

**Project “East West Transport Corridor II” (EWTC II)
WP 4 – Business Opportunities in Railway Transports
Task 4A – EWTC Joint Rail Freight Concept**

**REPORT
on Benchmarking in the EWTC**

Vilnius, 30-06-2011
Revised 23-02-2012

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Work Package 4 and the 4A task Leader:

JSC “Lithuanian Railways”, Vilnius, Lithuania

Authors:

*Stasys Zurba, Chief specialist of Development Department of JSC “Lithuanian Railways”
Vladas Stūrys, consultant*

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1.SUMMARY

This report is being performed according to the description of the WP4 of the project EWTC II, which is foreseeing „, some benchmarking activities with other transport corridors to find best practise cases in such areas as: tariffs, border crossings, harmonisation issues, one stop shop concepts and transport co-modality issues“. This work exceeds such scope of areas and overwhelms the benchmarking in entire spectrum of activities for the rail business harmonisation along the East – West transport corridor.

The work on benchmarking along the EWTC will be further developed in the study on Joint Rail Concept, where the final benchmarking report for present services/systems based on analysis, visits, interviews and round table discussions with private stakeholders will be presented with general recommendations and business plan for further use in the EWTC.

In the part 2 the background of recent activities in rail harmonisation along the EWTC is described.

In the part 3 is explained the aim of this case - to find best practise for rail business harmonisation along the EWTC II transport corridor

In the part 4 methodology and sequence of the work are identified

In the part 5 are identified projects and studies related to activities of other transport corridors.

In the part 6 the analyse of identified projects and best practices is presented

In the part 7 the value of best practices for benchmarking in the EWTC corridor are laid down.

In the part 8 conclusions from the performed work are presented.

2.BACKGROUND

Continuing the process of development of the East-West Transport Corridor, the project EWTC II defined it as linking the Southern Baltic Sea region of the European Union (Denmark, Lithuania, Sweden, Germany), the Russian Federation in the Kaliningrad region and countries beyond (Belarus, Russia, Ukraine, Kazakhstan, China, Mongolia and other countries in the Black Sea region and Asia) *(from the Statute of the EWTC Association).*

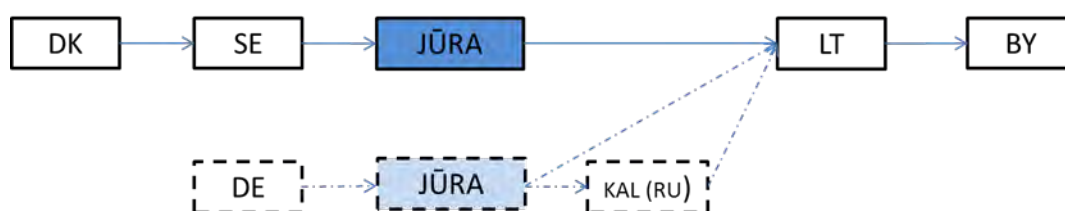


Figure 1. The States in the intermodal transport chain, passing the East-West transport corridor.

The marine part of the corridor divides the chain into two parts: Denmark/Sweden and Lithuania/Belarus/Ukraine. Historically the interface between the transport systems of the eastern and western parts of the southern Baltic Sea did not exist for long years, therefore a feature of the object of the study is such that it includes several railway spaces having very weak or even no relations before:

- The EU's 1435 mm gauge railway based area (DE – DK - SE);
- The EU's 1435 and 1520 mm gauge based space (LT);
- EU-CIS 1520 mm gauge - based space (LT-BY-UA-RU);
- Marine transportation space.

It is obvious that both the processes of globalization and the growth of intermodal rail transport and internationalization of freight transport technology has created new requirements and makes very important the harmonization of previously unbounded rail systems.

Thanks to this work the interests of rail transport developers and governments will become closer. In the final result the harmonization of the transport system along the corridor and the resulting collaboration of transport and logistics companies with industrial and commercial businesses should

increase the growth of global economic competitiveness for each EWTC country and the entire region along the corridor.

3.THE AIM

The recent research work is being carried out for implementation of the task 4A (T4A) of the work package 4 of the project "East West Transport Corridor II (EWTC II) under the Baltic Sea Region program 2007-2013, which aims to improve inter-modal transport links of the Southern Baltic Sea region with markets of Russia, Belarus, Ukraine, the Caucasus, Central Asia, China and other Eastern countries through consolidation for this task of the state, regional authorities, transport and industrial companies. The railway transport, which has a smaller negative impact on the environment, plays a significant role in achievement of this aim.

The Work Package 4 promotes cooperation and exchange of experiences related to the development of seamless rail cargo flows in the corridor. Between other measures it is foreseeing some benchmarking activities with other transport corridors to find best practise cases in such areas as: tariffs, border crossings, harmonisation issues, one stop shop concepts and transport co-modality issues.

The recent work aims to identify such best practices and to find their value for further activities of the project EWTCII in rail harmonisation along the corridor and broadening of business opportunities in the field of railway transport.

4.METHODOLOGY

This case is based on an integrated approach to transport corridor as the result of targeted and harmonized efforts of all levels of institutions and enterprises, in one or another way involved in the development of transport and logistics infrastructure, supply of transport and logistics services.

As can be seen from the following diagram, the fluency of transport and logistics flows in the corridor are ensured by three groups of factors:

- well-equipped track (infrastructure, intermodal terminals, logistic centres, border crossing points);
- institutions, companies and people involved in the transport and logistics process (matching of their interests, coordinated actions, awareness, competence, etc.).
- organization of the cargo transportation (the existence and attraction of cargo itself, equipment, rolling stock, superstructure and technology, including information, documentation, etc.).

