

# BALTIC – ADRIATIC CORRIDOR AND COOPERATION

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## Introduction

The project "Sonora" was launched in November 2008 and provided for the implementation by February 2012. "SoNorA " as one of the projects based on international cooperation is funded under the priority of priority "Accessibility " from Operational Programme "Central Europe". One of his main aims is succour for Central Europe regions to increase transportation accessibility along the north - south axis between Adriatic and Baltic Sea. One of the aims of this research has been developing the idea of the 4th Consortium and 5h Steering Group Meeting of the Baltic-Adriatic Transport Cooperation, which has been held in May 2012 at Gdańsk.

The idea of BAC start from Austrian, Czech Republic, Italy Poland and Slovakia ministry of transportation, who in 2006 Italy

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signed a letter of intent to expand the TEN-T PP25 (road) and Trans European Transport Network TENT-T PP23 (railway) in order to form a transportation corridor between Baltic and Adriatic Corridor.



Figure 1. Baltic – Adriatic corridor (Source: <http://www.Baltic-adriatic.eu/en>)

Then 14 European countries signed a declaration calling for implementation of the Baltic-Adriatic Corridor between Gdansk and Bologna in 2009. Earlier, at the end of 2008 starts first works from the 33-km long Koralm Tunnel in Austria. In October 2011 the Baltic Adriatic Corridor was extended by Rail Baltica to include a link between Warsaw and capitols of Baltic states and Finland.

The last step has been made, when the Italian Minister of Infrastructure and Transport on April 2012 reaffirmed the Italian government's commitment to extend the Baltic-Adriatic Corridor as far as Ancona, 325 km south of Venice. With about 22-24 million tons of freight per year, the Baltic-Adriatic Corridor is among the most important cross-Alpine lines in Europe.

