

## **POLAND IN THE PAN-EUROPEAN TRANSPORT CORRIDORS NETWORK**

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### **ABSTRACT**

Poland is strategically located in the centre of Europe. In the past this geographical position was the cause of many hardships, in particular of political nature. Nevertheless, after the accession to the European Union, it is becoming one of Poland's main assets. It is of great significance to international transport services rendered between the Baltic Sea Region and Southern Europe. The aim of this article is to elaborate on the importance of Pan-European Transport Corridors running via Poland for international transport service in Poland.

In the Baltic Sea Region (BSR) the sea transport represents over the half of the overall trade in the region. In the case of Poland the figure amounts to one third, however, it is estimated that the Polish share in the trading activity with the BSR states will be systematically increasing until 2020. The Polish maritime transport faces the increasing competition from the other transport modes – road and railway.

It is more favourable for Poland building highways connecting the North and the South than the East and the West, since it will create conditions for cargo sent from Polish ports to bypass German harbours.

**Keywords:** *Pan-European Transport Corridors, Baltic Sea Region*

## **POLAND IN THE PAN-EUROPEAN TRANSPORT CORRIDORS NETWORK**

### **PAN-EUROPEAN TRANSPORT CORRIDOR II**

The representatives of the European Union and the Conference of European Ministers of Transport (CEMT) decided about the location of 10 Pan-European Transport Corridors connecting Central and Eastern European countries with the Western Europe during the conference in Crete in 1994 and Helsinki in 1996 (Neider, 2008). The joint declaration on the Pan-European Transport Corridor II development was signed by transport

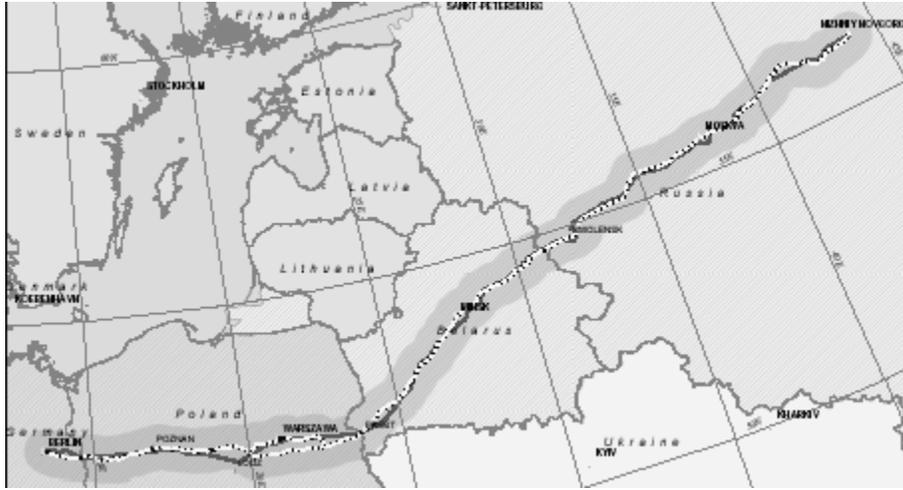
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## Radosław Koszewski

ministers of Germany, Poland, Belarus and Russia, as well as the Russian Railway Minister and the European Commission, on the 23rd of January 1995. The Corridor extends from Berlin, via Warsaw, Minsk and Moscow, to Nizhniy Novgorod (see Figure 1). It connects the European Union countries with the most industrialized regions in Russia and also, owing to the Trans-Siberian Railway, with East Asian countries.

The total length of the railway lines amounts to 2,313 km: 85 km in Germany, 690 km in Poland, 610 km in Belarus and 928 km in Russia. The total length of roads comes to 2,200 km: 85 km in Germany, 868 km in Poland, 604 km in Belarus and 860 km in Russia.



**Figure 1: Pan-European Transport Corridor II**

Source: Pan-European Transport Corridors and Areas Status Report, 2006

It is estimated that only half of the Corridor's transport capacity is being currently put to use. Nevertheless, works enhancing the quality of roads are now underway. They are expected to be finalized by 2015.