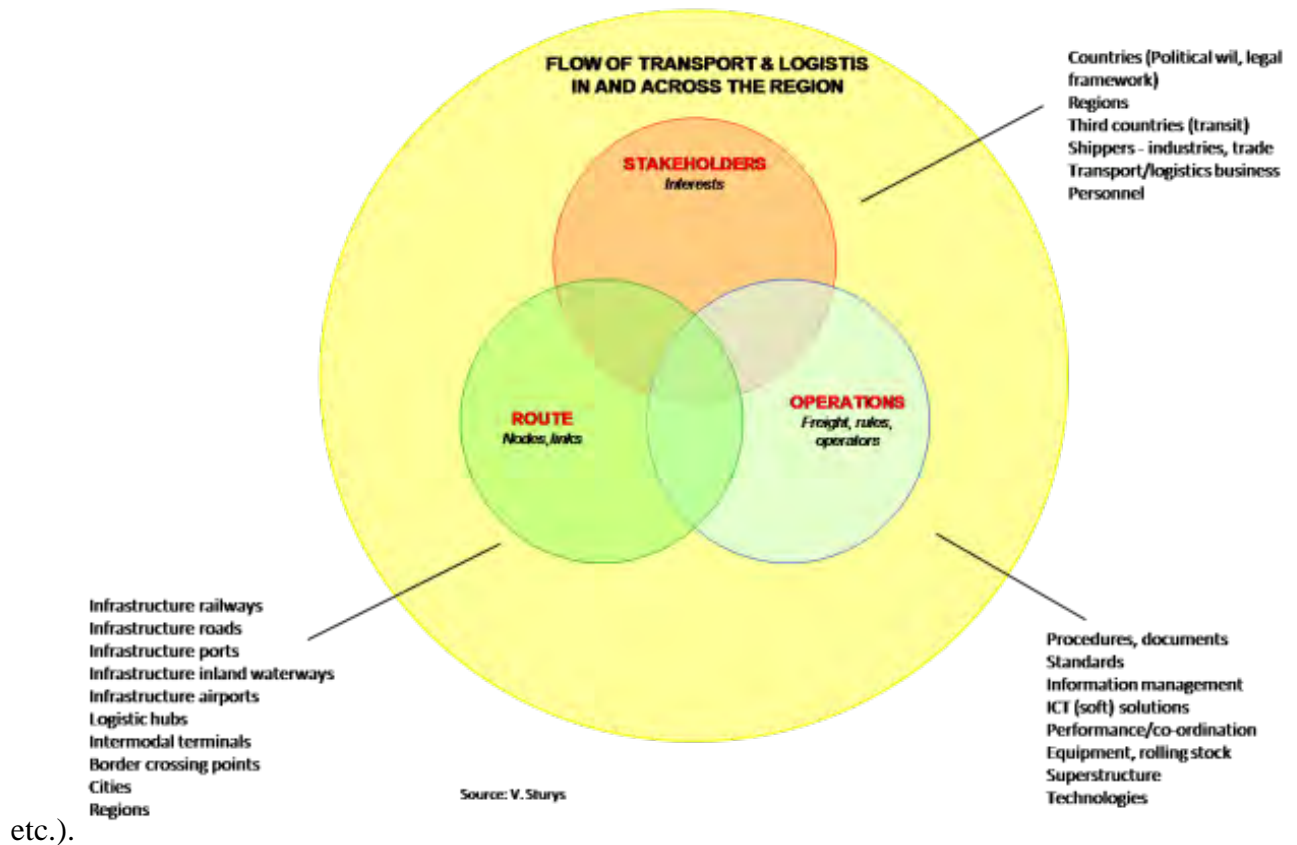


Figure 2. Factors ensuring the smooth transport and logistics flows.

The methodology of the work is presented in the picture 3 below.

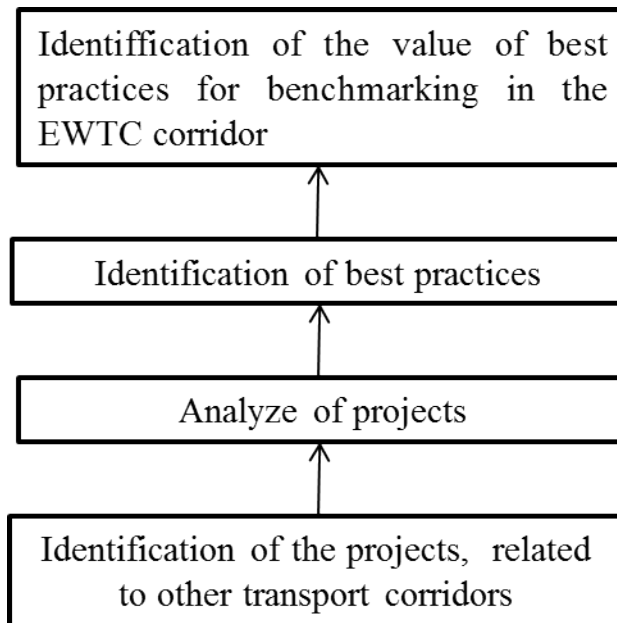


Figure 3. The work methodology

5.IDENTIFICATION OF THE PROJECTS, RELATED TO OTHER TRANSPORT CORRIDORS

Were examined all the available and most important projects that have made efforts to harmonize the international intermodal transport chains and corridors:

- PROMIT;
- InteGRail;
- RailNetEurope;
- Bravo (Brenner corridor);
- Reorient Corridor;
- Corridor B;
- Freightwise;
- In addition to Logic;
- SuperGreen (introductory phase);

- OSJD experience;
- Other Sources.

6. ANALYZE OF PROJECTS

AND IDENTIFICATION OF BEST PRACTICES

6.1. Project PROMIT

- Project PROMIT (<http://www.promit-project.net>) is the coordination Action funded under the European Commission's FP6 Programme. Its main objectives are to accelerate the development and deployment of intermodal freight transport technologies and procedures and support in the dissemination of innovative intermodal freight transportation expertise and know-how to their potential customers.
- PROMIT project has indicated the following common barriers to the successful interoperability of the intermodal transport systems:
 - Track gauge;
 - Differences of electrical systems;
 - Signaling systems;
 - Vehicle Equipment..

Operational barriers:

- long-term transport planning;
- Border-crossing procedures and arrangements;
- International Use of Waggons
- Border and Nodal Stations
- Information System.

6.2. InteGRail project - Intelligent Integration of Railway Systems

Project InteGRail (http://www.integrail.info/mis_stat.htm) aims to create a holistic, coherent information system, integrating a number of major railway sub-systems to achieve their better use from capacity, average speed, punctuality, safety and resource optimization approach.

The project identified a number of InteGRail KPIs affecting four rail activities (rolling stock, infrastructure, operations and traffic management). However, the formulas and quantitative weights for tree, constructed during the Project, were not identified, because this work requires the broad discussions, agreements and consensus.

6.3. Project RailNetEurope

RailNetEurope (RNE) is the association, created by most of the European rail infrastructure managers and seeking to enable quick and easy accessibility of the European railways, as well as to increase the quality and efficiency of the international rail transportation. 38 RailNetEurope

Members are jointly harmonizing the conditions and procedures for international infrastructure management in interests of the whole rail industry.

