

2011

**ASSESSMENT OF EUROPEAN COMMISSION
PROPOSAL FOR DEVELOPMENT OF TRANS-
EUROPEAN TRANSPORT NETWORK**

VS.

**VASAB LONG-TERM PERSPECTIVE FOR THE
TERRITORIAL DEVELOPMENT OF THE BALTIC SEA
REGION**

Contracting Authority: State Regional Development Agency, Latvia

VASAB Secretariat

Contractor:

SIA "AC Konsultācijas", Balasta dambis 70a-1, Rīga, LV-1048



KONSULTĀCIJAS

TABLE OF CONTENTS

INTRODUCTION	3
VASAB LONG TERM PERSPECTIVE.....	4
ACTION AGENDAS OF VASAB LTP.....	6
PROPOSAL OF EUROPEAN COMMISSION ON TEN-T.....	9
COMPARISON OF PROPOSED TEN-T NETWORK CONCEPT AND VASAB TRANSNATIONAL TRANSPORT CONNECTIONS	12
ASSESSMENT OF ACTION AGENDA 10.....	14
ASSESSMENT OF ACTION AGENDA 11.....	16
ASSESSMENT OF ACTION AGENDA 12.....	25
ASSESSMENT OF ACTION AGENDA 14.....	26
ASSESSMENT OF ACTION AGENDA 15.....	27
FINANCIAL IMPLICATIONS	28
CONCLUSIONS.....	31

Introduction

The evaluation task was to provide an assessment of the documents of the European Commission:

- „Proposal for a Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network” COM/2011/0650,
- „A growth package for integrated European infrastructures” COM/2011/0676 and relevant supporting documents, and
- „List of pre-identified projects on the core network in the field of transport”.

These documents propose a future concept of developing European transport infrastructure in a long-term perspective. The document is an assessment of the Commission’s proposal for the Guidelines for the development of the trans-European transport network. Main evaluation questions were:

- Is the proposal of the Commission consistent with VASAB LTP in general?
- Does the proposal of the Commission address the defined bottlenecks in transnational transport connections identified in VASAB LTP?
- Does the proposal of the Commission address VASAB LTP Action Agendas relevant to accessibility and transport in particular?
- Does the proposal of the Commission address VASAB LTP in a timely coherent manner?
- What financial implications are to be expected if the proposal of the Commission is once adopted?
- What are the main issues to be discussed at VASAB to formulate the position towards Commission’s proposal? Are there any issues to be reconsidered for further development of the VASAB LTP?

To support the assessment task the contractor had to provide appropriate cartographic material. The cartographic material – thematic maps have been included in this report. Further thematic maps have been provided for VASAB Secretariat to serve for publication purposes and inclusion in discussion papers.

VASAB Long Term Perspective

VASAB Long Term Perspective (LTP) is a transnational strategic spatial planning document on territorial integration, which leads to territorial cohesion in the Baltic Sea Region. VASAB LTP presents a long-term perspective for the Region, with focus on urban networking and urban rural relations, accessibility, maritime spatial planning and management of the Baltic Sea. It also proposes a list of actions to stimulate territorial development potentials and to overcome the existing gaps — for both the coming years and in a longer run. VASAB LTP emphasizes the need for further transnational cooperation in maritime spatial planning of the Baltic Sea. The Agenda of VASAB Long Term Perspective is directed towards 2030.

VASAB LTP addresses a noticeable number of issues in terms of accessibility:

- “The transport system still reflects the fragmented history of the Baltic Sea Region and inward orientation of individual countries networks. Deficiencies are especially sharp in case of the cross-border and transnational connections, which should provide for good connectivity of the urban network and smoother integration of the regional labour markets. Except for the densely populated and well interconnected south-western part of the area and for some metropolises (mainly the capital cities), **vast areas in the BSR** (e.g. north-eastern part, the Baltic States, Belarus) **suffer from low connectivity** both in external and internal relations.
- The fast growth of the road traffic, especially visible in the volumes of east-west freight flows in the new EU Member States, Russia and Belarus, presents a serious challenge for the territorial cohesion of the Baltic Sea Region. As the road network in the eastern part of the BSR demonstrates rather modest carriage capacity, this growing trend, met with only slow improvements in the infrastructure quality, may lead to an increase in the number of **bottlenecks**. This is already the case on Latvian-Russian borders. The increasing goods exchange intensity may also deepen **congestion problems** that are visible already now in the road network of the south-western part of the BSR. Moreover, the growing trend may bring about serious consequences for **the connectivity of the Nordic peripheries**, vastly determined by such natural obstacles as long distances, harsh weather, or freezing of maritime routes.
- The lack of interoperability between the national rail infrastructures, which stems from different technical standards, acts as a clearly limiting factor for enhancing passenger and freight mobility across the Baltic Sea Region. **Significant drawbacks in the rail connectivity of the main metropolitan areas in the eastern part** of the BSR remain as a noticeable constraint for the integration of the national transport systems. They also counteract efforts to decouple the economic growth from the increase in the road transport volumes.
- Very **strong dynamism of the passenger air traffic** has considerably improved the accessibility status of several remote and poorly connected areas in the BSR. This trend may, in a medium-term perspective, reduce the current imbalances between the Western and Eastern parts of the Baltic Sea Region in terms of intensity of interactions between the metropolitan centres. Further, it may help medium-sized regions to develop significant transnational connections.
- The Baltic Sea presents a natural obstacle for the expansion of the terrestrial means of transport, such as road and rail. At the same time, however, it is an outstanding asset for the **development of an integrated maritime transport network** between the BSR countries and regions to further enhance mobility and integrate labour markets.”

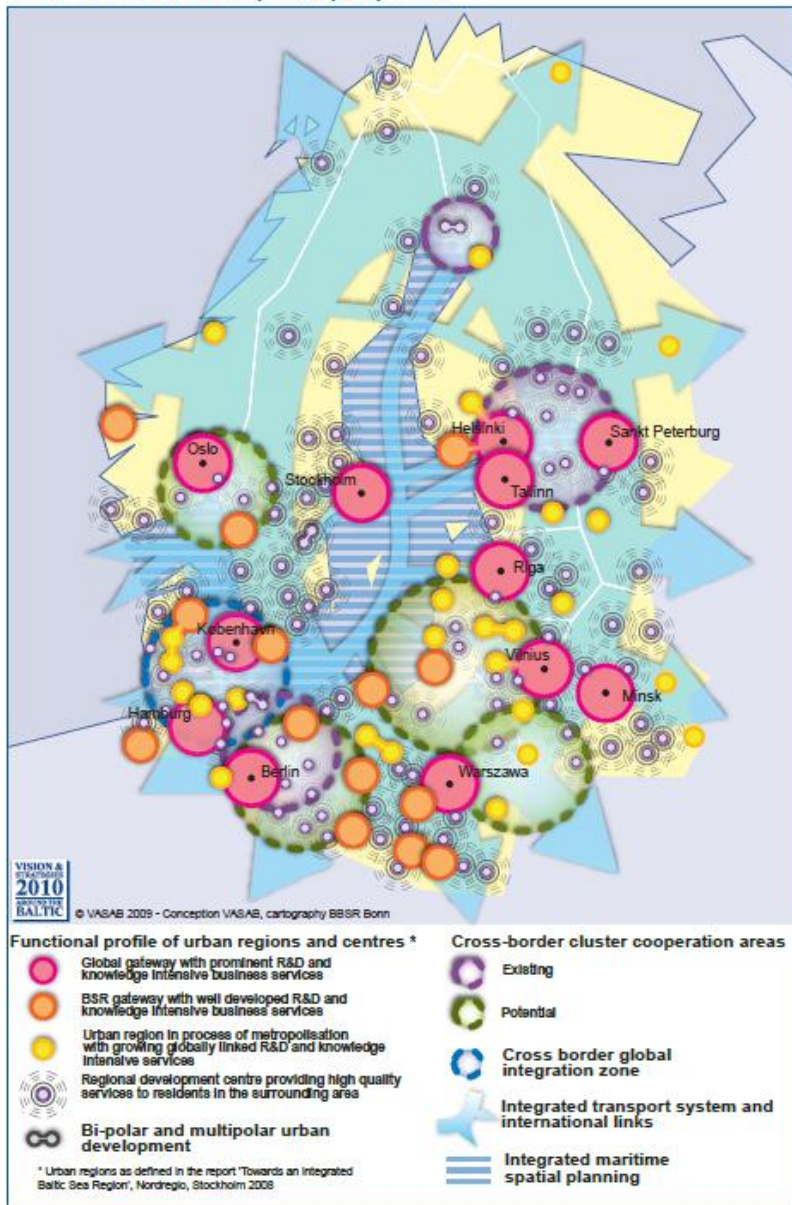
VASAB LTP vision for the territorial cohesion perspective of the Baltic Sea Region in 2030 envisages that:

- in 2030 the Baltic Sea Region is a well-integrated and coherent macroregion;
- Baltic Sea Region has overcome the socio-economic development gaps between its individual parts and turned the global challenges into real assets;

- It accounts for fast, reliable and environmentally efficient technologies of transport, information and communication that link the territories along and across the Baltic Sea, making the **community of the Baltic Sea Region well-connected and highly accessible** both internally and with the rest of the world.

VASAB Vilnius Declaration of October 2009 states that **accessibility links are still missing** or are inadequate mainly because of the former East-West divide. The situation should be improved in short term, which would positively influence spatial development of the eastern part of the Region and territorial cohesion of the Region and Europe. Further VASAB Vilnius Declaration states that while overcoming the negative spatial effects and improving territorial cohesion, there is a particular need for **fast road and rail connections between the Region and Central and Western Europe**, above all – **connections from the Eastern part of the Region to Western Europe by the Rail Baltica and Via Baltica**. There is also a need of improving connectivity in the northern parts of the Region and connections to the South and East. Rapid implementation of the Motorways of the Baltic Sea is necessary in order to make full use of the potentials of an integrated and sustainable transport network. The EU Trans-European transport networks (TEN-T) and the EU Strategy for the Baltic Sea Region should be implemented and the EU transport network needs to be better linked with the neighbouring countries.

2030: Territorial development perspective



Source: VASAB CSD/BSR

Figure 1. VASAB Territorial development perspective 2030

Action agendas of VASAB LTP

VASAB LTP has set the policy guidelines and specific actions in the field of internal and external accessibility to achieve the territorial cohesion perspective. There are 6 action agendas related to physical accessibility issues in BSR, out of them 5 action agendas are relevant to the evaluation task and to which the new proposal on development of TEN-T network should be analysed and evaluated. These agendas are:

Action Agenda 10

To address the obstacle of cross-border deficits in primary (TEN-T) and secondary (interregional connections) transport networks of the BSR countries for developing transborder labour markets in the Region.