In March 2003 the German, Polish, Belarusian and Russian state railways developed a project whose aim was to double the rail market share in the overall transport within the Corridor. The market share currently amounts to about 4% of passenger transport and 2% of cargo transport. The project's guidelines assumed, inter alia, that the maximum transport duration would be shortened from 21 to 7 days. Transport duration is extended due to border controls and technical adjustments resulting from differences in rail gauges. Owing to successful collaboration transport

## Poland in the Pan-European Transport Corridors Network

duration has already been shortened, and in Poland it comes to about 14 hours.

Motor traffic varies depending on the section of Corridor II (Planco Consulting, 2003); and amounts to:

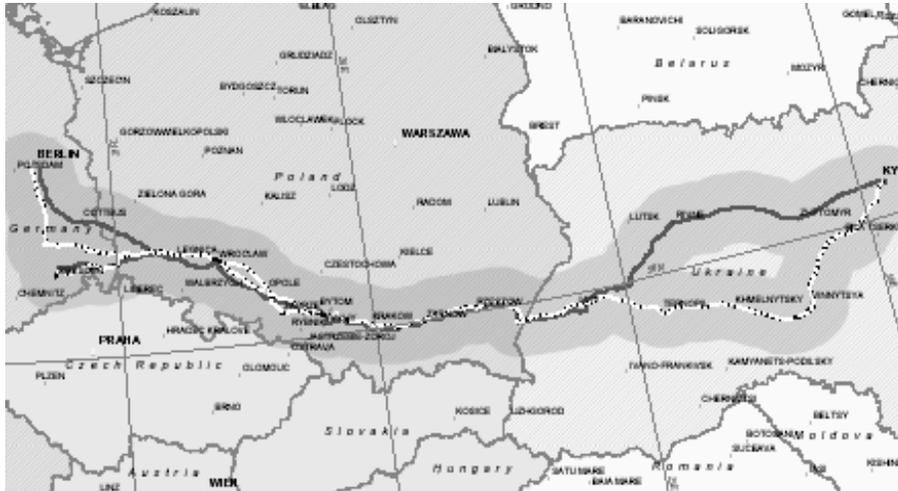
- in 2000, on the stretch of route A 12, leading from Spreau to Frankfurt an der Oder, average daily traffic intensity came to 26 thousand cars, 20% of which were lorries; it is estimated that the traffic intensity may increase up to 35 – 53 thousand cars in 2015,
- the total length of the route leading from the Polish-German border in Swiecko to the Polish-Belarusian border in Terespol amounts to 687 km. Works related to the A2 motorway construction, which is to be completed in 2015, are now in progress,
- in the territory of Belarus, Corridor II extends from Brest to Krasnoje (at the border with Russia) along route M1/E130, with a total length of 604 km; it is a four-lane road with 158 bridges; the maximum permissible speed is 100 km/h, 120 km/h in some sections; 21 attended car parks are situated along the route,
- the Russian section of Corridor II starts in Krasnoje and, via Minsk, leads to Nizhniy Novgorod; it is 860 km long, the number of lanes oscillates from 2 to 6, the road pavement is sometimes in poor condition; modernization works are currently underway.

Railway transport in Corridor II comprises the following routes:

- on the 85-kilometer-long stretch leading from Berlin to Frankfurt an der Oder trains may do up to 160 km/h,
- the Polish stretch of E20 starts in Kurowice and leads to Malaszewicze; modernization of railway tracks is now in progress,
- route Brest – Minsk – Osinowka is 603 km long; plans for modernizing the railway tracks, so that passenger trains could drive at 160km/h, are now being outlined,
- the 489-kilometer-long Russian stretch of Corridor II connects the Belarusian border with Moscow, it is an electrified railway line, it allows for the speed of 120 km/h in the case of passenger trains and 80 km/h in the case of freight trains; the railway line leading from Moscow to Nizhniy Novgorod is 439 km long, it comprises two track lines, it is electrified and allows for the speed of 140 km/h in the case of passenger trains and up to 80 km/h in the case of freight trains; the maximum speed on this route is to be increased up to 160 km/h.

### PAN-EUROPEAN TRANSPORT CORRIDOR III

Pan-European Transport Corridor III leads from Berlin, via Dresden, Wrocław, Katowice, Cracow and Lviv, to Kiev (see Figure 2).