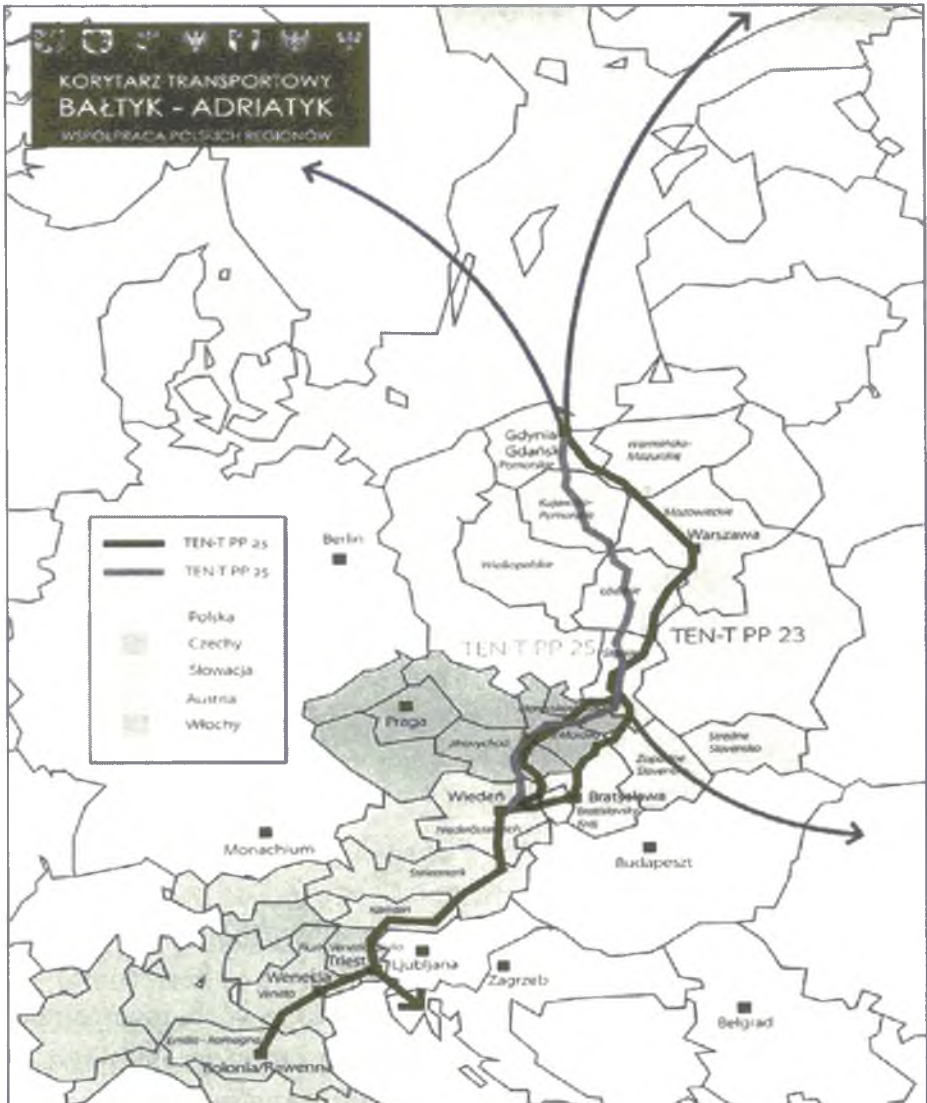


Figure 2. European Regions on the Baltic-Adriatic Corridor

(Source:<http://www.mbpr.pl/bac.html>)

This high-capacity railway connection from the Baltic Sea to the Adriatic is therefore a necessary precondition for further economic development along the corridor. Transferring the flow of goods to the railways will also be an important contribution to achieving the climate protection goals set forth in international agreements number of conurbations which are located along the Baltic-Adriatic Corridor and high-capacity railway connection means enormous potential for development of passenger traffic. In addition, the people living in areas with comparatively poor infrastructure will gain improved access to the railway system. Fast connections from landlocked Central European countries to the Baltic Sea and the Adriatic ports will be ensured. After its completion, the corridor will represent an excellent opportunity to relieve the heavily frequented north-south connections from the ports in the North of Europe. ([www.ec.europa.eu/eurostat](http://www.ec.europa.eu/eurostat))

### **Motorway of the Sea Gdynia – Karlskrona**

Extension of the eastern corridor of "SoNorA" project in the north is motorway of the sea between Karlskrona and Gdynia. This project was aimed to achieve for the period 2009-2011. It provides the realisation of infrastructural investments in sea ports of motorway particularly from TEN-T budget to height about 50% of eligible costs.

These investments include:

- building of intermodal terminal and logistic centre in Alcesta, Sweden;
- modernization of railway line Karlskrona - Goteborg in system Coast-to-Coast;
- extension of ferry terminal in Karlskrona with investments combined with improvement of the transportation accessibility;
- building the port infrastructure for handling ferries with improvement of the transportation accessibility in Gdynia.

The development of the sea motorway Gdynia – Karlskrona will cause many positive results for economy and environment in Poland and all EU. These include:

- the consolidation of Polish position in forming transport policy in EU;
- it will realize the idea of sustainable development in region of Baltic Sea across development of Short Sea Shipping, development of intermodal transportation as well as logistics;
- to increase cohesion and interoperability for freight and passenger;
- the possibility of running a new logistic chain in the north-south relation by Czech Republic, Slovakia, Hungary, Austria, Italia, Slovenia and Croatia;
- decrease of negative influences on environment by limitation of predominant position of Germany, Denmark and Netherlands in service of loads for Poland and transported by roads;
- generalization of intermodal transportation by increasing of railway transportation and decreasing of road transportation;
- improvement the safety of transports, mainly because of decrease the road accidents;
- relief highways in Netherlands - Germany - Poland;
- decrease the emission of carbon dioxide;
- the intensification of trade exchange in region of the Baltic Sea.

### **Port of Gdynia**

The geographical extreme point for eastern route of project (agreeing with VI Transportation Corridor) in Poland is the port in Gdynia. This port specialises in service of package cargos, containers and ro-ro transports. It possesses wide participation in creating international trade. Gdynia has regular shipping routes to Scandinavia, Great Britain, Germany, to harbours of North and South America. The total volume of cargo transported via the port of Gdynia is described in the table 1.