Action Agenda 11

During the revision of the EU transport policy and follow-up work on the EU Strategy for the Baltic Sea Region, consider the following examples of road and rail links, the current state of which pose the challenge for the integration of transport networks in the BSR from the macroregional perspective:

- The Rail Baltica corridor (connecting Saint Petersburg, Finland, Estonia, Latvia, Lithuania and Poland with western EU Member States), as it builds the backbone for the integrated railway system in the eastern part of the BSR;
- Corridor IA of the TEN-T network connecting seaports of Gdańsk, Kaliningrad and Riga, and its western extension towards Szczecin, as they allow for a better integration of Kaliningrad region with the neighbouring EU territories and improve accessibility of the regions on the south-eastern shores of the Baltic Sea;
- North-South routes from Scandinavian countries via Central Europe (eastern Germany, Poland) to the Adriatic Sea, as they support more efficient transport services between the Baltic Sea Region and other European macroregions and help develop markets along the corridor;
- road connections in some key cross-border areas within the EU territory, e.g., between Germany and Poland in the vicinity of Szczecin and between Poland and Lithuania in the vicinity of Suwałki, as they stimulate the formation of cross-border labour markets, such as the already developed ones in the Öresund area and between Tornio in Finland and Haparanda in Sweden, or in the process of development between Helsinki and Tallinn;
- Road connections and border crossing infrastructure on the external EU borders, including the sections of Narva (Estonia – Russia), Kaliningrad-Gdansk, Vyborg – Imatra (Russia-Finland), Terehova – Burački, Grebņeva – Ubiljinka and Vientulji – Ludonka (Latvia – Russia), as well as between Norway and Russia (Kirkenes – Murmansk), to promote harmonisation of the transport networks between the EU and Russia;
- Road and rail links from the ports of Lithuania, Latvia, Estonia and Finland to Russia and Belarus with the extension to the Far East, Central Asia and the Black Sea region to ensure reliable Eurasian transport connections and services;
- Tallinn-Saint Petersburg and Kaliningrad-Klaipeda rail links to secure a good connection between the TEN-T and Russian networks in the context of EU – Russia – Far East transshipments and thereby to enhance the integration of North West Russia into the Baltic Sea Region;
- East-West routes in the Northern Periphery area (such as Barents Link, North East Cargo Link and Northern Maritime Corridor) to connect the natural resources rich Barents Region with the large markets of North America and the European mainland, and to provide a better access of these territories to the cargo facilities.

Action Agenda 12

In the EU Strategy for the Baltic Sea Region and its follow-up work, consider the following air transport issues of relevance to the BSR territorial cohesion:

- East-West connections in the northern and eastern parts of the BSR (including the city of Murmansk), the scarcity of which reduce the potential for interaction between the peripheral regions;
- low connectivity of Hamburg and Berlin to other BSR metropolises;
- low frequency of transport services between the metropolises in the eastern part of the BSR, including Kaliningrad.

Action Agenda 13 (not relevant to the task)

Monitor the trends in airborne connectivity of the BSR metropolises and report about the prevailing shortcomings and the possible improvement measures at the transnational political meetings

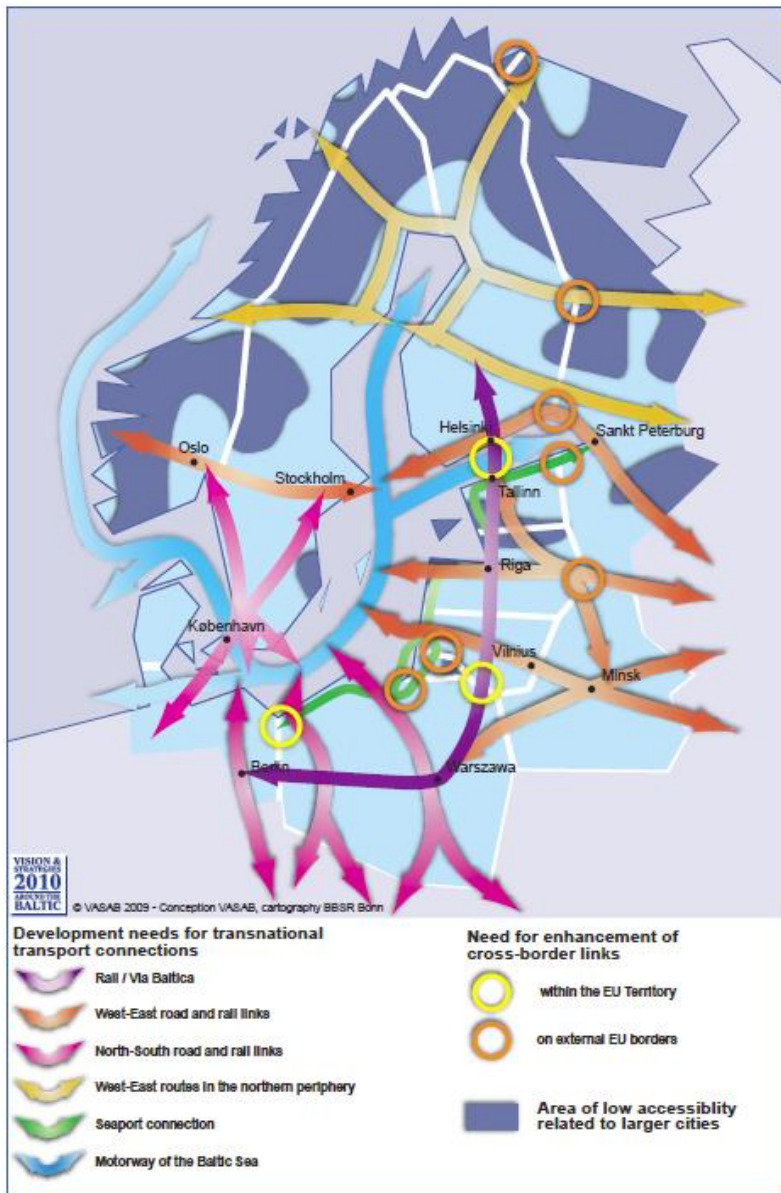
Action Agenda 14

Develop the Motorways of the Sea in the Baltic Sea Region as a systemic solution to enhance the cross-border scale integration and a transfer of goods between the EU, the eastern neighbours, Central Asia and the Far East. Consider in the revised EU transport policy the extension of the Baltic Sea Motorways system to include further short-sea links between the EU ports, as well as connections from the EU ports to Kaliningrad and Saint Petersburg.

Action Agenda 15

Initiate work on the intelligent sea transport corridors in the BSR (separated and electronically monitored traffic routes) by activating at least one pilot project for a corridor with high traffic volumes in an environmentally sensitive area.

The Action Agendas are summarized in a drawing reflecting main transnational transport connections:



Source: VASAB CSD/BSR.

Figure 2. VASAB LTP: Improving internal and external accessibility: developing needs for transnational transport connections

Proposal of European Commission on TEN-T

In October 2011 the Commission adopted a proposal to transform the existing patchwork of European roads, railways, airports and canals into a unified transport network (TEN-T). The new core network is aimed at removing bottlenecks, upgrading infrastructure and is set to streamline cross border transport operations for passengers and businesses throughout the EU. It focuses on improving connections between different transport modes and contributing to the EU's climate change objectives.

The proposal addresses five main problems:

- missing links, in particular in cross-border sections;
- disparity in quality and availability of infrastructure between Member States, in particular east-west connections;
- fragmented transport infrastructure between transport modes, lacking multimodal capacity;
- contribution of transport in reduction of greenhouse gas emissions by 60% by 2050;
- lack of interoperability in transport.

Having undergone an extensive consultation process the proposal has the dual layer approach and defines a **core and comprehensive transport network**. These two layers shall be the highest level of infrastructure planning in EU. The basic layer is the comprehensive network.

The core network shall be fully functional by 2030 and shall act as the backbone for transportation within the EU. The defined core network consists of infrastructure for railways, inland waterways, roads, maritime and air transport. The core network is supported by the comprehensive network in the Commission's proposal. The core network consists of those parts of the comprehensive network with the highest strategic importance.

The comprehensive network constitutes the basic layer of the TEN-T. It covers all existing and planned infrastructure meeting the requirements of the Guidelines and shall be established by 2050. The comprehensive network is specified by maps, infrastructure components, infrastructure requirements and priorities for promoting projects of common interest. The comprehensive network priorities are:

- implementing and deploying intelligent transport systems with a special focus on multimodality;
- bridging missing links and removing bottlenecks, notably in cross-border sections;
- removing administrative and technical barriers in particular to the interoperability of the network and to competition;
- ensuring optimal integration of transport modes;
- ensuring appropriate accessibility of all regions in EU, including the remote and outermost regions;
- improving or maintaining the quality of the infrastructure;
- promoting state-of-the-art technological development;
- ensuring fuel security;
- bypassing urban areas for rail freight traffic.

Last but not least the Commission defines a layer of priorities– so called **core network corridors** – all together ten corridors to be main axis of the whole network and receiving European financing first of all. The core network corridors are an instrument for implementing the core network. They are to be based on modal integration and interoperability and lead to coordinated development and management. The core network corridors are largely those where **projects of common interest** should be implemented. The projects of common interest shall contribute towards TEN-T policy

objectives and comply with requirements to be defined as core network or comprehensive network shows positive socio-economic result and demonstrates a clear European added value.



Figure 3. TEN-T core and comprehensive networks in BSR.

The design of the core network was made in a two-step approach. First, the **main nodes** were identified. The urban nodes correspond largely to the definition of MEGA's according to ESPON. The ports and the airports belong to the urban node part of the core network. All other relevant multimodal transport infrastructure has been included in the comprehensive network. The maritime ports extending a certain threshold are defined as core network nodes as well. Finally, one border crossing point per node and between each Member State and each neighbouring country are defined as node. Second, the nodes were connected by **multimodal road, rail and inland waterway links** according to their availability or feasibility by preferably using existing infrastructure. Efficiency and effectiveness criteria shall be addressed by defining links as well.

To implement the TEN-T policy the Commission proposes the **"Connecting Europe Facility"** – a financing instrument for trans-European networks. The Connecting Europe Facility will have a budget of € 50 billion for the period 2014-2020, out of them €21,7 billion are allocated for transport and € 10 billion are earmarked in the Cohesion Fund for transport infrastructure for those countries that are eligible under the Cohesion Fund.