**Figure 2: Pan-European Transport Corridor III**

Source: Pan-European Transport Corridors and Areas Status Report, 2006

The total length of motor roads amounts to 17000 km, railway lines come to 1650 km. Motor traffic in the Corridor III comprises:

- the northern 127-kilometer-long stretch starting in Berlin (motorway A13) and leading via Cottbus to the Polish border, in 2000 average daily traffic intensity came to 40 thousand, 15% of which were lorries, data collected in 2002 indicates that in the vicinity of Boblitz average daily traffic intensity amounted to 18,400 cars, and in the vicinity of Forst to 6,500; the southern 94-kilometer-long stretch connects Dresden with Görlitz, in 2002 average daily traffic intensity came to 25,000 cars, 4,000 of which were lorries,
- the Polish stretch starts in Zgorzelec and leads, via Legnica, Wrocław, Opole, Gliwice, Katowice, Tarnow and Rzeszow, to Medyka; the A4 motorway is now well under construction,
- the motor road leading from the Polish border, via Lviv and Zhytomyr, to Kiev is 617 km long, it comprises 308 km of the 1b category road (four-lane road) and 304 km of the second category road (two-lane

## Poland in the Pan-European Transport Corridors Network

road); the Ukrainian authorities have outlined plans for modernizing this road.

Motor traffic intensity within the Corridor may be estimated by the number of lorries annually crossing the borders. 238 520 vehicles heading for Germany and 210 280 cars going in the direction of Poland crossed the Polish-German border in Forst-Olszyna in 2003. In Ludwigsdorf/Jedrzychowice 470 017 cars crossed the border making for Germany and 532 037 heading for Poland. 32 144 vehicles going in the direction of Poland and 20 060 going to Ukraine crossed the Polish-Ukrainian border in Korczowa/Krakowiec.

According to Eurostat (2006), the average load of international cargo transported via Germany amounted to 15.5 tons in 2003. The corresponding data for Poland was collected in 2004; and then the vehicle load came to 13.9 tons. What follows is that, within the Corridor about 11.5 million tons of cargo were conveyed by means of motor transport from Germany to Poland and 10 million tons from Poland to Germany.

Railway transport:

- the first outline draft of the German stretch of the Corridor III, extending from Berlin, via Cottbus, to the Polish border, was at variance with strategic guidelines of both the Polish and the German state railways. Therefore, the parties agreed that the passenger train route should start in Berlin and lead to Frankfurt an der Oder and Poznan; and the freight train route should extend from Berlin, via Horka, to Wegliniec. The German 102-kilometer-long stretch is not electrified and the trains may drive at the maximum speed of 120 km/h, however, modernization works, aimed at increasing the speed up to 160 km/h, are well underway,

- the Polish 832-kilometer-long stretch (E30/CE30) starts in Zgorzelec (for passenger trains) or in Bielawy (freight trains), and, via Wegliniec, leads to Wrocław, then extends from Krakow and Tarnow to Medyka at the Ukrainian border; apart from standard-gauge railway lines (1435 mm), there is also a broad-gauge railway (1520 mm) leading from Przemyśl to Medyka; E30/CE30 route is now under modernization in order to increase the maximum speed of passenger trains up to 160 km/h and allow for freight trains to drive at 120km/h,

- the Ukrainian stretch extending from Mostyska, via Lviv, Krasne and Kozatyn, to Kiev is 690 km long; this line is electrified.

**TRANSPORT CORRIDORS CROSSING POLAND IN THE GIVEN  
CIRCLE OF LATITUDE**

All pan-European transport corridors, in which Polish ports are participants, are involved in trading activity between the Baltic Sea Region (BSR) states. Sea transport is of great significance to the Polish foreign trade service. It is estimated that sea transport amounts to 30% of the overall trade. In the case of the BSR states sea transport is of far greater importance, as it comes to 50% of the overall trade in the region. In 2003, trade between the BSR states constituted 76% of the overall sea transport, whereas foreign trade with other countries amounted to only 24%. Figure 3 depicts the most important sea and railway transport routes in the Baltic Sea Region.

In 2003, the total Polish export value amounted to 70.4 million tons, of which 34.2 million tons made up for trade with the BSR states. With reference to import, the value respectively came to 75.5 million tons and 37.5 million tons. It is estimated that the Polish share in the trading activity with the BSR states will be systematically increasing until 2020. A significant rise in trade between Poland and Germany will account for the growth. Table 1 illustrates forecasts pertaining to the increase in trading between the Baltic states in 2020.