Table. 1. Goods loaded and unloaded in Gdynia in years 2005-2011 (thous. tonnes)

Year	Quantity
2005	12 230
2006	14 199
2007	17 025
2008	15 467
2009	13 257
2010	14,735
2011	15,911

Source: Own elaboration based on „Gospodarka Morska – Statistical Yearbook”, 2006-2012.

Noticeable increase in the volume of transported cargo in 2007, when the port has reached the best result during the period compared to 2005 by over 39% (fig. 1.). It was result of accession Poland to EU and facilitation export and import of cargos from the Czech Republic, Slovakia, Austria by port of Gdynia. Decrease of transported cargos by port in Gdynia was caused by economical crisis and general decrease od import and export in all EU. Recipients have limited their imports of goods due to the inability to sell the goods in their own markets and significant currency fluctuations. But it is a common phenomenon throughout the world and it should not be considered only in terms of the port of Gdynia.

In order to the correct development of logistic functions for "Adriatic - Baltic Landbridge" it is necessary to establish the base scenario. It provides:

- investments in the development of current networks container trains;
- the creation of co-ordination Landbridge Agency;
- to develop a concept of the project;
- create a network of container terminals;
- a network of logistics centers;

- creating innovative handling technology.

In view of the structure and size of cargo handling and a high degree of containerisation, the port of Gdynia should develop distribution and logistics function. That's way next to the port is arising Logistics Centre in the Port of Gdynia (figure 2.).

General usage the principle "just in time" in logistics and more and more large specialisation in production, trade and services mobilizes to creating new technologies in transportation and storage. The role of logiscics centre should depend on attendance of loadings which are reloaded in port, increasing their value and realizing demands of customers.

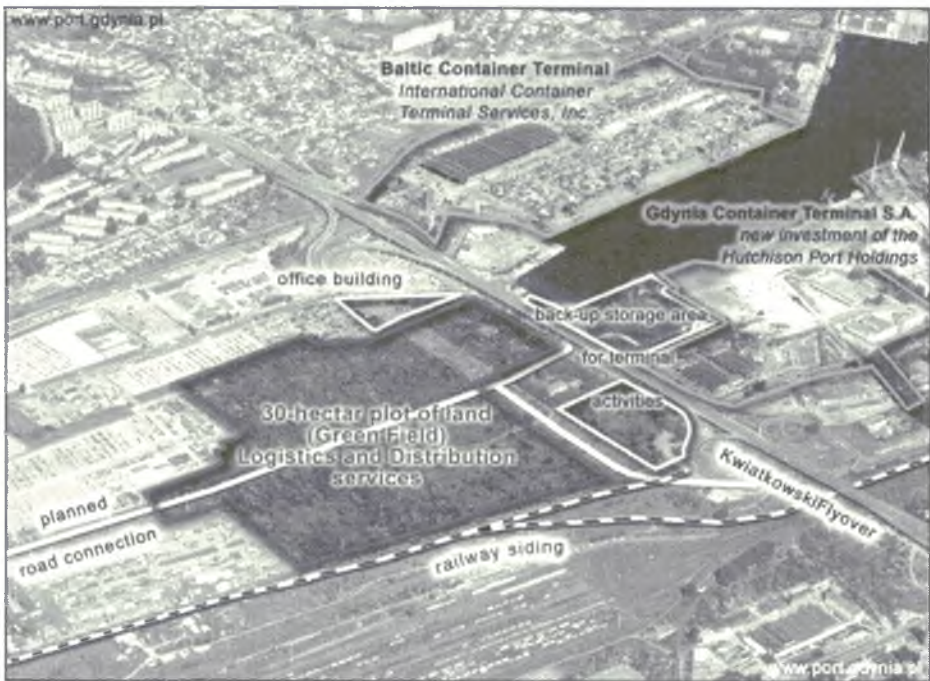


Figure 3. Planned Logistics Centre in the Port of Gdynia  
(Source: Port of Gdynia - [www.port.gdynia.pl](http://www.port.gdynia.pl))

The Logistics Centre will be developed on 30 ha ground. It will be localized in close neighbourhood of partly developed area,

which is used by operators who are dealing logistics on terrain of West Port. This terrain contiguous with the container terminal and it's surrounded by railroads, which will be used in close future for logistics.