The Commission's proposal envisages the **cooperation with neighbouring and third countries** to ensure connection and interoperability between the respective infrastructure networks. Therefore EU should where appropriate promote projects of mutual interest, which aim to connect the TEN-T network with the transport infrastructure networks in one or more third country to facilitate major transport flows. The proposal defines infrastructure components, infrastructure requirements and infrastructure development priorities for TEN-T **network infrastructure of different transport modes**. In particular the most important are:

- **Railway transport infrastructure.** Railway transport infrastructure is defined as high speed or conventional railway lines, including sidings, tunnels, bridges, freight terminals and logistic platforms for the transshipment of goods, stations for passenger transfer, associated equipment and ITS. Railway lines shall be either specially built high-speed lines equipped for speeds equal to or greater than 250 km/h or specially upgraded conventional lines equipped for speeds in the order of 200 km/h or railway lines for conventional transport. Nominal track gauge for new railway lines shall be 1435 mm. Interoperability (TSI) and ERTMS, line electrification is a must by 2030 in core network and should be implemented in comprehensive network as well. The priorities within the infrastructure are deploying ERTMS, mitigation of the noise impact, overachieving minimum infrastructure requirements. In addition the core network railway transport infrastructure has to comply with wit at least 22,5 t axle load, 100 km/h line speed and 750m train length.
- **Road transport infrastructure.** Road transport infrastructure is defined as high quality roads, including bridges, tunnels, junctions, crossings and interchanges, parking areas, associated equipment, ITS, freight terminals and logistic platforms, bus stations. High-quality roads are those which play an important role in long-distance freight and passenger traffic, integrate the main urban and economic centres, interconnect transport modes and link landlocked peripheral regions. High-quality roads shall be specially designed and built for motor traffic, and shall be either motorways or express roads. This means that a motorway is a road specially designed and built for motor traffic, which does not serve properties bordering on it, and which provides separated carriageways in two directions of traffic and which does not cross at level with any road, railway or tramway track, or footpath. Express roads are defined as a road reserved for motor traffic accessible from interchanges or controlled junctions only and which prohibits stopping and parking on the running carriageway; and does not cross at level with any railway or tramway track, or footpath. Main infrastructure requirements are set towards safety, interoperability of toll collection systems and intelligent transport systems. The priorities focus on use of ITS, in particular multi-modal and integrated solutions, introduction of new technologies and innovations promoting low carbon transport, provision of secure parking areas and promotion of road safety. The core network road infrastructure requires in addition the development of rest areas every 50 km on motorways and availability of clean fuels.
- **Maritime transport infrastructure.** Maritime transport infrastructure comprises maritime space, sea canals, maritime ports and necessary infrastructure for transport operations, navigation aids, port approaches, motorways of the sea, associated equipment and ITS. Maritime ports are defined as entry and exit points of the comprehensive network. For ports, the comprehensive network is made of ports with a total annual passenger traffic of at least 0,1% of the total annual passenger volume of all maritime ports in the EU or all ports with the total cargo volume exceeding 0,1% of the total cargo volume handled in all maritime ports in

EU, or maritime port is located in island and provides sole access to comprehensive network, or the maritime port is located on an outermost region or a peripheral area outside a radius of 200 km from the nearest other port of the comprehensive network. The priority is given to promoting of motorways of the sea including short sea shipping, interconnection of maritime ports with inland waterways, implementation of VTMIS and eMaritime services. The core network maritime infrastructure requires to ensure the availability of alternative clean fuels.

- **Air transport infrastructure.** Air transport infrastructure is defined as air space, routes and airways, airports, associated equipment and ITS. For airports, the comprehensive network is made of all airports with a total annual passenger traffic of at least 0,1% of the total annual passenger volume of all airports in the EU or all airports that are at least 100 km away from another airport located in the comprehensive network or 200 km away if the other airport is connected by high-speed rail; or if the total volume of cargo is at least 0.2% of the total annual cargo volume of all airport in the EU. The priorities are the optimization of existing infrastructure, the increase of airport capacity and the support of the implementation of the Single European Sky and traffic management systems in view of the deployment of SESAR. In addition, core network airports will have to develop the capacity to making alternative clean fuels available.

When developing the comprehensive network in urban nodes one shall aim to ensure interconnection between rail, air and, as appropriate, other transport infrastructure of the comprehensive network for passenger transport and between rail and, as appropriate, other infrastructure of the comprehensive network for freight transport. Therefore the priority of the Commission is clear: rail. Moreover the Commission defines the need to ensure adequate connection between different railway stations or airports of the comprehensive network within an urban node, seamless connection between the infrastructure of the comprehensive network and the infrastructure for regional and local traffic, including logistic consolidation and distribution centres, bypassing of urban areas for road transport to facilitate long-distance traffic flows on the comprehensive network and bypassing of urban areas for rail freight transport, and finally promotion of efficient low-noise and low-carbon urban freight delivery.

The TEN-T network and especially the core network corridors shall be multimodal, however the Commission prioritizes rail. One can observe this in official maps where TEN-T core network and core network corridors are set along rail corridors. This is reflected in the list of pre-identified projects of the TEN-T core network corridors as well since the majority of projects are in the area of rail.

The proposed TEN-T network within BSR comprises 24,8 thousand km of railways (54% defined as core network), 27,5 thousand km of roads (41% defined as core network), 90 maritime ports (25 ports are included in core network) and 77 airports (18 airports are included in core network).

Comparison of proposed TEN-T network concept and VASAB transnational transport connections

According to VASAB LTP action agendas the main transnational transport connections for BSR development are presented in the figure below (Figure 5). VASAB LTP looks towards 2030. The proposed TEN-T network has the time perspective of 2030 and 2050. For 2030, the Commission's proposal aims to establish fully functioning TEN-T core network.

One can observe that the proposed TEN-T core network widely corresponds to the concept of VASAB LTP transnational transport connections in terms of nodes, connections and time dimension. Exceptions can be observed in Northern part of BSR (West-East routes in the northern periphery) only, where some parts of VASAB transnational connections are addressed neither by TEN-T core network nor TEN-T comprehensive network.

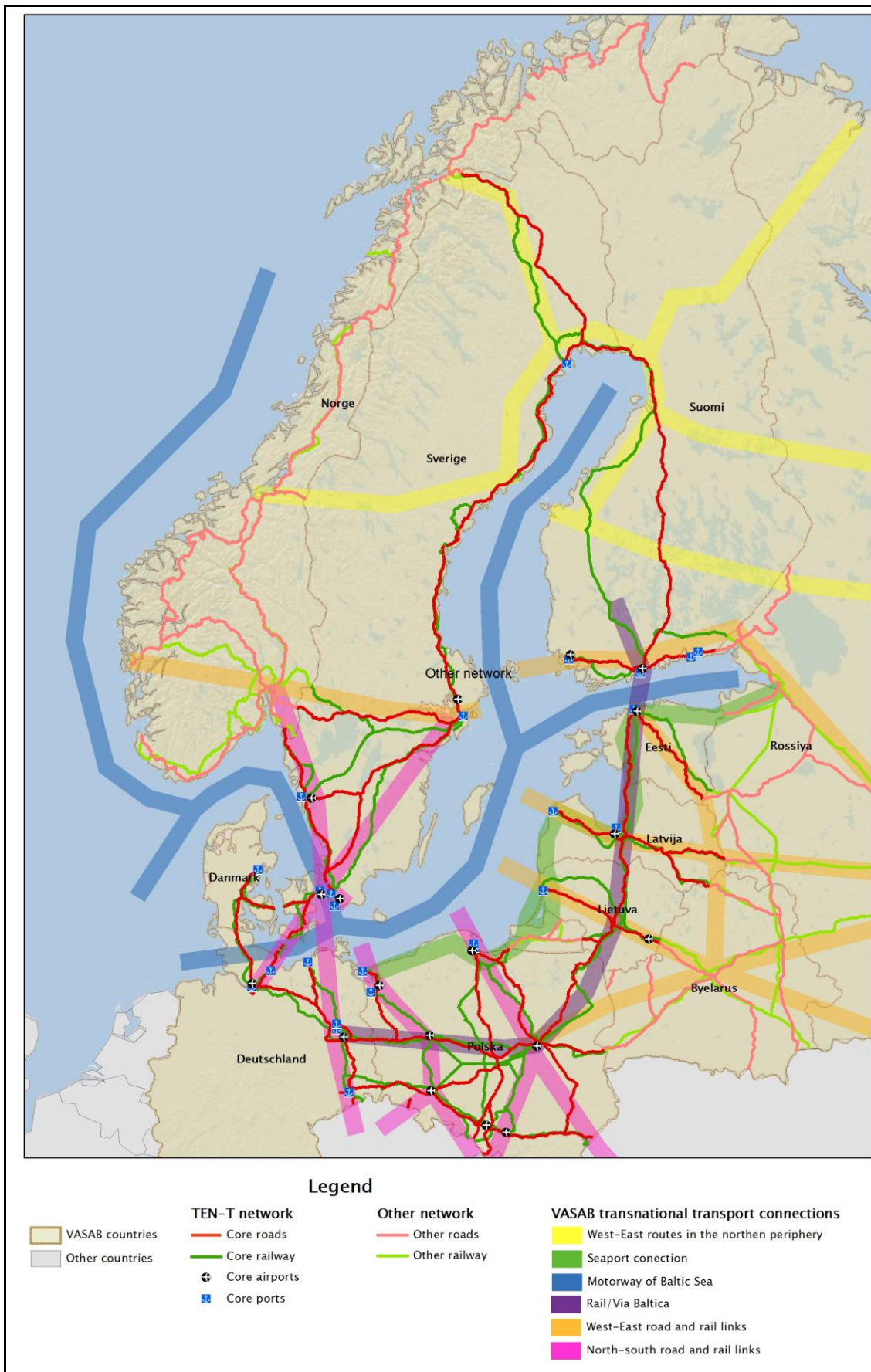


Figure 5. TEN-T core network and VASAB transnational transport connections

Assessment of Action Agenda 10

Action Agenda 10 says: "Address the obstacle of cross-border deficits in primary (TEN-T) and secondary (interregional connections) transport networks of the BSR countries for developing transborder labour markets in the Region."