**Table 1: Predicted Trade Value between the BSR States in 2020 (in thousands of tons)**

		Import from/to										
From/to		Sweden	Poland	Finland	Denmark	Estonia	Lithuania	Norway	Germany	Russia	Latvia	Total
Export from/to	Sweden	0	2912	8263	7878	474	844	9065	11842	983	501	42760
	Poland	2588	0	2989	2516	309	1759	2233	41098	2324	523	56338
	Finland	5991	1162	0	1472	2314	198	718	7702	3141	382	23079
	Denmark	12630	1015	6572	0	120	259	2809	7698	566	90	31758
	Estonia	4946	139	3618	662	0	460	618	1971	407	1088	13909
	Lithuania	2265	1927	476	1104	1062	0	214	1652	1110	2667	12476
	Norway	14306	3808	4992	10796	44	32	0	30495	635	33	65140
	Germany	7059	16029	3476	10589	553	973	3539	0	3931	469	46618
	Russia	12121	39592	40465	3451	6832	24884	3506	63845	0	2467	197162
	Latvia	11125	146	832	1711	624	690	299	1425	351	0	17202
	Total	73030	66728	71681	40177	12332	30099	23000	167727	13448	8220	506441

Source: Baltic Maritime Outlook, 2006

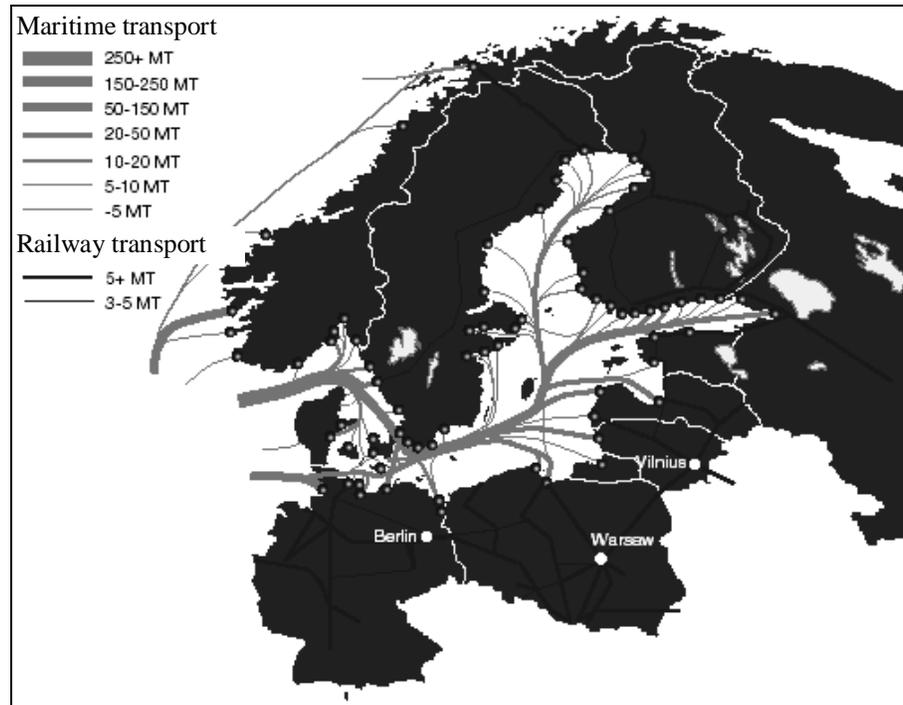
The Scandinavian states constituted over 50% of the sea transport trading. According to estimates presented in the *Baltic Maritime Outlook 2006*, by 2020 the transaction volume of the sea transport will increase by

### Poland in the Pan-European Transport Corridors Network

64%, whereas both the railway and the motor transport will rise by 27%. In 2020, the transport load within the BSR will grow by 147 million tons and between the BSR states and other countries by 324 million tons.

It is estimated that mainly German, Polish and Finnish Gulf ports will account for this growth. Russia's significance in international trading will continue to be on the rise, however, the country's trade will, to a higher degree, be serviced by Russian ports.