On 11 RNE Corridors they:

- =deliver a more reliable forecast of the available infrastructure to our customers
- = apply the harmonized deadlines for planning international train paths
- =shape corridor infrastructure capacity according to the market's requirements
- =facilitate the capacity request procedure by providing pre-constructed international train paths
- =improve train punctuality on the basis of regular performance monitoring

RailNetEurope online portal - <http://www.rne.eu>.

Network Access. Inform customers about network access (e. g. safety certificate) and assist customers' efforts to comply with existing rules.

RNE Corridor Management - distributes processes and tools along the rail corridors that carry major traffic flows.

RNE harmonized international scheduling process. In this way, RNE provides "manual", a common form of route discovery and route guidance (PATHFINDER Guidelines).

One-stop RNE (OneStopShop - OSS) network guarantees customers a competent and prompt advice and support for all border crossings.

RNE provides capability for the real-time management and monitoring of the European rail traffic

RNE provides the international scheduling tool to infrastructure managers and railway business.

RNE provides access to the infrastructure charging information

RailNetEurope agreed on a common framework and guidelines for the implementation of EU Directive 2001/14/EC Article 3 (infrastructure allocation).

OneStopShop – OSS

Network access

In order to make access to rail infrastructure easier, OSS contact points inform customers about network access (e. g. safety certificate) and assist customers' efforts to comply with existing rules.

Network Statement, timetabling handbooks & standard contract templates

Easily access to all RNE Member Network Statements (containing all relevant information regarding access to rail infrastructure), timetabling handbooks and other important documents

Pricing information

Information concerning infrastructure charges can be requested from OSS contact points along with all other line characteristics, or directly with the support of the EICIS system

International train path management (ITPM)

OSS ITPM core services include: assistance with the formulation of international path studies and requests, coordinated path planning by involved IMs/ABs and delivery of appropriate path offers with support of the Pathfinder system.

In addition OSS contact points take care of harmonised, international path requests in cases where the Pathfinder web tool cannot be used yet. Path requests that have been fully harmonised by all involved Applicants result in a higher quality of the ensuing path offers. Path requests are answered within agreed and harmonised deadlines which are based on legal requirements

Transport planning

Customers can make use of OSS advice for international transport planning and the coordination of international path studies. Information delivery on terminals, sidings, yards, services, etc. and specificity of the border-crossing railway lines is also part of the OSS service portfolio along with the provision of contact details for all RNE Members.

Operations Monitoring

OSS contact persons promote EUROPTIRAILS and provide access to the system.

After sales services

Competent settlement of customer complaints and suggestions on how to improve rail service efficiency with the support of the EUROPTIRAILS system complement the OSS representatives' extensive service bundle

6.4. Project BRAVO (Brenner corridor)

As one of the key European freight arteries, the Brenner intermodal corridor carries about two-thirds of current levels Transalpine freight in transit through Austria and Switzerland. Corridor consists of a core connection Munich - Kufstein - Brenner - Verona, acting as a pipeline, absorbing almost all the freight transport at one end and adjusting it in another. This part ensures pan-European transport of goods between north and south of the Alps. In the initial phase of its development, this corridor has acted as a trading instrument for German and Italian.

Seeking for development and introduction of harmonised system of intermodal transportation by rails via three states, the previously approved the Brenner Action Plan was developed into the BRAVO project (<http://www.bravo-project.com/home/index.shtml>).

The primary scientific objective of the project BRAVO - to create a Brenner corridor development strategy has been divided into the following scientific and technological objectives:

1. Development of the Coherent Brenner Corridor Management scheme so that the scheme is consistent with the requirements of a stable system - at the end phase designed as an open system, enabling new entrants;
2. The Scheduling process;
3. Interoperable rail vehicle scheme allowing the deployment of multi-current locomotives;
4. The corridor quality management system (QMS), based on deployment of the electronic database and implementation of quality arrangements;
5. Advanced customer information system, based on the train real-time identification;
6. The schedule of development of new intermodal transportation services (close, medium and long-term) to new areas (e.g. Southern Italy, Greece);
7. Sustainable intermodal technologies to take over the growing intermodal transportation market of trailers.

BRAVO project is a good example that the along the transport corridor can be carried out only by minimizing the number of criteria for quality of service in this corridor.

Brenner Quality Manual includes the following quality criteria agreed during the project:

- Punctuality

90% (maximum tolerance - 15 min.)

- Reliability

The maximum delay - 180 min

The annual schedule changes latest - on Thursday the week before;

- Flexibility

Cancellation of the regular train - up to 48 hours prior to departure (with compensation); Intermediate schedule modifications during the three months after submission of the application;

Defined response time for rail users

- Customer Information

Each train monitoring (monitoring) in real time;

Coordinated international reporting scheme for specific train traffic;

- Rolling stock

Monthly arrangements for wagon type

Agreed sets of cars use 95%

- Transport documents

99.9% rate the credibility of the documents accompanying per 1000 travels.

6.5. Project REORIENT

The project REORIENT was carried out within the EU FP6 program in order to evaluate the possibilities of transformation of the national rail-based fragmented into internationally integrated railways and their operating systems. The aim was to maintain the EU's transport policy, setting off a rail car and road congestion (<http://www.tmleuven.be/project/reorient/home.htm>).



Figure 1.1: The REORIENT Corridor

Figure 4. Reorient corridor

The value of the Reorient Corridor project for this work is in its „bottleneck“ (barrier) approach to the classification of factors for the harmonization of the rail transport systems. The conditions of the integration of national rails into transport corridor and appearing barriers were classified into seven categories:

- Political conditions / barriers;
- Administrative conditions / barriers;
- Social / cultural conditions / barriers;
- Technical / technological conditions / barriers;
- Business, industrial and financial conditions / barriers;
- Market outlook conditions / barriers;
- Institutional conditions / barriers.

Based on studies in the corridor countries and expertise several options for service design has been set up, based on the same attributes: schedule, access, cross-border barriers mitigation, infrastructure improvement package, arrangement of infrastructure charges. Those options provide involvement of one carrier along several national, requiring for removal of administrative, legal, social, cultural and operational barriers.

6.6. Project Corridor B



The Corridor B project, aims to remove bottlenecks in ERTMS/ETCS implementation and to harmonise operational rules along the Stockholm–Hamburg–Munich–Naples route. The Executive Board (chaired by Denmark) and the Management Committee (chaired by ÖBB, Austrian Railways) for the corridor were formed in 2010

Corridor B’s general objectives include connecting the cities and the important commercial areas, developing technical interoperability and, of course, encouraging modal shift of goods from roads to rails.

The strategic objectives which reinforce the importance of Corridor B are represented by the fixed connection to the Fehmarn Strait to the Baltic Sea, as well as the Brenner Tunnel, which crosses the base of the Alps.