TEN-T core network rail and maritime corridors address the cross-border drawbacks between BSR countries. These corridors are:

- "Baltic-Adriatic" (No.1),

The northeast to south diagonal direction of Baltic-Adriatic corridor will provide better connection between Finland, Baltic States, Poland and the strong economic centres thereof, i.e. Helsinki, Tallinn, Riga, Kaunas and Warsaw.

- "Helsinki-Valletta" (No.5),

The north-south corridor Helsinki-Valletta will link the Russia via border crossing point near Kotka/Hamina and St.Petersburg and major urban centres in Scandinavia (Helsinki, Turku, Stockholm, Malmo, and Copenhagen) to Germany (Hamburg, Bremen).

- "Hamburg – Rostock – Burgas/Turkish border – Piraeus – Lefkosia" (No.4); and

The long north-south eastern corridor Hamburg – Rostock – Burgas/Turkish border – Piraeus – Lefkosia will connect central Europe with the maritime interfaces of the North, Baltic, Black and Mediterranean seas, making the best of Motorways of the Sea ports.

- Warszawa-Berlin-Amsterdam/Rotterdam-Felixstowe-Midlands Corridor (No.2).

The east-west corridor Warszawa – Berlin – Amsterdam/Rotterdam – Felixstowe – Midlands will improve the connection between the eastern borders of the EU in the south of BSR (Belorussian border), Poland (Warsaw, Poznan) and north Germany (Berlin).

Other cross border connections within the BSR will be improved by TEN-T road and rail core network links between Sweden and Norway (connection between Goteborg and Oslo, Stockholm and Oslo).



Figure 6. TEN-T corridors within the Baltic Sea Region.

Assessment of Action Agenda 11

Action Agenda 11 says: "During the revision of the EU transport policy and follow-up work on the EU Strategy for the Baltic Sea Region, consider the following examples of road and rail links, the current state of which pose the challenge for the integration of transport networks in the BSR from the macroregional perspective:

- *The Rail Baltica corridor (connecting Saint Petersburg, Finland, Estonia, Latvia, Lithuania and Poland with western EU Member States), as it builds the backbone for the integrated railway system in the eastern part of the BSR; ..."*

The Rail Baltica project is included in the list of pre-identified projects on the TEN-T core network. It also forms an integral part of TEN-T corridor No.1 Baltic-Adriatic corridor, which starts in Helsinki. Connection between Russia (Russian border near the Kotka/Hamina) and Finland (Helsinki) is provided by another TEN-T core network rail corridor Helsinki-Valletta and the connection between Warsaw and Berlin is provided by 2nd rail corridor "Warszawa – Berlin – Amsterdam/Rotterdam – Felixstowe – Midlands".

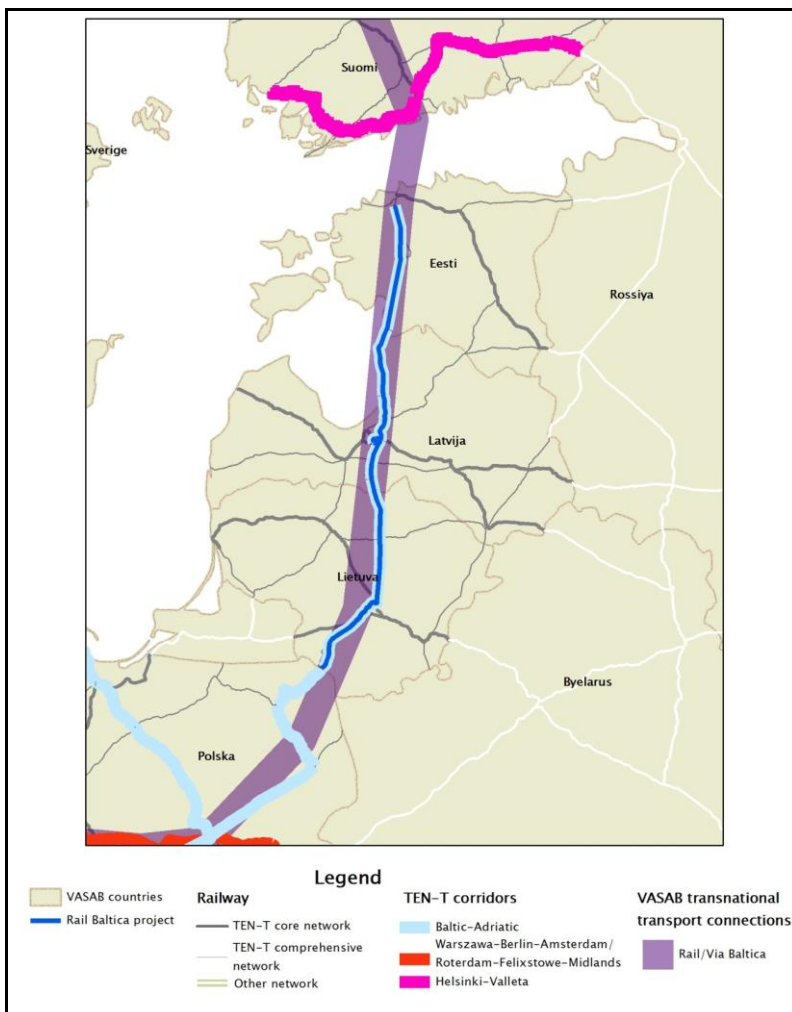


Figure 7. Rail Baltica corridor within the TEN-T corridor framework.

"... Corridor IA of the TEN-T network connecting seaports of Gdańsk, Kaliningrad and Riga, and its western extension towards Szczecin, as they allow for a better integration of Kaliningrad region with the neighbouring EU territories and improve accessibility of the regions on the south-eastern shores of the Baltic Sea; ..."

Corridor IA - Via Hanseatica is one of the former pan-European transport corridors from Lübeck to St. Petersburg through northern Poland, Kaliningrad Oblast and the Baltic States. The route of the corridor goes as follows: Hamburg–Lübeck–Rostock–Szczecin–Koszalin–Słupsk–Gdańsk–Elbląg–Kaliningrad–Tauragė–Šiauliai–Jelgava–Rīga–Valmiera–Valga–Tartu–Jõhvi–Narva–Kingisepp–St.Petersburg.

The new TEN-T network integrates the Kaliningrad seaport mainly by comprehensive road and rail network. The seaport Riga has the road and rail connection of comprehensive network via Siauliai to the border of Kaliningrad region direction Kaliningrad seaport, but the seaport Gdansk is connected with Kaliningrad port up to Russian border by the road and rail core network. Also connection with seaport Klaipeda is provided by comprehensive road and rail network. According to VASAB LTP the connections between Riga and Kaliningrad, between Klaipeda and Kaliningrad and also between the seaports Gdansk and Szczecin should be included within the core network.



Figure 8. Road and railway connections on TEN-T and other network between sea ports Gdańsk, Kaliningrad and Riga

"...

- *North-South routes from Scandinavian countries via Central Europe (eastern Germany, Poland) to the Adriatic Sea, as they support more efficient transport services between the Baltic Sea Region and other European macroregions and help develop markets along the corridor; ..."*

Baltic – Adriatic corridor is one of 10 TEN-T priority corridors and it will connect the eastern Baltic ports with those of the Adriatic Sea via strong economic centres like Warsaw, Vienna and Venice. Its northeast to south diagonal direction allows for the integration of Estonia, Latvia and Lithuania to the centre of EU. The Corridor also provides better access to Baltic and Adriatic seaports for the economic centres in Poland, the Czech Republic, Slovakia and Austria. It encompasses also the "Rail Baltica" project which should eliminate bottleneck in north-south accessibility in BSR. (Fig.9)

Helsinki – Valletta Corridor is one of the priority corridors of the TEN-T core network. This north–south corridor is a crucial axis for the economy of the BSR region, linking major urban centres in Germany and Italy with Scandinavia and the Mediterranean. This is the longest of the 10 TEN-T core network corridors, and it has two centrepieces to be realised: the Fehmarn Belt crossing the Baltic Sea and the Brenner Tunnel under the Alps. (Fig. 10)

The corridor Hamburg – Rostock – Burgas/Turkish border – Piraeus – Lefkosia is also one of ten priority corridors of the TEN-T core network. It will foster the development of North, Baltic, Black and Mediterranean seaports as major multimodal logistic platforms and will improve the multimodal connections of major economic centres in Central Europe to the coastline, using rivers such as the Elbe and the Danube. (Fig. 11)



Figure 9. TEN-T Baltic-Adriatic corridor



Figure 10. TEN-T Helsinki-Valletta corridor



Figure 11. Hamburg – Rostock – Burgas/Turkish border – Piraeus – Lefkosia corridor

"...

- *road connections in some key cross-border areas within the EU territory, e.g., between Germany and Poland in the vicinity of Szczecin and between Poland and Lithuania in the vicinity of Suwałki, as they stimulate the formation of cross-border labour markets, such as the already developed ones in the Öresund area and between Tornio in Finland and Haparanda in Sweden, or in the process of development between Helsinki and Tallinn; ..."*

Cross border road connection between Germany and Poland in the vicinity of Szczecin is part of TEN-T comprehensive network, whereas cross border road connection between Poland and Lithuania in the vicinity of Suwałki is included in TEN-T core network.