As can be seen in Figure 3, the main sea transport route in the circle of latitude extends from the Finnish Gulf to German ports and Danish straits. Polish ports are not situated along this route. They participate in the flow of goods with German, and to a lesser extent, British and Dutch ports.



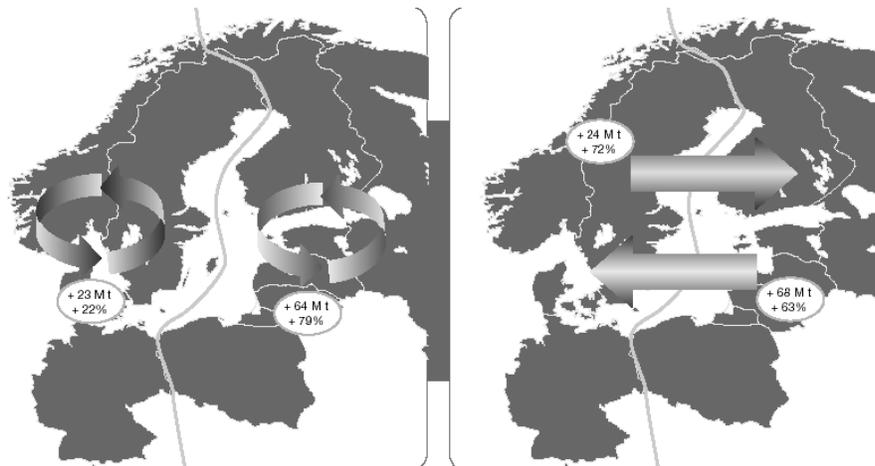
**Figure 3: Railway and Sea Transport Load in the Baltic Sea Region in 2003. (in millions of tons)**

Source: Baltic Maritime Outlook, 2006

Polish maritime transport will soon face increased competition from other transport modes. This is a result of developing and modernizing road

and railway connections. The low price of fuel in Russia, as well as imposing time limits on truck stopovers on the Polish-German border, have created a situation in which passing through Polish harbours is less beneficial for transit freight traffic.

Polish ports are part of the two fundamental transit routes connecting the north and the south and the east and the west. It is forecasted that the transit route encompassed by the circle of latitude, that is the routes running from East to West, will become more important than the route within lines of longitude that is running from North to South. This thesis holds especially in the case of Poland, where it is expected that home companies will see a further increase in turnover in dealings with Western European enterprises. However, as has been pointed out earlier, a notable part of the trading route is bypassing Polish harbours. The position of Polish ports will become even more inferior once highways are built in East-West route.



**Figure 4: The Dynamics of Transport Routes Development in the Latitude Configuration**

Source: Baltic Maritime Outlook, 2006

BSR states have been divided into those located in western and eastern regions. In the years 2003-2020 trade between Baltic states in the eastern region will be developing more briskly than in the western part. Export from countries located in the Eastern region of the Baltic Sea will increase faster (by 68 bn tons) than in the opposite direction (24 bn tons).

## **Poland in the Pan-European Transport Corridors Network**

Oil and coal will constitute a significant percentage of the increasing cargo traffic from the East to the West.

Throughout the previous decade there has been a drop in railway transport, both concerning freight and passengers.

Russia is the RMB country whose railway transport is of highest value. Approximately 80 mln tons of cargo to and from Russia pass through Estonia, Latvia and Finland. In this region the railway traffic between Poland and Germany is also one of the busiest.

Poland is an important participant in freight transit between Russia and Germany. Hitherto a sizeable part of Russian-German trading had been transported by rail through Poland's territory. However, in December 2006, a new ferry connection between Port Sassnitz and Baltijsk in the Kaliningrad Oblast was launched. This is the result of an agreement between the German (DB) and Russian (RZD) Railways. Currently, trading between Germany and Russia amounts to 50 bln Euros and will be on a constant rise.

Initially, one ferry will operate on the route. In the future six more ships are to be launched. As a result, approximately 74,000 maritime containers will bypass the territory of Poland.

Germany and Russia explain imposing limitations on transit via Poland, or more precisely through the Polish part of the II trans-European transportation corridor in an alarming manner. Germany and Russia claim that the Polish Railway Service (PKP) be overcharged and freighters face obstacles posed by customs clearance.