Figure 4. Map of railroad Baltic – Adriatic  
 (Source: www.sonoraproject.eu)

### Railroad Gdańsk – Adriatic

The main railway elements in the eastern corridor of project Landbridge is line Gdynia/Gdańsk - Tczew - Warszawa - Katowice - Zebrzydowice/Bohumin - Vienna - Graz - Klagenfurt - Villach - Udine with three branches: Villach - Rijeka, Udine -



Venice, Udine - the Koper. On the terrain of Poland, except exchanged sections, there are alternative sections: Tczew - Inowrocław - Katowice and Zduńska Wola - Łódź - Warszawa.

In majority in Poland are unadjusted lines to achieve high speeds. Only in the south section Zebrzydowice - Bohumin are admissible speeds 121-160 km/h. In the rest part of rail corridor in Poland trains can achieve speed about 50-120 km/h, which is enough good speed for cargo trains, but not for passengers.

Much better situation is in the Czech Republic. Trains on whole section from Bohumina to Breclav can achieve the crossing speeds 100 km/h, and mostly they can achieve speed about 145-160 km/h. Also Austria hasn't got any problems with railways. This country possesses one of the best developed trackage in Europe. It causes the development of transports by railway. In years 2005-2008 intermodal transportation grewed up from 1416 to 1783 millions tkm, which lets almost 26% growth in whole period scale.

### **Highway Baltic - Adriatic**

Highway from Baltic Sea to Adriatic Sea is the main road element of project Landbridge. In each country make it:

- in Poland by planned A1 highway as international road E75;
- in the Czech Republic as D1 highway from Bohumin to Brno as international road E462 and expressway R52 from Brno to border with Austria in Mikulov as international road E461;
- in Austria by planned A5 highway from the Czech Republic border to Vienna as international road E461 and from Vienna to Italian border as highway A2 as international roads E59, E66 and E55;
- in Italy by highway A23 and A4 as international roads E55 and E70 to Venice;
- in Slovenia by A2 highway (E61) from border with Austria to Ljubljana and the highway A1 (E59, E57, E61) to port of Koper;

- in Croatia by highway A2 from border of Slovenia to Zagreb as road E59, further as highway A1 (E65) to Bosiljeva and the highway A6 (E65) from Bosiljeva to port of Rijeka.