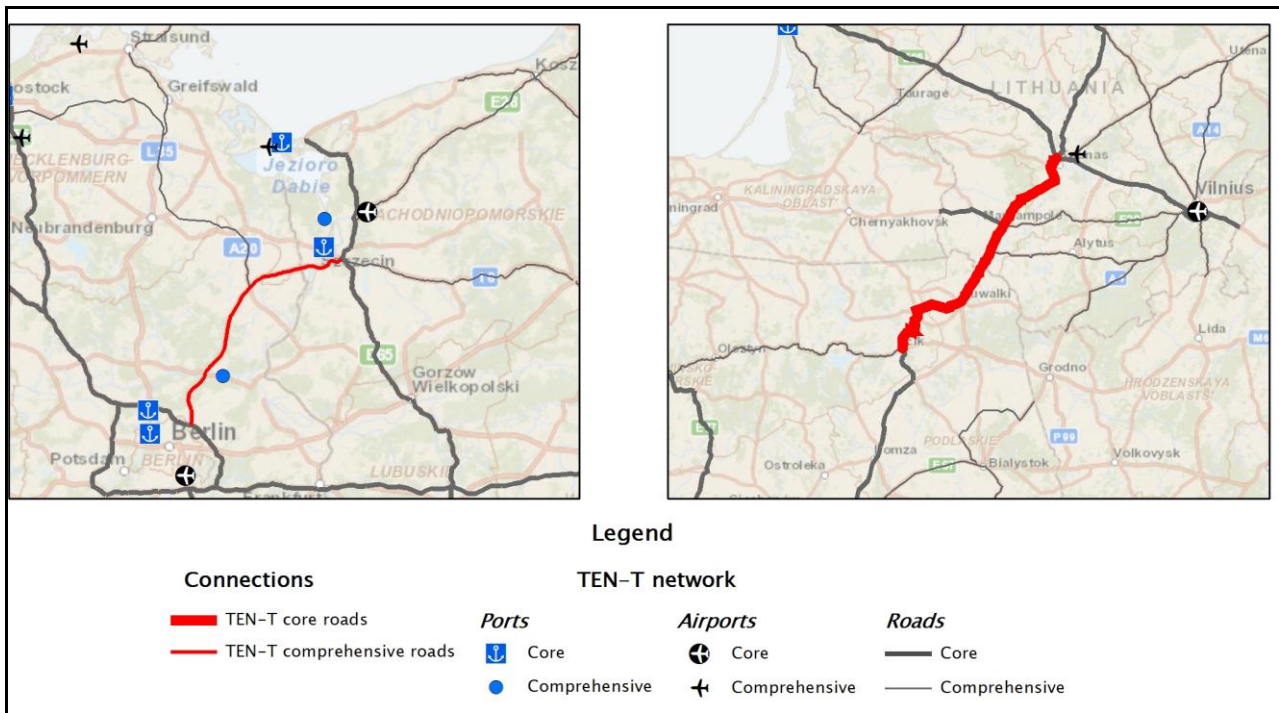


Figure 12. Road connections in the vicinities of Szczecin and Suwalki.

"...

- *Road connections and border crossing infrastructure on the external EU borders, including the sections of Narva (Estonia- Russia), Kaliningrad-Gdansk, Vyborg-Imatra (Russia-Finland), Terehova – Burački, Grebņeva – Ubiļinka and Vientuļi – Ludonka (Latvia – Russia), as well as between Norway and Russia (Kirkenes-Murmansk), to promote harmonisation of the transport networks between the EU and Russia; ..."*

Some of the abovementioned cross border sections are directly linked with the TEN-T core road network, for example, Terehova – Buracki (LV-RU) and between Kaliningrad-Gdansk. However most of them are linked to the comprehensive road network: Narva (EE-RU), Vyborg – Imatra (RU-FI) and Grebneva – Ublinka (LV-RU). According to VASAB LTP road sections accessing these cross border points should be included within the TEN-T core network. Two of the mentioned crossing points are not part of TEN-T network at all: Vientuļi – Ludonka (LV-RU) and Kirkenes – Murmansk (NO-RU). The importance of border crossing point Vientuļi – Ludonka should be re-evaluated according to LTP prior to suggesting connecting it to the TEN-T comprehensive road network at least. The section Kirkenes – Murmansk (NO-RU) is situated outside the EU and therefore other incentives (i.e. other than the TEN-T) should be identified for the development of this connection.

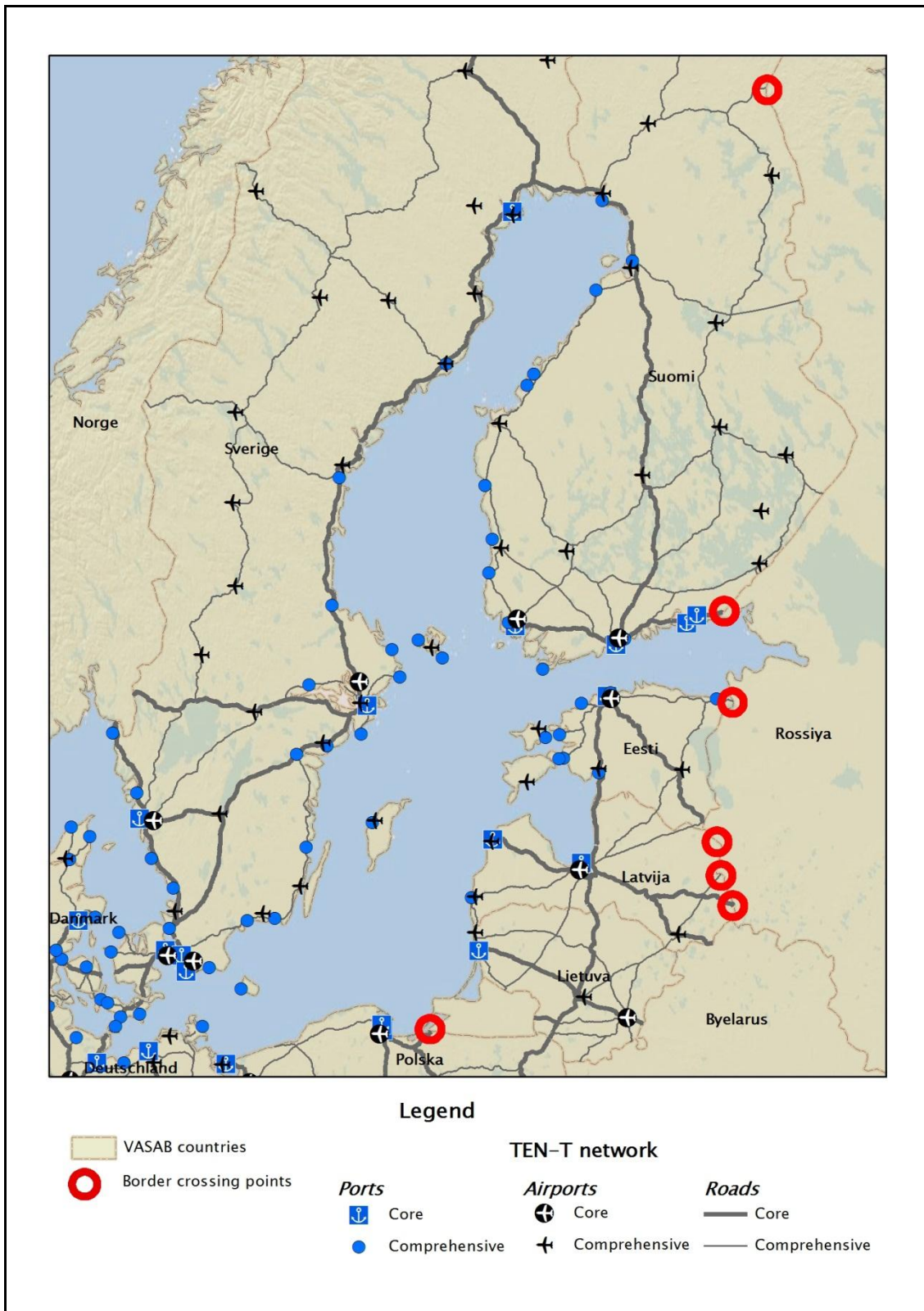


Figure 13. Road connections and border crossing infrastructure on the external EU borders

- *Road and rail links from the ports of Lithuania, Latvia, Estonia and Finland to Russia and Belarus with the extension to the Far East, Central Asia and the Black Sea region to ensure reliable Eurasian transport connections and services; ...”*

The Baltic States and Finland have a number of core network road connections to Russia and Belarus, which further are extended to the Far East, Central Asia and the Black Sea region.

The core network in Lithuania includes the route by road from Port Klaipeda via Vilnius to the border of Belarus (external border of EU), which is further extended to Minsk.

Within the core network major ports of Latvia, Ventspils and Riga, are linked by road with the external border of EU – Russia and Belarus (the route is further linked to the capital cities thereof). Port Liepaja is linked with Riga within the comprehensive network, while further on it is linked with the border crossings on the east of Latvia by core network.

Estonia has core network road connection from Port Tallinn to Russian border in east-south direction. Other ports of Estonia are connected to Russian border by comprehensive road network.

Finland has core network road connections from the ports of Turku, Helsinki, Kotka and Hamina to Russian border crossing point with extension to Saint-Petersburg.

According to VASAB LTP the road connection between seaports Tallinn and Saint-Petersburg till Russian border should be included in TEN-T core network.

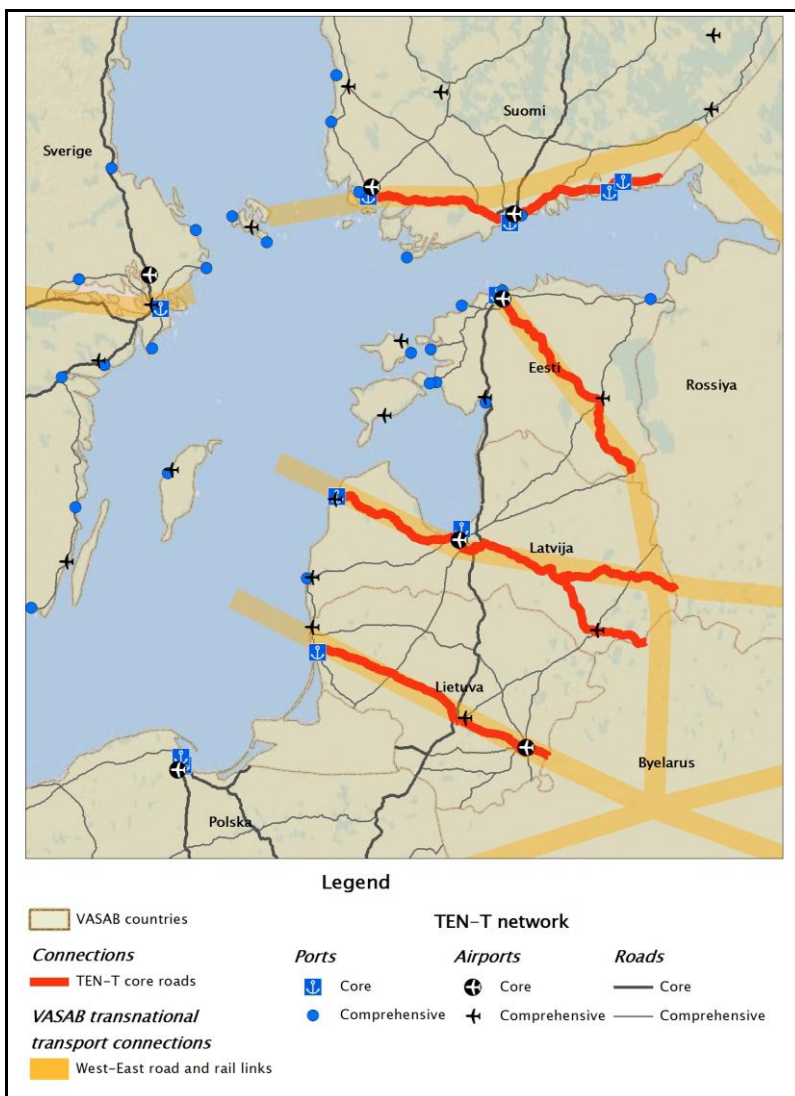


Figure 14. Road connections in TEN-T core network from the ports of Lithuania, Latvia, Estonia and Finland to Russia and Belarus with the extension to the Far East, Central Asia and the Black Sea region.