6.7. Project FREIGHTWISE

FREIGHTWISE (www.freightwise.info) is the Integrated Project in frame of the EU FP6 program, based on intermodality and aiming to balance the structure of information technologies for the good functioning of intermodal transport chains at their management and technological levels.

FREIGHTWISE aims to integrate three areas (Figure below):

- Legislation and regulations;
- Safety, capacity, revenue;
- Commercial sensitivity.

A key result of the project FREIGHTWISE is the methodology of the intermodal freight transport analysis. The project demonstrated that an integrated freight service orders may be minimized down to four roles and six messages.

These roles and the messages were identified as Freightwise structure (Freightwise Framework).

FREIGHTWISE structure identified four roles in the intermodal transportation:

- The transport service provider;
- The transport user;
- The transport network manager;
- The transport regulator.

These roles may be distributed either between four different persons or between pair or more persons at the same institution or company.

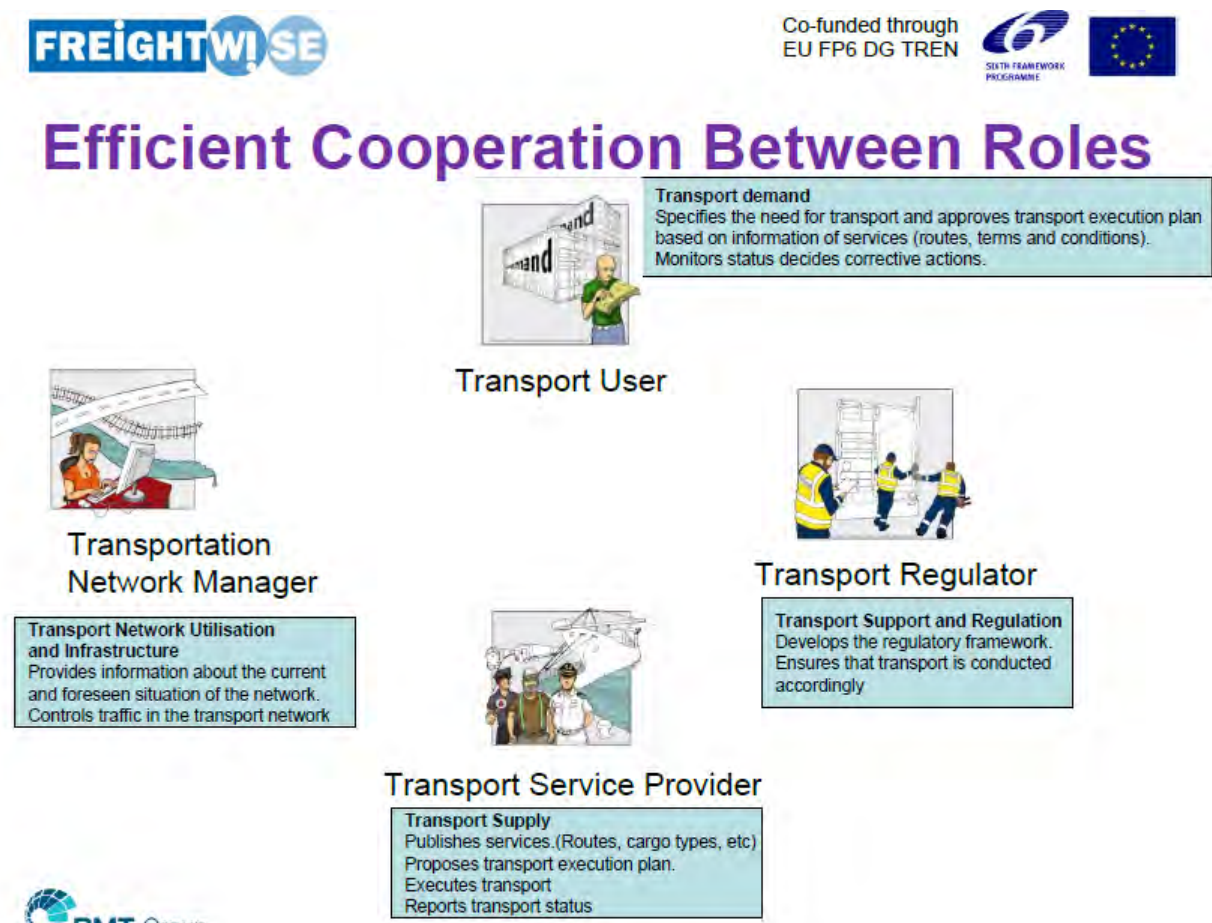
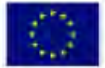


Figure 5. The main roles of the model FREIGHTWISE

Accordingly is developed a competence model in intermodal transportation:



Co-funded through
EU FP6 DG TREN



Reference Model

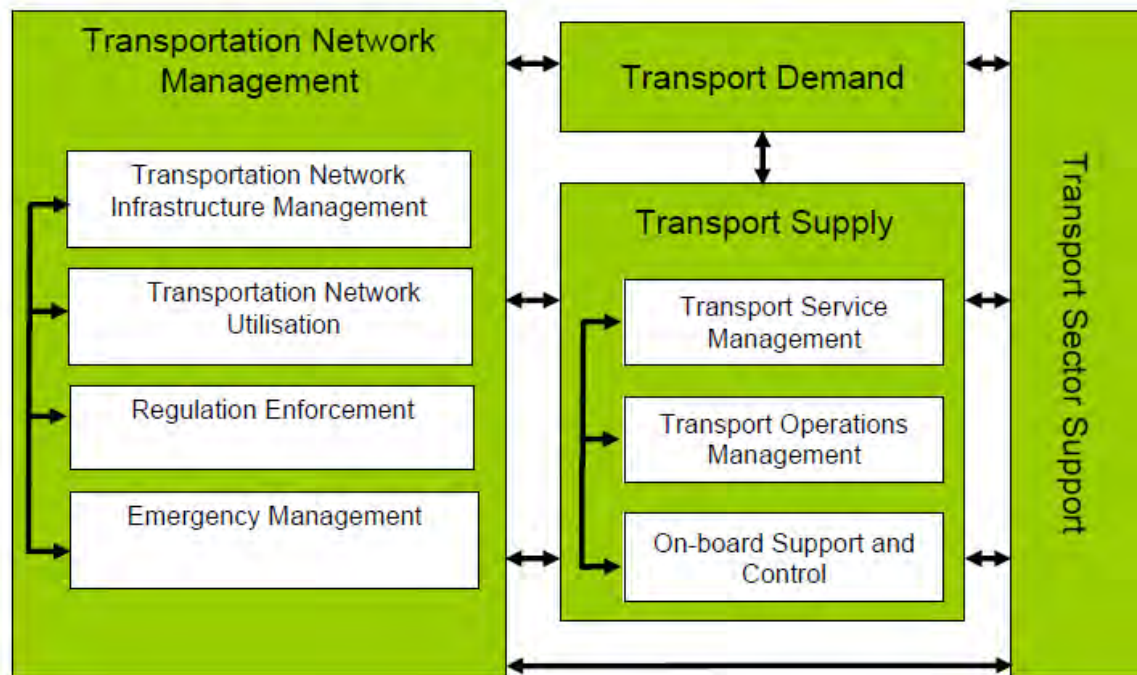


Figure 6. FREIGHTWISE reference model

Freightwise structure uses six messages:

1. Transport Service description
2. Transport Execution Plan;
3. Transport Execution Status;
4. Transport Item Status;
5. Transport Operation Status;
6. Network Status and Traffic.

All the information needed to publish, distribute, advertise, order, execute and bill the intermodal services is within those messages.

This order (booking) simplification has a significant impact on intermodal freight transportation

6.8. Harmonization within the framework of OSJD

Since one of the EWTC parts is at the same time a part of the OSJD, 1520 mm gauge-based railway co-operation system, this section will briefly review areas and the criteria that are marked out in the OSJD co-operational activities.

It is useful to know for this work by what parameters are the OSJD transport corridors described. Part of EWTC is as well in the database of OSJD transport corridors (see below).

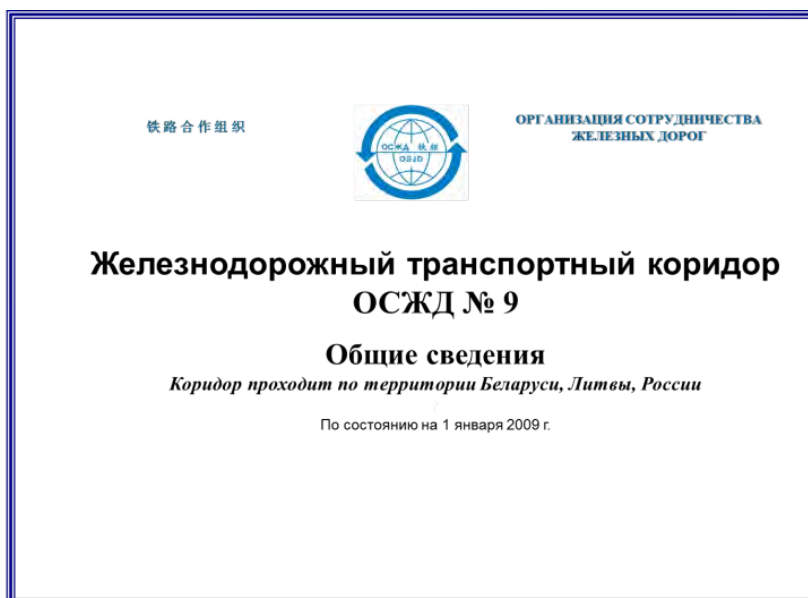


Figure 7. OSJD corridors Database - Description of the transport corridor No. 9

In the next figure in a concentrated way are provided parameters being used in the rail transport corridors descriptions.

Основные технические характеристики участков коридора № 9

Участок коридора	Длина участка, км			Ширина колеи, мм	Наибольший габарит подвижного состава	Вид тяги		
	всего	2-путн. и более	1-путн.			тепловая	электрическая	
							постоянный ток, напряжение 3 кВ	переменный ток, напряжение 25 кВ, частота 50 Гц
1	2	3	4	5	6	7	8	9

Узловые станции

Наименование участка	Классификация (сортировочная, участковая)	Время простоя вагона, часов			
		транзитного без переработки		транзитного с переработкой	
		2006 г.	2007 г.	2006 г.	2007 г.
1	2	3	4	5	6

Контейнерные терминалы

Наименование	Характеристика (выполняемая работа)	Тип перерабатываемых контейнеров (футов)	Перерабатывающая способность, TEU в сутки	Площадь, тыс.м ²	Емкость контейнерной площадки, TEU
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Пункты пересечения границы

Участок коридора	Наименование перехода	Наименование станции	Выполняемые операции	Норматив времени, минут (эксп./импорт)	Общая продолжительность стоянки, мин (эксп./импорт)	
					Норматив	факт

Администрации

Направление, в т.ч. участки	Дорога, адрес, телефон, факс, e-mail	Региональная дирекция, адрес, телефон, факс, e-mail	Пограничная служба, адрес, телефон, факс, e-mail	Таможенная служба, адрес, телефон, факс, e-mail
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Figure 8. Database of the OSJD corridors - parameters characterizing the transport corridor

6.9. Project SuperGreen

The EU 7th Framework Programme project SuperGreen (Supporting EU's Freight Transport Logistics Action Plan on the Green Corridor Issues ") <http://www.supergreenproject.eu> started in January 2010 in. It aims to support the EU's freight logistics in environmentally friendly ways. Environmental factors are play an increasing role in all transport modes and the project aims to formulate a common approach to environmental protection in the transport development process.

For our study it is of interest the method of description of the selected European transport corridors (Figure below). It should be noted that EWTC is among the selected corridors, as shown in a Figure below.