Transport duration from Baltijsk to Sassnitz is 36 hours, excluding the duration of loading and unloading procedures. Moreover, one must also take into account additional time for reloading the cargo from Russian to German wagons at the Mukran transshipment station. Meanwhile, the time of transporting freight through Poland, from the border stations Malaszewice and Rzepin, amounts to from 12 to 14 hours.

Poland rejects accusations of creating problems at customs clearance. Moreover, work on an agreement on running freight trains according to simplified borderline procedures (principle of mutual trust) are drawing to a close. Also work on an agreement on detours, thanks to which the duration of railway transport will be shortened in the case of traffic hindrances is pending.

An agreement on enterprises concerning selling transport services between Stinnes AG and PKP Cargo S.A. has also been drafted, regarding relations between Poland and Germany and transportation from Germany to Baltic states. This agreement aims at facilitating the process of submitting trading offers, and as a result boost the position of both railways on the cargo transportation market.

## **Radosław Koszewski**

PKP Cargo S.A. representatives expect that launching the ferry connection between Baltijsk and Sassnitz will pose a threat to the development of transport within the II Pan-European Transportation Corridor framework.

### **POLISH NORTH-SOUTH TRANSPORT CORRIDORS PASSING THROUGH PORTS**

Two out of ten Pan-European transport corridors pass through Polish ports:

- Corridor I – Helsinki – Tallin – Riga – Kaunas – Warsaw – and Riga – Kaliningrad – Gdansk
- Corridor VI – Gdansk – Warsaw – Katowice – Zylina

However, also the Gdańsk-Gdynia, as well as Szczecin-Świnoujście port complexes, are components of two road and rail North-South transport routes. The former is Corridor I mentioned above, and the latter is the “Odra Valley” (Dolina Odry) – E 59 corridor. These routes are being integrated with the European transportation network within the Central European transport system TINA (*Transport Infrastructure Needs Assessment*). The mentioned transport corridors operate 90% of the cargo trading in Polish ports amounting to 50 mln tones annually.

Corridor VI starts from Scandinavia, passes through Central Europe (through Gdansk and Gdynia), the Balkan states and further to the Middle East. This route connects the Baltic See, the Adriatic See and the Mediterranean See.

Thanks to Corridor VI Poland is well connected with Scandinavia (via ferry connection with Gdynia) and with Southern Europe by the Warsaw-Cracow-Vienna route. The E 20 route connects Poland with both Berlin and Paris in the East, and with Minsk, Moscow and Saint Petersburg in the East.

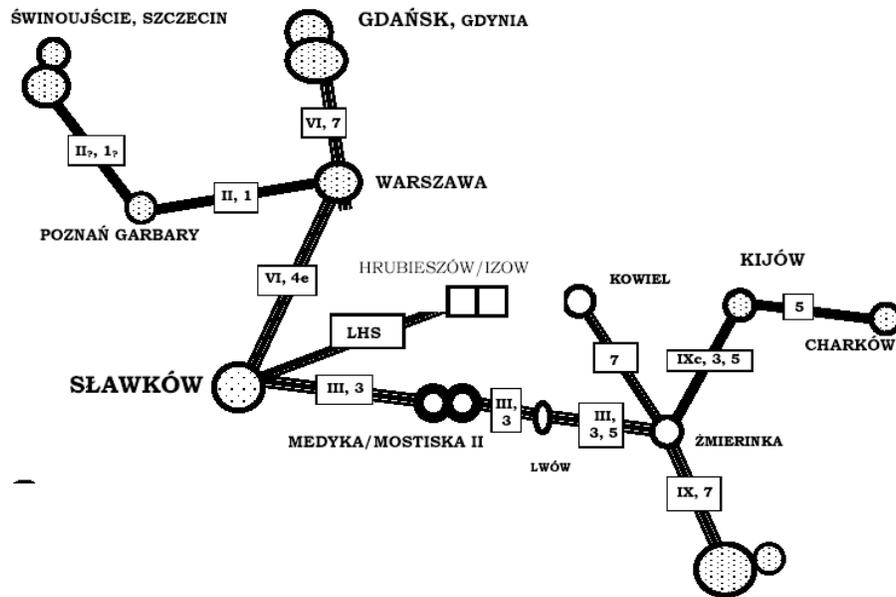
Corridor VI starts from Poland's territory in the Gdynia and Gdansk harbour, next it consists of two main railway lines: the E 65 route and the coal line number 131, as well as the international road number 1 – route E 75. The former of these lines constitutes the international railway route Gdynia-Warsaw-Vienna- Rijeka.