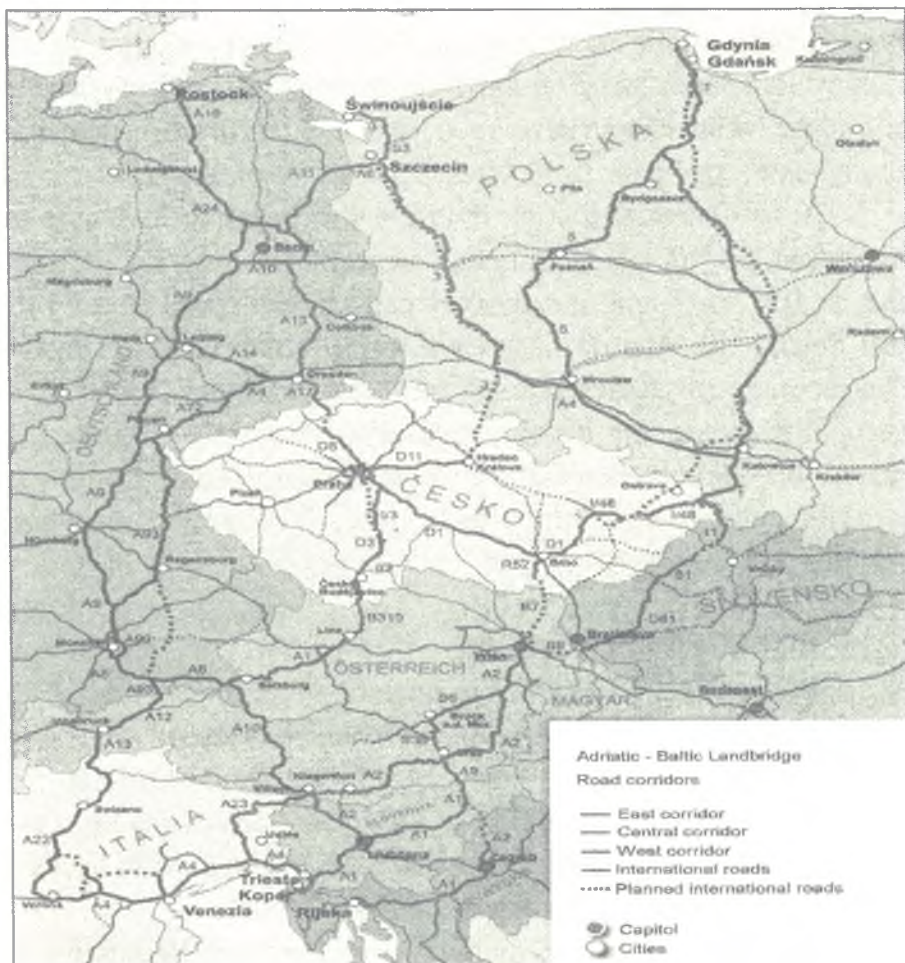


Figure 5. Highway Baltic - Adriatic  
(Source: SMAB: [www.smab.pl](http://www.smab.pl))

Polish A1 highway in whole length is in borders of Adriatic - Baltic Landbridge. This project connect Tricity with the Czech border in Bohumin. Till the September 2010 devoted to use was only 156,4 km of 568 km of whole highway, which give the degree

of feasibility like 27,5 %. Whilst remaining 411,6 km are in building or on the geodesical investigations of soils.

In the case of the Czech section of the corridor in September 2010 was performed with the planned 167.7 km about 229.2 km, which gives a result over 73%. The unfinished fragment of highway D1 is located between Kroměříž and Lipník over Bečvou and a fragment of expressway R52 from Pohořelice to border with Austria.

In case of Austrian highway A5 connected Vienna with the Czech Republic in September 2010 was executed 23,5 km of 57,5 km and whole highway A2 from Vienna to border of Italy with length about 371 km. It gives the result about 92%.

However roads included in Adriatic - Baltic Landbridge in Italy, Slovenia and Croatia are on present day fully exploited. The lowest level of realised road investments is in Poland and it is about 27.5%. As a main causes of delays in building transportation network should be included mistakes of transport policy:

- changeability the programmes of transportation development;
- distracted investment outlays;
- the lack of consequence in construction of roads.

Frequent changes of development programmes and lack of consequence in their realization brought to creating a model of delayed development of transportation. In spite of expenses from state budget on the development of infrastructure on level 2% of GDP with required 1,5 % the progress of realization the investment is still discontent. On this basis is possible to concluded that level of expenditures is not only one or basic obstacle in development of infrastructure. Additional barriers are result of market surroundings and they are:

- significant increase in prices of building materials called "boom" in building;
- the shortages of qualified personnel having qualifications in civil engineering infrastructure;

- limited capacity building materials manufacturing sector through the limited choice of technology.

The additionally reasons of non-efficient realization of investment are complicated legal procedures which regulate preparing, funding and realisation of investment projects. Because of more and more complicated legal system administration which is responsible for realisation of projects in not able to create procedures and the risk of making mistakes is growing up.

