieve greater efficiency and synchronization between the different Corridors.

There is a need to address the capacity issues in and around the urban nodes. It often requires solutions to separate freight and passenger traffic on urban railways and also to better manage the capacity limits on the city road bypasses. Sometimes major ports or rail-road terminals are in the very heart of the urban areas. In these cases important attention needs to be given to the "last-mile" connections to these facilities to make sure freight traffic will not cause congestion in city centers and bypasses.

Well-functioning multimodal platforms are crucial for the smooth transfer of freight. The freight villages in Germany and The Netherlands are best-practice examples. The further establishment of the freight villages, especially in border areas, will serve as a good base for cooperation between smaller rail-road terminals. But as a speciality of this Corridor, we should not forget the importance of integrating the inland waterway ports fully into



the rail-road terminals. In the Baltic States the development of rail-road terminals and dry-ports is encouraged in parallel to the Rail Baltic project.

International cross-border traffic is the basis of the Corridor approach. This Corridor is already highly technological due to the Motorways of the Sea policy which has encouraged technological solutions for port interconnections. But much more emphasis should be put on the deployment of the new info-technology solutions also for other modes of transport to achieve a more efficient use of the infrastructure and good cross-border performance of the Corridor. At the same time additional analysis shall be made on administrative and technical issues which hamper the good functioning of the Corridor.

The development of traffic management systems should be pushed forward wherever possible. One of the key issues here is the limited deployment of the **ERTMS signaling system**. The new and upgraded infrastructure needs to be automatically deployed with the ERTMS and the existing infrastructure needs to be brought up to date. A common timetable needs to be respected to avoid future bottlenecks in the system. ERTMS as a European project needs to be a priority for all Member States and therefore it is proposed to follow a corridor approach in its deployment.

### **Combining grants with innovative financial instruments**

The investment needs on the Corridor are huge and cannot be met by public funding alone be it state or European. It is strongly recommended to look into alternative financing through innovative financial instruments. Grants are most relevant for projects where only limited revenues are to be expected. Also I believe that we must have a good pipeline of projects that can as far as is possible complement each other as construction work progresses. What I mean is that projects should not be developed in isolation but as part of a comprehensive "whole Corridor" concept.

### **Other issues**

In the current economic standstill, **creating jobs and growth** needs to be at the top of the agenda. Realisation of the infrastructure can be a job creating process which adds to economic growth. It is especially important to tap the potential of the cross-border job opportunities as the potential for cross-border economic development is much higher than for the rest of the economy. In this context, the cross-border "last-mile" issues are very relevant.

Other **multi-governance frameworks for cross-border development** like macro-regional strategies (The EU Baltic Sea Region) or the EUREGIO cooperations should be closely integrated into the implementation of the Corridor. The existing EUREGIO cooperations could be seen as a benchmark for other cross-border projects for the regions. A bottom-up approach is needed for organising the participation of the regions and the cities and the Corridor Fora have proved, in my view, to be the first step in this direction. We should therefore cooperate with regional cooperation mechanisms along the whole Corridor to synchronize the actions for the realisation of the Corridor and for integrating the infrastructure into the regions and cities.

For the good governance and the realisation of the Corridor, there is a need for cooperation and consensus between different partners, within and between the Member

States. The responsibility for the management of the Corridor project needs to be taken at all administrative levels. The process for this has started in the right way and there is a good base for the next steps to come.

### **Next steps**

Finally, I am of the view that **we need a much stronger approach to communication and information** about what we are trying to achieve here for the benefit of all European citizens and I intend to work towards this aim.

Now it is important to start implementing the projects to solve the most critical issues on the Corridor. The actions need to be planned on a coherent cross-border timetable and with the mobilisation of all available resources. **As the European Coordinator I take it as my task to act as a facilitator** and to ensure that we maintain the inclusive approach to such an operation that I personally believe is essential to ensure ultimate success.

## Contacts:



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Corridor website:

[http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors/northsea-baltic\\_en.htm](http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors/northsea-baltic_en.htm)

### **More detailed information can be found at:**

[http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors/corridor-studies\\_en.htm](http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors/corridor-studies_en.htm))

- Corridor Study
- List of projects
- TENtec maps