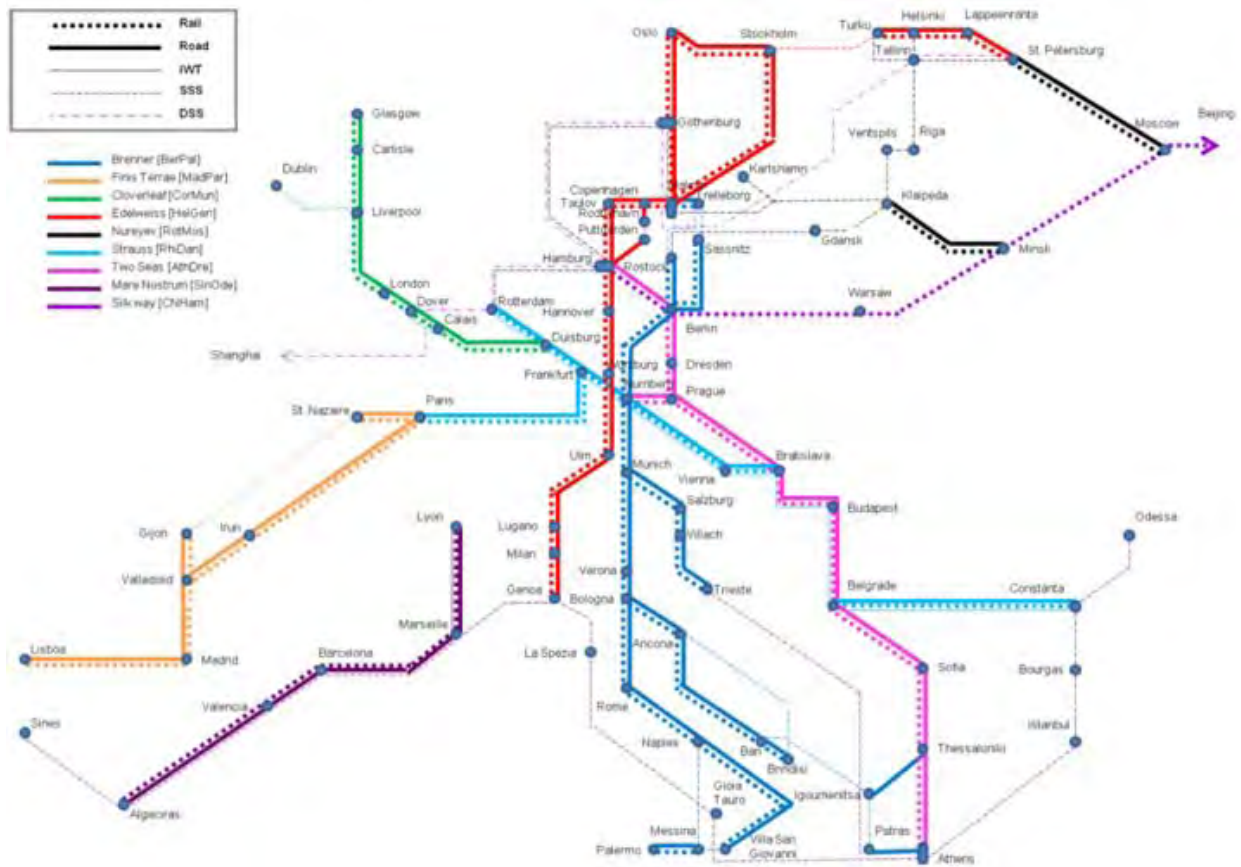


Figure 9. SuperGreen project - the selected transport corridors

At the beginning of the SuperGreen project the corridor list was drawn up based on the following data: length of the corridor, population, bottlenecks, transportation volumes, type of cargo, multimodality, geographical conditions, the use of information technology and transportation technologies, supply chain management and transportation customers.

The corridor card of the Supergreen project consists of the following data:

- name of the corridor;
- modes of transport;
- estimate time spent on the corridor;

- route length for different modes;
- total length;
- transport volumes (tons / yr., TEUs / yr., cars / yr.);
- ports;
- the estimated population, influenced by the corridor;
- the main cities on the corridor (name, population);
- the countries involved;
- the geographical preconditions affecting the transport corridor;
- climate;
- geomorphology (relief and so on.)
- geographical barriers;
- the existing transport infrastructure, on-going and future projects;
- key problems and bottlenecks on the corridor;
- land use planning aspects (the width of the corridor, description of traditional use of the land next to the corridor, the interrelation between transport and use of this land, existing problems);
- multimodality (number of combinations of modes in groups of cargo);
- Capacity utilization (approximate% rating, related problems, specifications, capacity utilization by mode, capacity utilization by port etc.);
- the main types of cargo (liquid and dry general, containers, etc.);
- how long the transportation chain is functioning in the corridor (long-distance transport part);
- used to transport and information technologies;
- the nature of supply chains, using the corridor (full loads, less than full loads), the management strategy and the main procedures of transport clients;
- additional information.

6.10. Best Practice Guide for Railway Network Statements Final Report 2010

http://ec.europa.eu/transport/rail/studies/doc/2010_best_practice_guide_for_railway_network_statements.pdf

This study commissioned by the European Commission recommends that Corridor statements should present an overview of the corridor, of the infrastructure concerned and of any special arrangements for access and capacity allocation (for instance one stop shops) pertaining to it, with links to the Network Statements of individual infrastructure managers.

EU's "open access" policy implemented by the European Commission provides a "competition on the roads" between the rail operators. Introduction of the market players in this rail sector requires an easy and fair access to information about the network. The need to provide a comprehensive, updated and open information comes from:

- the need to provide all users with the same information (both newcomers and old operators);
- the need for efficient use of often scarce rail capacity;
- the need to establish the transparent and common procedures of allocation of such capacities.

The proposed general structure of the RailNetworkEurope is following:

1. Conditions of access;
2. Available infrastructure;
3. Capacity allocation;
4. Service facilities and supply of associated with rail services;
5. Minimal charges of access package;
6. Charges for services.

6.11. Information Systems in Transport

The entirety of information systems in transport is well reflected in the scheme of the project Freightwise:

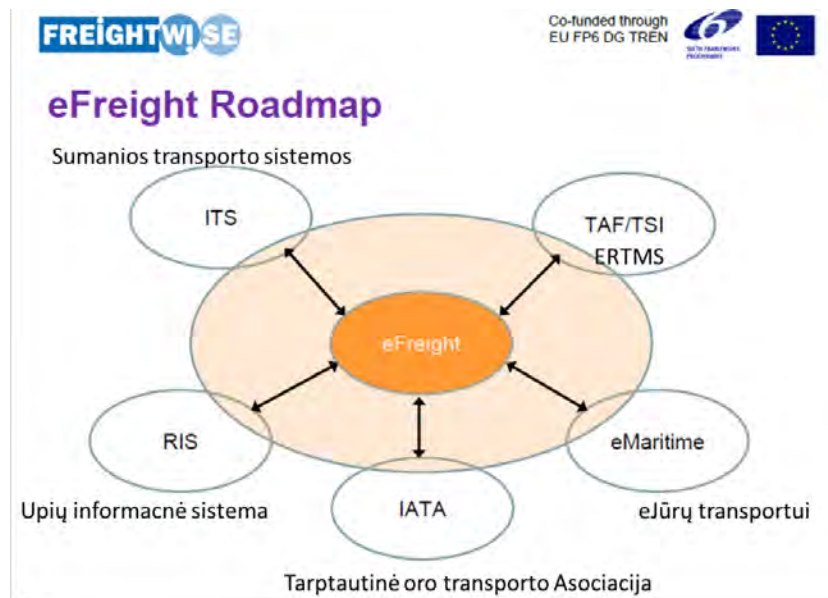


Figure 10. The Scheme of the eFreight tools of the project Freightwise.