On the international level, more than 30 mln tons of goods, including 1.1 mln tons of transit cargo and approximately 500,000 ferry passengers, pass through Corridor VI annually.

In the 1980s railway transport dominated this transportation route. Currently, cargo is most frequently discharged onto motor vehicles. In Poland route number 1 (E 75) has the length of approximately 600 km and the

## Poland in the Pan-European Transport Corridors Network

parameters of a third class road, which means it is not capable of ensuring fast and safe traffic.



**Figure 5: Railway Transport Corridor VI A including ports Szczecin-Swinoujscie-Gdansk-Gdynia-Odessa-Ijliczewsk, a modified version of Corridor VI**

Junction with an existing or planned distribution or logistic centre  
 II – Number of the pan-European transport corridor  
 I – Number of the OCR (Organisation for Co-operation of Railways) transport corridor

Source: Wojsławski, 2003

The TINA programme sees the following road and railway connections as especially significant for the Gdansk and Gdynia ports:

- the route of the A1 highway (Gdansk/Gdynia-Lodz-Katowice) including the branches of the road,
- the roads Grudziadz – Poznan, Torun-Warsaw and Lodz-Wroclaw,
- the main railway line Gdansk/Gdynia-Warsaw-Katowice-Zebrzydowice including the branch Warsaw-Dorohusk,
- the main railway line Gdansk/Gdynia-Bydgoszcz-Katowice including the branches Inowroclaw-Poznan and Zdunska Wola-Wroclaw.

## **Radosław Koszewski**

- the railway line Gdansk/gdynia-Elblag-Braniewo-Kaliningrad.

Corridor VI A, the modified version of Corridor VI, also includes the Szczecin-Swinoujscie harbour complex. Figure 5 illustrates the route of this corridor.

Once the resources of the Polish ports become connected through Slawkow, it will also be possible to include the Black Sea region into this route.

The "Odra Valley" links the Szczecin-Swinoujscie port complex with Southern European countries by means of:

- the C- E 59C 59 railway connection
- the C3 expressway, and in the future probably also A3
- The Odra waterway

This corridor is the shortest route connecting Scandinavia with the Mediterranean and Adriatic Sea regions. However, it is not perfect. The major drawback of this channel is the lack of a highway which would lead from the harbours to the Czech border.

## **CONCLUSION**

Poland is strategically located on the Pan-European Transport Corridors route. However, location itself does not guarantee a country benefits from servicing the international exchange of goods. Several factors pose a serious threat to reaping benefits from transit in Poland, such as above all the inadequate state of transportation, both motor and railway, infrastructure. Due to delays in building highways and railway connections part of transit cargo bypasses Poland.

This has a major impact on the size of reloaded cargo in Polish harbours. German harbours are favoured over Polish ports due to transshipment impediments in the latter. It should however be underlined that it is not only the state of harbour infrastructure that affects the choices of transshipping companies. Custom clearance and tax rules and regulations prove to be of equal importance, and in Poland they are less advantageous than in the neighbouring land, Germany. What follows is that Poland is also not earning the obtainable profit from servicing trading between Scandinavia and Southern Europe, as well as between Western and Eastern Europe.

From the perspective of Polish interests, it is important to complete work on the A1 highway linking the Gdansk-Gdynia port with Southern Europe without further delay and at an appropriately fast pace. The A1 highway will then bear part of the brunt of servicing freight from those countries which currently, due to convenient transport systems, avail themselves of German ports. Building highways connecting the East and the

## Poland in the Pan-European Transport Corridors Network

West will create favourable conditions for cargo sent from Polish ports to bypass German harbours. Thanks to the motor routes the freight can be channelled directly to Western European countries or harbours. Of course, more than enhancing the state of infrastructure has yet to be done. Better infrastructure alone would not suffice to attract foreign freighters. Improvements in infrastructure must be accompanied by appropriate promotion in order to draw freighters' interest, followed by streamlining customs and tax procedures and regulations. All efforts must be taken to change the current situation, in which servicing conditions offered by German harbours surpass the Polish offer.

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