The connection by rail in the Baltic States and Finland are similar to those of the road – the cities are connected by rail within the core network to Russia and Belarus with the extension to the Far East, Central Asia and the Black Sea region.

Likewise the road connection also the rail connection between seaports Tallinn and Saint-Petersburg till Russian border should be included in TEN-T core network.

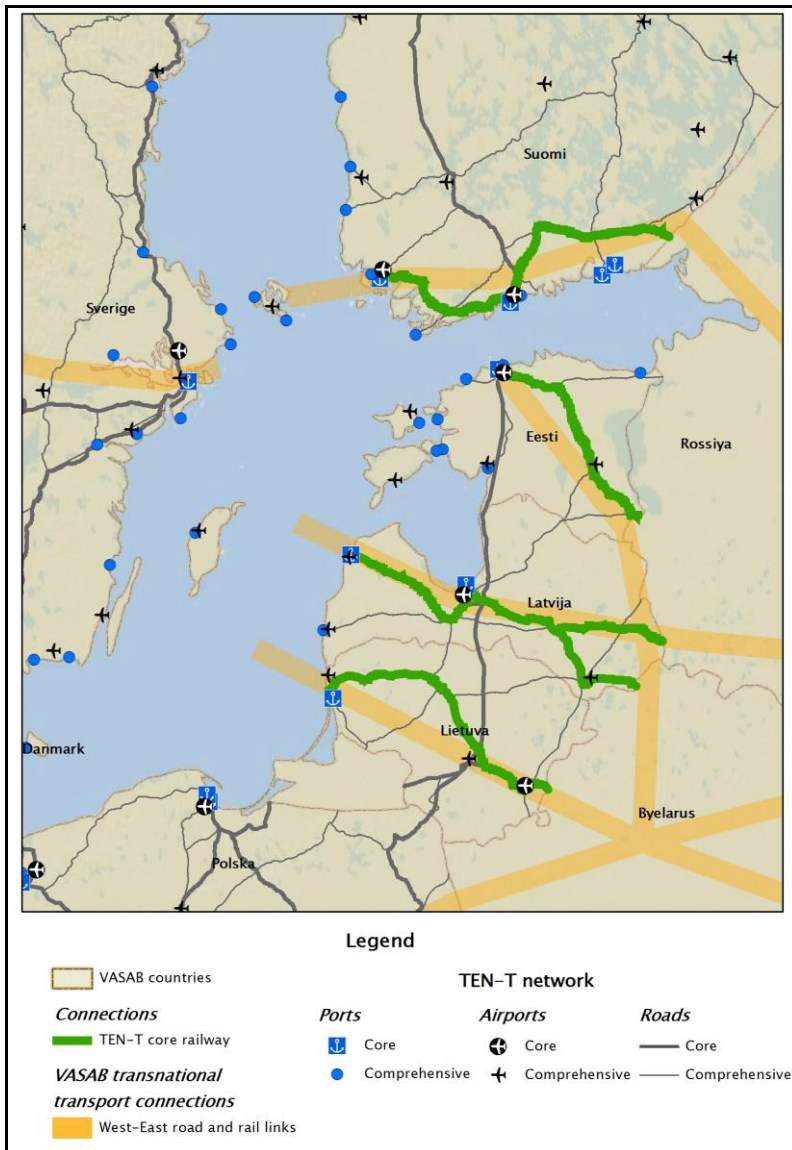


Figure 15. Railway connections in TEN-T core network from the ports of Lithuania, Latvia, Estonia and Finland to Russia and Belarus with the extension to the Far East, Central Asia and the Black Sea region.

"...

- Tallinn-Saint Petersburg and Kaliningrad-Klaipeda rail links to secure a good connection between the TEN-T and Russian networks in the context of EU – Russia – Far East transshipments and thereby to enhance the integration of North West Russia into the Baltic Sea Region; ..."

The rail links Tallinn – Saint Petersburg, as well as Kaliningrad-Klaipeda (till Russian border), are included in the comprehensive rail network, while the connection Kaunas- Kaliningrad is a part of core network. As it was mentioned before the connections between Tallinn and Narva and between Klaipeda and Panemune (LT-RU border) should be included in core network.



Figure 16. Railway connections Tallinn-Saint Petersburg, Kaliningrad-Klaipeda and Kaliningrad-Kaunas in TEN-T network and in other network

"...

- *East-West routes in the Northern Periphery area (such as Barents Link, North East Cargo Link and Northern Maritime Corridor) to connect the natural resources rich Barents Region with the large markets of North America and the European mainland, and to provide a better access of these territories to the cargo facilities."*

Barents Link is mainly based on core railway network, which must be upgraded. Only connection between Oulu and Russian border is a part of rail comprehensive network. According to VASAB LTP this connection should be included in the TEN-T core rail network.

The North East Cargo Link (NECL) (Fig.17, Fig. 18) is supported by TEN-T comprehensive rail network in the territory of Norway and Sweden, however in Finland there is no TEN-T rail network connection between Vaasa seaport via Seinäjoki – Jyväskylä – Pieksämäki to Parikkala on the border (Fig. 17, Fig. 18).

In terms of road transport, the western part of North East Cargo Link via Norway and Sweden is covered by TEN-T comprehensive road network connecting the seaport Stjørdal (NO) and Sundsvall (SE) via Ostersund, however there is not planned TEN-T road network connection between Ostersund and seaport Umea, which is also part of NECL

(Fig.14). Considering the railway connection, there are no road connections of the NECLin Finland between the seaports Vaasa, Kaskovia Seinäjoki – Jyväskylä – Mikkeli to Nuijamma.

In order to meet VASAB LTP requirements the NECL rail and road connections should be included in TEN-T core network.



Figure 17. North East Cargo Link. Source: STRATEGY FOR NORTH EAST CARGO LINK. Final Version 2006; <http://www.midnordictc.net>

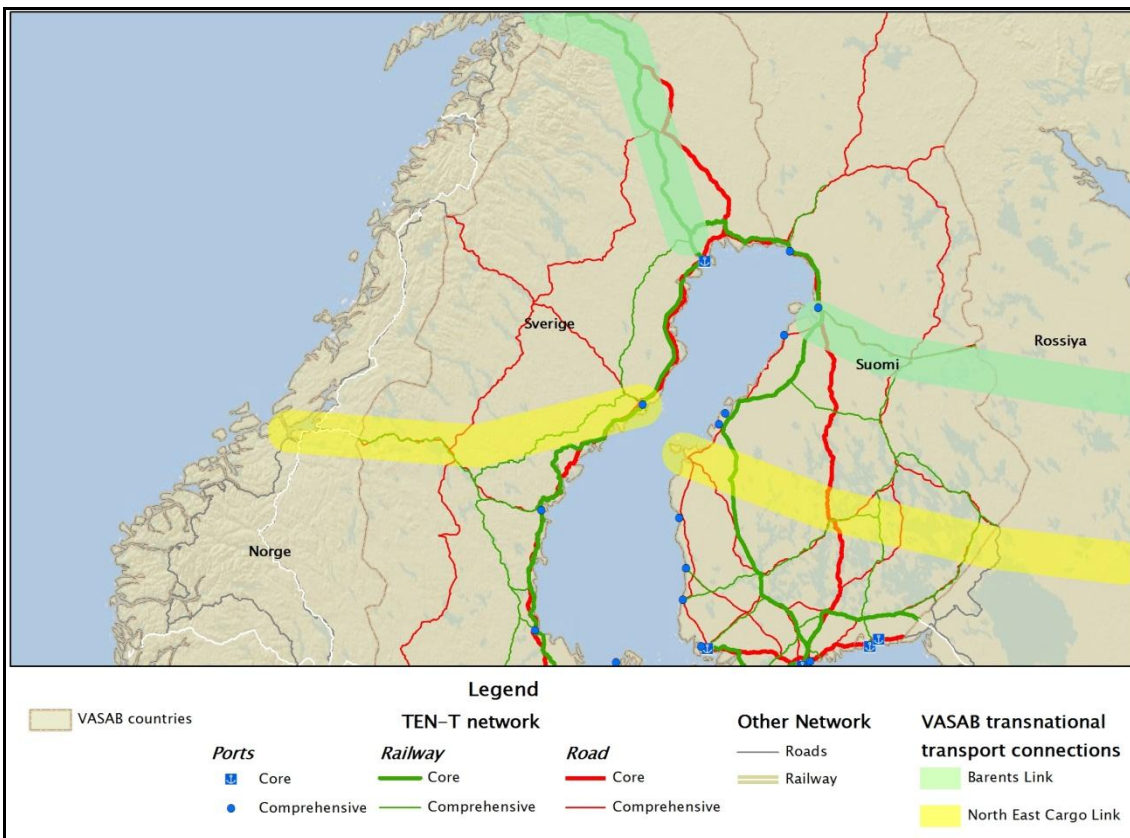


Figure 18. Rail and road connections of Barents Link and North East Cargo Link.

The Northern Maritime Corridor project is primarily aiming at establishing and improving short sea shipping (SSS) services and transportation of cargo within the North Sea Region and the Northern Periphery Region, connecting the North Sea basin with the Barents Sea and the North Atlantic (Fig. 19). It seems that most of Norway seaports related to SSS initiatives form part of TEN-T comprehensive network, however it is not possible to check the situation in detail,

since there is no list of TEN-T comprehensive network seaports (seaports are indicated only in maps) available. The initiative Norway – Benelux Intermodal Service for Seafood is supported by the TEN-T core network seaport Narvik and railway connection via Sweden to Oslo in Norway. Other connection of this initiative, which leads from seaport Kristiansand to Bodo, is included in TEN-T comprehensive rail network. According to VASAB LTP the status of the Norwegian seaports of Northern Maritime Corridor - Kristiansand, Stavanger, Bergen, Aalesund, Kristiansund, Trondheim and Bodo- should be increased to core network seaports.