Separately should be mentioned the ERTMS (European Rail Traffic on the Management System ERTMS) - the Signalling and Train Control System. It consists of two primary components: ETCS (European Train Control and Command System) and GSM-R (radio system information to the train.) ERTMS implementation status in EU countries in 2010 is shown in the next diagram.

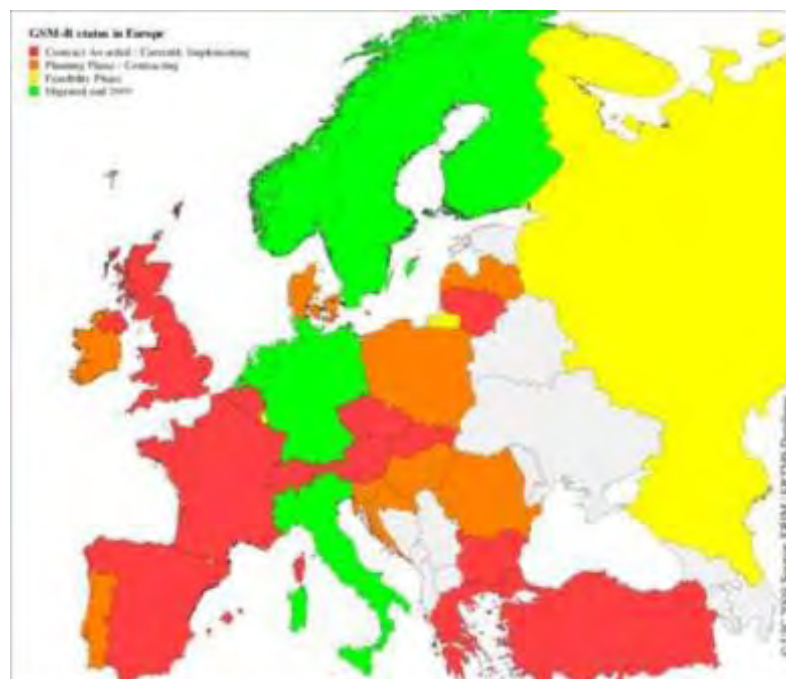


Figure 11. ERTMS deployment status in the EU in 2011

6.12. Personnel training

Separately needs to be mentioned the personnel training system of the European Logistics Association developed and implemented for its members, which consists of quite a few levels: the strategic level, senior level and level for maintenance and operations.

7. VALUE OF BEST PRACTICES **FOR BENCHMARKING IN THE EWTC CORRIDOR**

12 different cases of international cross border harmonization of the transport systems in transport corridors are examined in the part 7.

As can be seen from a wide variety of programs and activities being carried out on different levels - from the Framework Programme research Projects to activities of institutions and enterprises, providing transport services - this research topic is modern, relevant and this work is being carried out in due time.

This material argues the importance of a complex and comprehensive approach to transport corridor as the result of targeted and harmonized efforts of all levels of institutions and enterprises which are in one or another way involved into development of the transport and logistics infrastructure, improvement and delivery of services.

Key Performance Indicators are of key importance for benchmarking of the effectiveness of harmonization.

The EU FP7 project BE LOGIC summarized the specific performance criteria grouping them into 18 groups, expressed graphically their use in the projects.

As can be seen from the picture below, the most usable quality criteria is customer awareness about the progress of transportation and cargo status. Other mostly used criteria are: the rolling stock availability, transportation reliability and punctuality, transit times and other criteria.

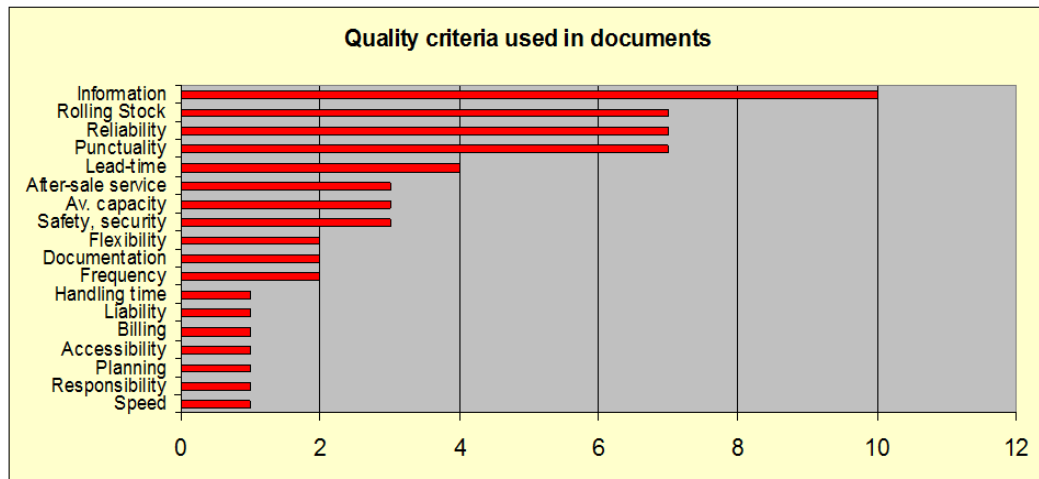


Figure 12. BE LOGIC: use of performance criteria in various projects

The same project BELOGIC has minimized the number of KPIs on the supply chain from over 40 indicators down to six parameters for use in the benchmarking instrument – a main outcome of the project: transportation costs, time, flexibility, reliability, quality and environmental impact.

Transport cost quotation)	Total costs of the transport
Transport time	Total time it takes for the complete transport
Flexibility	The extend of flexibility in transport services offered
Reliability (punctuality)	This indicator assesses the number of cases the transport arrived on time versus the number of cases the transport didn't arrive on time.
Quality	This indicator assesses the quality achieved in delivering accurate tracking&tracing, documentation and invoicing
Sustainability	This indicator assesses the extent to which the company conducts business in an environmentally friendly way

Figure 13. BE LOGIC: six indicators in the supply chain benchmarking instrument

As examples for usage in the preliminary JRC two quality agreements being elaborated on a European-wide level.

1. Quality charter between the CER - Community of European Railways, UIC - International Railway Organization and the CIT - International Railway Transport Committee.