### **Baltic-Adriatic corridor – benefits due to the Austrian projects<sup>22</sup>:**

- Elimination of the most problematic bottlenecks along the entire corridor
- An important contribution to creating a continuous trans-Alpine high-capacity connection between the Baltic Sea and the Adriatic
- Intermodal linking of traffic flows and connection to numerous European main corridors
- An important contribution to eliminate structural and geographical disadvantages for the Provinces in the south
- Vienna Main Station: Construction of the most important railway hub in Central Europe. Trains will no longer end in terminal stations, but may be connected to international railway lines
- Reduction of travel time from Vienna to Graz (currently about 2.5 hrs.) to two hours; Graz - Klagenfurt (currently approx. 3 hrs.) to one hour, and Klagenfurt - Vienna (currently approx. 4.5 hrs.) to three hours
- More freight can be shifted to the railways due to the concept of the track as a plane railway line with massively shortened travel times.
- Increasing the railways' competitiveness in comparison with trucks; improved modal split
- High market development potentials for passenger traffic

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<sup>22</sup> <http://www.baltic-adriatic.eu/en/baltic-adriatic-axis/corridor-1>

## Ports of Adriatic

Extreme points for Adriatic - Baltic Landbridge in the southern Europe are sea ports in Venice (Italy), Koper (Slovenia) and Rijeka (Croatia). As is apparent from the data (table 2.) measures port of Venice is characterized by stagnation in the volume of transshipped cargo (fig. 3.).

Table 2. Goods loaded and unloaded in Venice, Koper and Rijeka in years 2006-2010 (thous. ton)

Year	Venice	Koper	Rijeka	Triest
2006	34 886	15 391	-	44 644
2007	34 933	15 805	13 212	39 833
2008	32 985	16 499	12 391	37 195
2009	-	14 591	-	40 986
2010	26 368	16 198	10 200	47 418

Source: Eurostat Statistics – <http://ec.europa.eu/eurostat> & [http://www.stat.si/doc/pub/slo\\_figures\\_12.pdf](http://www.stat.si/doc/pub/slo_figures_12.pdf)

The size of transported goods fell down from 33 082 thous. tonnes in year 2005 to 32 985 thous. tonnes in year 2008. This is decrease of 0.03% volume, is quite small for such a large center port (the largest in the Adriatic - Baltic Landbridge).

Much better is the situation in the port of Koper. The volume of cargo at this port increased in 2005-2008 from 12 540 thous. tonnes to 16 499 thous. tonnes - 31,6%. Such a large increase in cargo transported may be caused by:

- Slovenia's accession in 2004 to a group of ERM II countries;
- the introduction of the Euro on 1 January 2007;
- the development of a national network of expressways and highways.
- The last of the ports of the eastern part of corridor Adriatic - Baltic Landbridge is the port of Rijeka. As the only reported is outside the borders of EU. The available statistics for the port concern the years 2007-2008 (fig. 5.). We can see only a slight decrease in the loaded cargo from 13 212 thous. tones to 12 391 thous. tones - a decrease of 6.2%. Because of lack of data from the

earlier period it is impossible to establish whether it is a general downward trend or a temporary result of economic crisis<sup>23</sup>.

### **Summary**

Sea ports in the Adriatic - Baltic - Corridor offers a very favorable competitive conditions and load handling. That allows their logistical potential and getting better-developed network of road and rail transport. In the coming years, capacity will be further increased through the development of logistics centers. Practice has shown that we can't wait for the next years to improve the competitiveness of the Polish part of the corridor. It becomes necessary therefore to develop multimodal transport rail-sea using the existing infrastructure. Despite of a temporary reducing in the materials transported by ports, it is estimated that the Adriatic - Baltic - Corridor will happen in the future the largest in Europe transport corridor.

### **References:**

Gospodarka Morska: Statistical Yearbook, Institute of Marine, Gdańsk, 2006-2011

<http://www.baltic-adriatic.eu/en/baltic-adriatic-axis/corridor>

<http://www.ec.europa.eu/eurostat>

<http://www.mbpr.pl/bac.html>

<http://www.port.gdynia.pl>

<http://www.portsofnapa.com/>

[http://www.stat.si/doc/pub/slo\\_figures\\_12.pdf](http://www.stat.si/doc/pub/slo_figures_12.pdf)

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<sup>23</sup> <http://www.portsofnapa.com/>