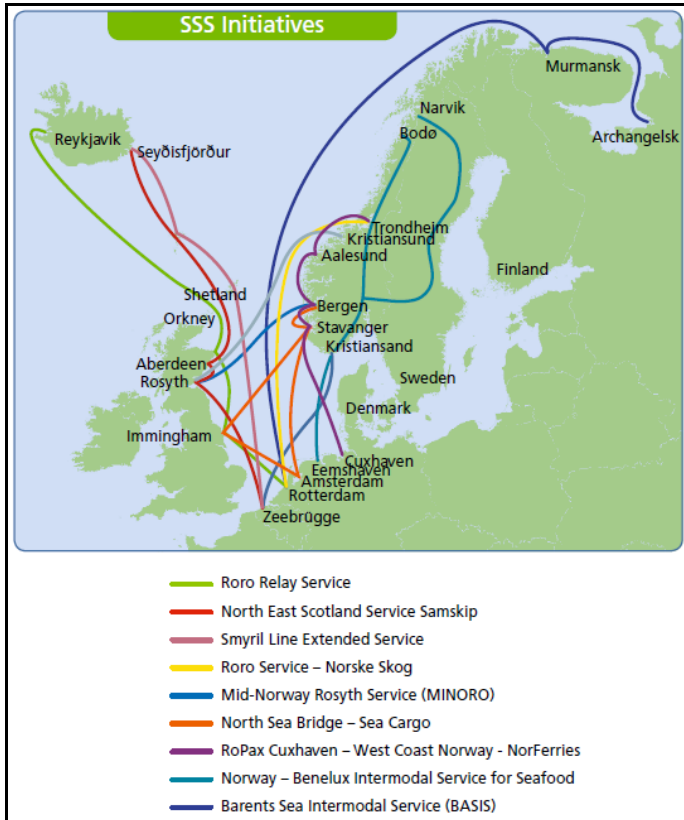


Figure 19. Short Sea Shipping initiatives in Northern Maritime Corridor. Source: Northern Maritime Corridor. Project Summary Report: Activities, Results and Impacts. 2005; <http://www.northernmaritimecorridor.no>

Assessment of Action Agenda 12

Action Agenda 12 says: "In the EU Strategy for the Baltic Sea Region and its follow-up work, consider the following air transport issues of relevance to the BSR territorial cohesion:

- East-West connections in the northern and eastern parts of the BSR (including the city of Murmansk), the scarcity of which reduce the potential for interaction between the peripheral regions;
- low connectivity of Hamburg and Berlin to other BSR metropolises;
- low frequency of transport services between the metropolises in the eastern part of the BSR, including Kaliningrad."

The airports of BSR metropolises Copenhagen, Malmo, Goteborg, Stockholm, Turku, Helsinki, Tallinn, Riga, Vilnius, Gdansk, Szczecin, Warsaw, Berlin and Hamburg are part of the TEN-T core network. Since the Murmansk and Kaliningrad airports are situated outside of the EU, other initiatives for further development of infrastructure and related connections should be identified. At the same time it should be considered that TEN-T would not directly solve the air transport connectivity and frequency issues.

It should be noticed that there is some discrepancy between the list of airports of the core network indicated in Annex II and the airports indicated in the maps in the Annex I of the EC proposal.

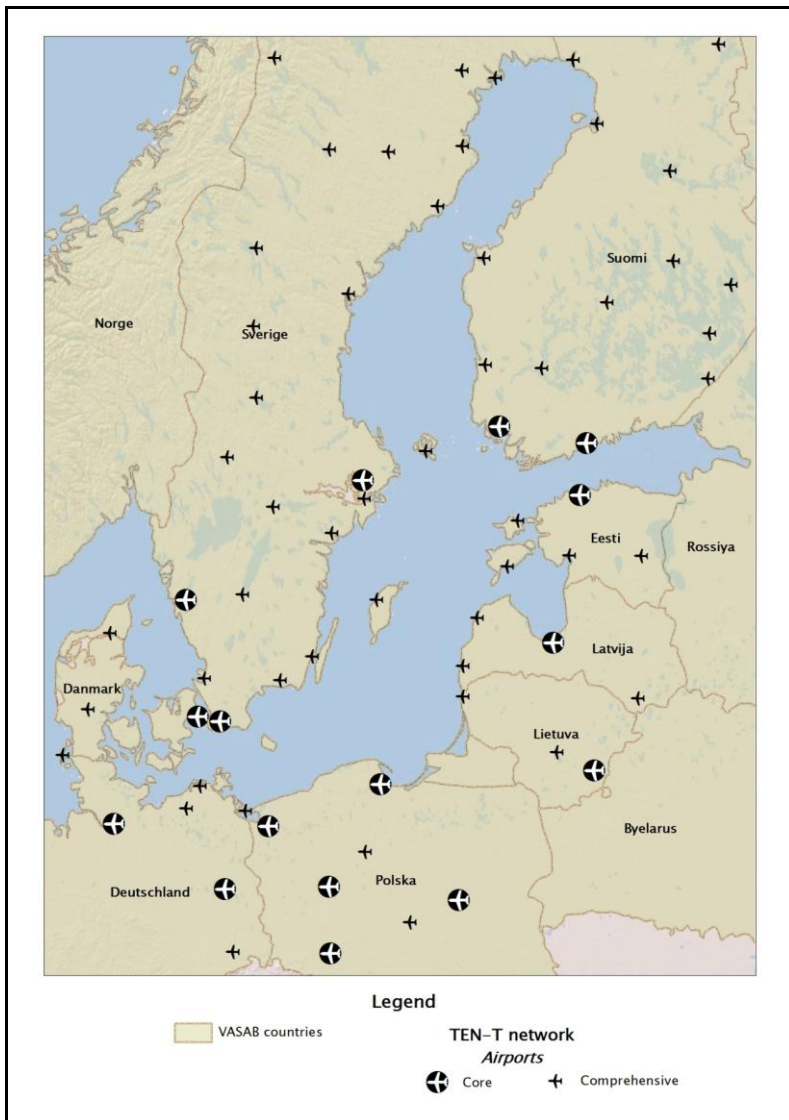


Figure 20. TEN-T core and comprehensive network airports.

Assessment of Action Agenda 14

Action Agenda 14 says: "Develop the Motorways of the Sea in the Baltic Sea Region as a systemic solution to enhance the cross-border scale integration and a transfer of goods between the EU, the eastern neighbours, Central Asia and the Far East. Consider in the revised EU transport policy the extension of the Baltic Sea Motorways system to include further short-sea links between the EU ports, as well as connections from the EU ports to Kaliningrad and Saint Petersburg."

Motorways of the Sea represent the maritime dimension of the trans-European transport network. In the article 24 of the proposal it is set that maritime transport infrastructure comprises in particular: (a) maritime space; (b) sea canals; (c) maritime ports, including the infrastructure necessary for transport operations within the port area; (d) navigational aids; (e) port approaches; (f) motorways of the sea; (g) associated equipment; (h) ITS.

According to article 25 motorways of the sea shall include: (a) maritime links between maritime ports of the comprehensive network; (b) port facilities, information and communication technologies (ICT) such as electronic logistics management systems, safety and security and administrative and customs procedures in at least one Member State; (c) infrastructure for direct land and sea access.

At the same time the proposal does not indicate any specific routes between particular seaports.



Figure 21. TEN-T core and comprehensive network maritime ports and VASAB motorways of the sea.

Assessment of Action Agenda 15

Action Agenda 15 says: "Initiate work on the intelligent sea transport corridors in the BSR (separated and electronically monitored traffic routes) by activating at least one pilot project for a corridor with high traffic volumes in an environmentally sensitive area."

Within the article 26 of the proposal among the maritime transport infrastructure requirements it is mentioned that Member States shall implement Vessel Traffic Monitoring and Information Systems (VTMIS) as provided for in Directive 2002/59/EC.

Financial implications

To illustrate the financial impact by EC proposal on TEN-T network a simple assumption on costs was made. Upgrade costs of railway projects start at approximately 1M € per km, the costs of new conventional and high speed railway lines are in range of € 3-20 million per km. The assumption was made that investments will be approximately € 4 million per km in network sections to be upgraded or built. Motorway construction costs depend on the terrain it crosses and so the price varies. An average price level of € 6-10 million per kilometre in standard conditions and € 20-25 million on average per kilometre in heavily-urbanized areas seems to reflect actual market situation. Therefore an assumption was made that investments in core network upgrade or construction will be at approx. € 8 million and in comprehensive network at approx. € 5 million. However these cost assumptions do not reflect costs of large scale tunnels, river and sea crossings which are often 10 times more expensive. An example is the Fehmarn Belt multimodal sea crossing with investment cost estimate € 5,5 billion.

The analysis of the cartographic data shows that the EC proposal on TEN-T network aims to upgrade or to build new railway lines by 63% of proposed core network and 61% of proposed comprehensive network in BSR. This results in € 62billion investments till 2050, out of them € 34 billion fall under investments improving core network till 2030.

Table 1. Investment estimate of the proposed TEN-T rail network in BSR

RAIL Country	Core network		Comprehensive network		Total investments, € billion
	upgrade or new, % ¹	investments, € billion	upgrade or new, % ²	investments, € billion	
Denmark	26%	0,8	0%	0,0	0,8
Estonia	100%	1,8	83%	1,6	3,4
Finland	53%	2,6	68%	6,1	8,7
Latvia	100%	3,8	68%	1,9	5,7
Lithuania	47%	1,5	19%	0,5	2,0
Poland	75%	13,7	100%	12,9	26,6
Sweden	59%	7,6	41%	3,9	11,5
Germany³	35%	2,1	19%	0,9	3,0
TOTAL	63%	33,9	61%	27,8	61,7

Source: own calculations.

Similar situation reflects analysis of EC proposal on TEN-T road network where about 34% of core network roads and 39% of comprehensive network roads shall be improved in BSR. The investments total € 62 billion, out of them € 31 billion aim to improve core network roads till 2030.

¹ Network to be upgraded or planned in percent of total proposed TEN-T core network

² Network to be upgraded or planned in percent of total proposed TEN-T comprehensive network

³ In North – North East part of Germany, network with VASAB relevance

Table 2. Investment estimate of the proposed TEN-T road network in BSR

ROAD Country	Core network		Comprehensive network		TOTAL investments, billion €
	upgrade or new, % ⁴	investments, € billion	upgrade or new, % ⁵	investments, € billion	
Denmark	0%	0,0	51%	2,4	2,4
Estonia	78%	3,0	77%	2,6	5,6
Finland	21%	1,8	26%	5,2	7,0
Latvia	13%	0,8	0%	0,0	0,8
Lithuania	0%	0,0	0%	0,0	0,0
Poland	72%	20,6	92%	18,8	39,4
Sweden	6%	1,3	12%	2,1	3,4
Germany ⁶	31%	3,2	17%	0,6	3,8
TOTAL	34%	30,7	39%	31,7	62,4

Source: own calculations.