With this act, agreed that the contracts between customers and freight rail service providers will provide criteria of the service quality:

1. Responsibility. Specified in line with the CIM conditions.
 2. Safety as highest priority: to move freight in secure conditions, free of damage, with respect for environment.
 3. Planning the service planned for the customer – service frequency, departure, arrival times and transport order deadlines.
 4. Punctuality and reliability. Contracts shall provide compensation if unacceptable reliability and punctuality.
 5. Information -transport status information.
 6. Rolling Stock - sufficient, clean freight rolling stock in a timely manner.
 7. Billing - transparent billing arrangements.
 8. After-sale service - the timely resolution of any matters under the terms of the contract.
2. In October 2006 FIATA, UIC and CIT have signed a document “Guidelines for the development and implementation of quality agreements for specific trainloads in international conventional rail freight traffic”.

It was agreed that quality indicators fixed contractually between the RU and the clients constitute a basis for measuring the agreed quality, and can include:

- punctuality and reliability with transport-specific time allowances;
- no-claims bonus, claim settlements and accounting;
- secure loading conditions;
- wagon supply (model-specific despatch and availability);

- train cancellation;
- reliable information:
- content: e.g. punctuality, wagons out of sequence;
- frequency: e.g. level, measuring points;
- after-sales service.

Based on above presented materials, 6 benchmarking areas of activities may be segregated:

- transport policy;
- infrastructure development;
- technological interoperability;
- business development;
- administrative procedures;
- 'green corridor' approach .

The following are elements to be benchmarked in every single area of activity (domain):

- In transport policy domain:
 - Vision and strategy for common rail transport development along EWTC;
 - Legislation in the field of transport;
 - The investment policy;
 - Expansion of the spirit of cooperation along EWTC.
- Infrastructure development:
 - Development of the railway tracks;
 - Intermodal terminal operations;
 - Integration of ports on the corridor;
 - Activities of the shipping lines.
- technological interoperability:
 - Rolling stock;
 - Operations;
 - Information technologies;

- Standardization.
- Business Development:
 - Quality assurance;
 - The economy;
 - Fees and charges;
 - Scope of services;
 - Route management;
 - Co-ordination activities;
 - Marketing.
- Administrative procedures :
 - Documentation;
 - Customs procedures;
 - Border crossing.
- Embodying the "Green corridor" approach:
 - Social impact;
 - Protecting the environment.

8. CONCLUSIONS

The analysis, made during the work highlighted the areas that need for improvement.

Intermodal terminals are an important element in the infrastructure domain. Already now it is necessary to plan new and more capable terminals for the period, when the load of terminals will increase significantly.

Public logistics centres with well-equipped facilities from one side would attract the global logistics market players to the corridor and from their side would help develop the activities for small and medium-sized enterprises, which themselves cannot provide sufficient financial capacity and the establishment of logistics centres and create the infrastructure required for their functioning.

Today EWTC includes well-developed ports with linking them network of shipping lines. Continue to be elastic in their development should further be performed in tight interface with all elements of the transport corridor.

There are good grounds for implementation of high and modern transport technologies. Accelerating the deployment of ERTMS along the EWTC would allow to improve the seamless and quality of services throughout the corridor and to eliminate technical barriers in the interoperability.

The success of the transportation management, service quality and customer satisfaction with the services provided are highly dependent on timeliness and quality of the information along the corridor. There is a need for enhanced research of the one stop shop implementation along the corridor, because the reality this principle is only available in separate sections of the corridor and there is a need for a coherent work to fully implement this principle along the entire EWTC.

Quality of transport services is quite wide and varied considered the concept, therefore the future requires more extensive implementation of quality agreements, because the reality of this principle is only available in separate sections of the corridor and there is a need for a coherent work to fully implement quality agreements along the entire EWTC.

The consistent certification in the sections of the corridor accordingly requirements of International Standards Organization ISO quality certificates and accordingly upcoming through the work package WP3 of the EWTC II project concept of the Green Corridor certificate would allow to harmonize the most important procedures, documentation, services, procedures, customer information system.

In addition to the quality of services, the price is a key criterion in the choice of the mode of transport (and hence the transport industry) and in a final result determines the competitiveness of the rail and intermodal transport. Due to historically weakly developed relationships between rail transport systems of the EWTC countries on different sides of the Baltic Sea, was no co-ordination to achieve competitive freight tariffs throughout the corridor so far. Such coordination is a positive practice in different parts of the corridor (e.g. for the shuttle-train train Viking Klaipeda-Odessa there is in force agreement on single tariff between railway operators of Lithuania, Belarus and Ukraine), but coordination on the EWTC level is not in progress.

The scope of transportation services must be systematically addressed between the EWTC partners in order to harmonize and make available the right decisions all along the corridor in purchasing equipment and machinery, in the planning of infrastructure, superstructure, the development of information technologies etc.

Not yet sufficiently developed the personnel training and exchange of professional information along EWTC; including of indicator into the concept will allow to monitoring this important factor.

The study shows that administrative bottleneck occur not only on the shortcomings of the by-laws, but also because of technological obstacles.

It is important that the rail and intermodal transport development along EWTC activities are going under long-term strategy and planning. The Green Corridor Manual being under preparation in frame of the work package WP3 of the EWTC II Project the will provide a full range of measures for EWTC development and organization. This document should be recognized and widely used in institutions of all states along the EWTC. It should be noted that there exists a great potential for solutions of environmental issues in EWTC corridor due to wide spectrum experience, accumulated in different countries of the corridor.

A large part of the presented in this work necessary activities to create a competitive intermodal transport corridor can be implemented only by harmonizing of national legislation; governmental agreements often are necessary for this.

The competitive conditions in EWTC countries are not yet equal. Only the state a power to create such conditions through tax and public finance policies. Tax gap is a major.

There are good traditions and good practice EWTC of such interaction in the EWTC space at all levels: on international level (EWTC Association, which unites members from 11 EWTC countries) on the national level (National Transport and Logistics Associations, the Lithuanian Intermodal Transport Technology Platform etc.), partnerships in international projects (Interreg, Baltic Sea Programme etc.). However, it is necessary to monitor the level of integration to deepen a process of co-operation and to meet the global challenges of competition between the global regions.

Lithuanian Railway Information Systems specificity and lack of a unified normative database did not open for accession to the Information broker system in the EWTC II Project. Lithuanian Railways first 1520 mm gauge railway implements the Telematics Application for Freight TSI implementation of the project under the EU Regulation. The introduction of the TAF TSI system will improve interaction the European rail systems.

The work on benchmarking along the EWTC will be further developed in the study on Joint Rail Concept, where the final benchmarking report for present services/systems based on analysis, visits, interviews and round table discussions with private stakeholders will be presented with general recommendations and business plan for further use in the EWTC.

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