The Connecting Europe Facility which addresses the so called priority projects within 10 proposed TEN-T core network corridors aims to spend for transport sector projects round € 31,7 billion till 2020. The share of the economies of the BSR countries except Germany in EU27 totals approx. 10% in terms of GDP. Despite the fact that Connecting Europe Facility clearly aims to promote projects of common interest (and not ones with national interest only), this illustration shows that this financing instrument will be able to support only a minor part of all investment needs of BSR countries for the TEN-T network.

Table 3. Comparison of estimated investments to GDP

COUNTRY	INVESTMENTS/GDP	RAIL investments/GDP, %		ROAD investments/GDP, %		TOTAL investments / GDP, %
	GDP, 2011(f), € million	Rail, core	Rail, comprehensive	Road, core	Road, comprehensive	
Denmark	241 148	0%	0%	0%	1%	1%
Estonia	16 012	11%	10%	19%	16%	56%
Finland	189 696	1%	3%	1%	3%	8%
Latvia	19 606	19%	10%	4%	0%	33%
Lithuania	30 368	5%	2%	0%	0%	7%
Poland	369 318	4%	3%	6%	5%	18%
Sweden	386 202	2%	1%	0%	1%	4%
Germany ⁷	2 570 000	-	-	-	-	-
TOTAL	1 252 349	3%	2%	2%	3%	10%

Source: Eurostat for GDP forecast, own calculations.

⁴ Network to be upgraded or planned in percent of total proposed TEN-T core network

⁵ Network to be upgraded or planned in percent of total proposed TEN-T comprehensive network

⁶ In North – North East part of Germany, network with VASAB relevance

⁷ Data on Germany excluded from calculation

When comparing investments estimate to GDP of the respective country it becomes visible that investment needs are considerably higher in the eastern part of BSR. This means that the respective countries have limited affordability to finance the investments to implement TEN-T network and being in line with VASAB LTP vision on their own cost. Therefore special financial engineering will be required and special regulation for countries eligible under Cohesion Fund is essential not to jeopardise the proposal of the Commission to establish a fully functional multimodal transport network in Europe and particularly in BSR.

Last but not least the Commission aims to support sustainability in transportation with TEN-T policy. The proposed TEN-T network concept reflects it by prioritizing rail. However at the same time it appears the investments will contribute to the development of the road network even slightly more than that of the rail network, at least in BSR.

Conclusions

In general **the proposal of the Commission is consistent with VASAB LTP**, the proposed TEN-T network corresponds to and supports the VASAB long-term development perspective. VASAB MEGAs correspond to TEN-T urban node status and consequently are connected by TEN-T multimodal core network. However some missing links exist and several improvements within the new TEN-T network are needed in order to completely correspond to expected connections and timescale of VASAB LTP (i.e. till 2030). Deficient connections should be included in the TEN-T core network (the TEN-T core network is to be in place by 2030, but comprehensive network only by 2050 at the latest).

The proposal of the Commission addresses the most and the main of defined bottlenecks and missing links in transnational transport connections identified in VASAB LTP except in the Northern part of BSR. The missing link within the TEN-T network is the railway connection of the North East Cargo Link in Finland: between Vaasa seaport via Seinäjoki – Jyväskylä – Pieksämäki to Parikkala on Finland-Russia border and road connections between seaports Vaasa, Kasko via Seinäjoki – Jyväskylä – Mikkeli to Nuijamma on Finland-Russia border, as well as road network connection between Ostersund and seaport Umea in Sweden (Fig.22, No.2). Further, in order to completely solve the tasks set in VASAB long term perspective some internal and external cross border transport connections should be included in the core network, for example, road connection to border crossing point Narva/Ivangorod and also between Imatra – Vyborg and Grebneva – Ublinka (Fig.22, No.2, No.4).

The proposal of the Commission addresses all VASAB LTP Action Agendas relevant to accessibility and transport, but not all agendas in full extent. The proposed East – West connections in the Northern part of BSR within Action Agenda 11 and Action Agenda 12 are poorly addressed by the proposed TEN-T network (Fig.22, No.1, No.2, No.6). The East – West connections in Baltic countries are addressed by the proposed TEN-T network to a great extent but not completely (Fig.22, No.3, No.4, No.5).

The proposal of the Commission addresses VASAB LTP within the timescale by development of the core network and core network corridors corresponding to VASAB transnational transport connections except of West-East routes in the Northern periphery. In order to meet the timescale of LTP action plan a number of road and rail connections in BSR also should be included in core network, i.e.:

1. road and rail connection between the Tallinn – Saint-Petersburg till Russian border (Fig.22, No.3);
2. part of railway of Barents Link from Oulu and Vartius frontier station in Finland (Fig.22, No.1);
3. road and rail connections between Riga and Kaliningrad, between Klaipeda and Kaliningrad and also between the seaports Gdansk and Szczecin (Fig.22, No.5).

The investment needs are considerably higher in the eastern part of BSR. This means as well the respective countries have limited affordability to finance the investments to implement TEN-T network and being in line with VASAB LTP vision on their own cost. Therefore special financial engineering will be required and special regulation for countries eligible under Cohesion Fund is essential not to jeopardise the proposal of the Commission to establish a fully functional multimodal transport network in Europe and particularly in BSR.

It shall be particularly highlighted that **the proposal of the Commission includes the so called indicative extensions to neighbouring countries.** This demonstrates an integrative approach within EEA which gives full picture of proposed network functionality and is not limited by EU borders. Within the BSR the indicative connections to Norway are displayed and these correspond widely to VASAB LTP. However, according to VASAB LTP the status of the Norwegian seaports of Northern Maritime Corridor - Kristiansand, Stavanger, Bergen, Aalesund, Kristiansund, Trondheim and Bodo - might be increased to the core network seaports status. From the viewpoint of VASAB similar approach shall be discussed towards East by reflecting extensions to Russia and Belarus as well.

Further issues and observations identified during assessment task we propose for discussion at VASAB:

- The identified “bottlenecks” in the proposed TEN-T network if compared to VASAB LTP shall be discussed from other perspective, too. The TEN-T network proposal reflects spatial and time dimensions, but the

socioeconomic feasibility is on agenda, too. Therefore one could advise to reconsider VASAB LTP in further discussions.

- Besides the definition of network infrastructure, infrastructure requirements and priorities in the proposal of the Commission and definition of transnational connections in VASAB LTP one should consider starting a discussion on the quality of the connections and infrastructure it serves. The questions to be answered could start by answering how fast shall connections be identified by VASAB and addressed by TEN-T network in very long-term perspective? How fast shall the future transport network be so that we can say: "we feel good connected and are close enough to each other"?
- In order to identify the seaports of the TEN-T comprehensive network accurately the Proposal should be supplemented by an annex with the complete list of seaports adherent to comprehensive network.
- The border crossing point Vientuļi – Ludonka (LV-RU) and connecting road which are presented in VASAB LTP are not included in TEN-T network at all. The importance of border crossing point Vientuļi-Ludonka should be re-evaluated according to LTP prior to suggesting connecting it to TEN-T comprehensive road network at least.

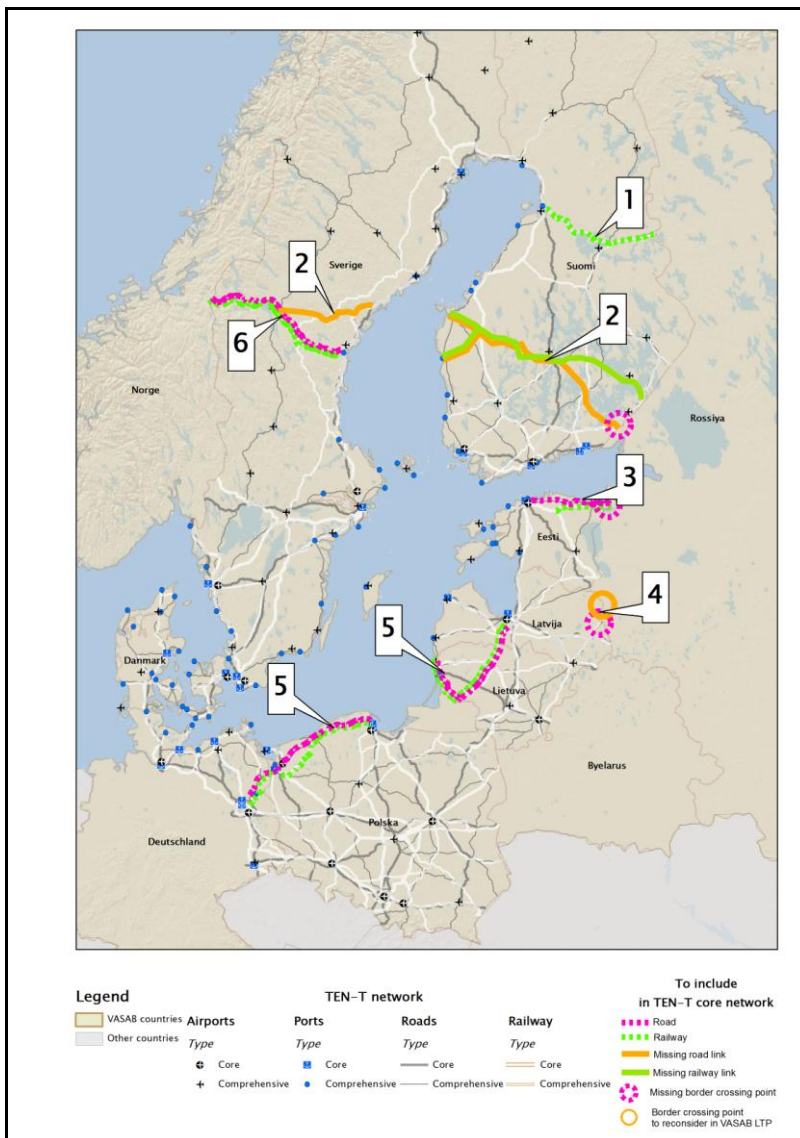


Figure 22. Proposals for TEN-T core network improvements to achieve consistency with VASAB LTP

