Interreg CENTRAL EUROPE
European Union European Regional Development Fund
TRANS TRITIA

D.T1.1.2 Report
D.T1.1.6 Strategic workshop
Strategic assessment of the environment for TRITIA territory

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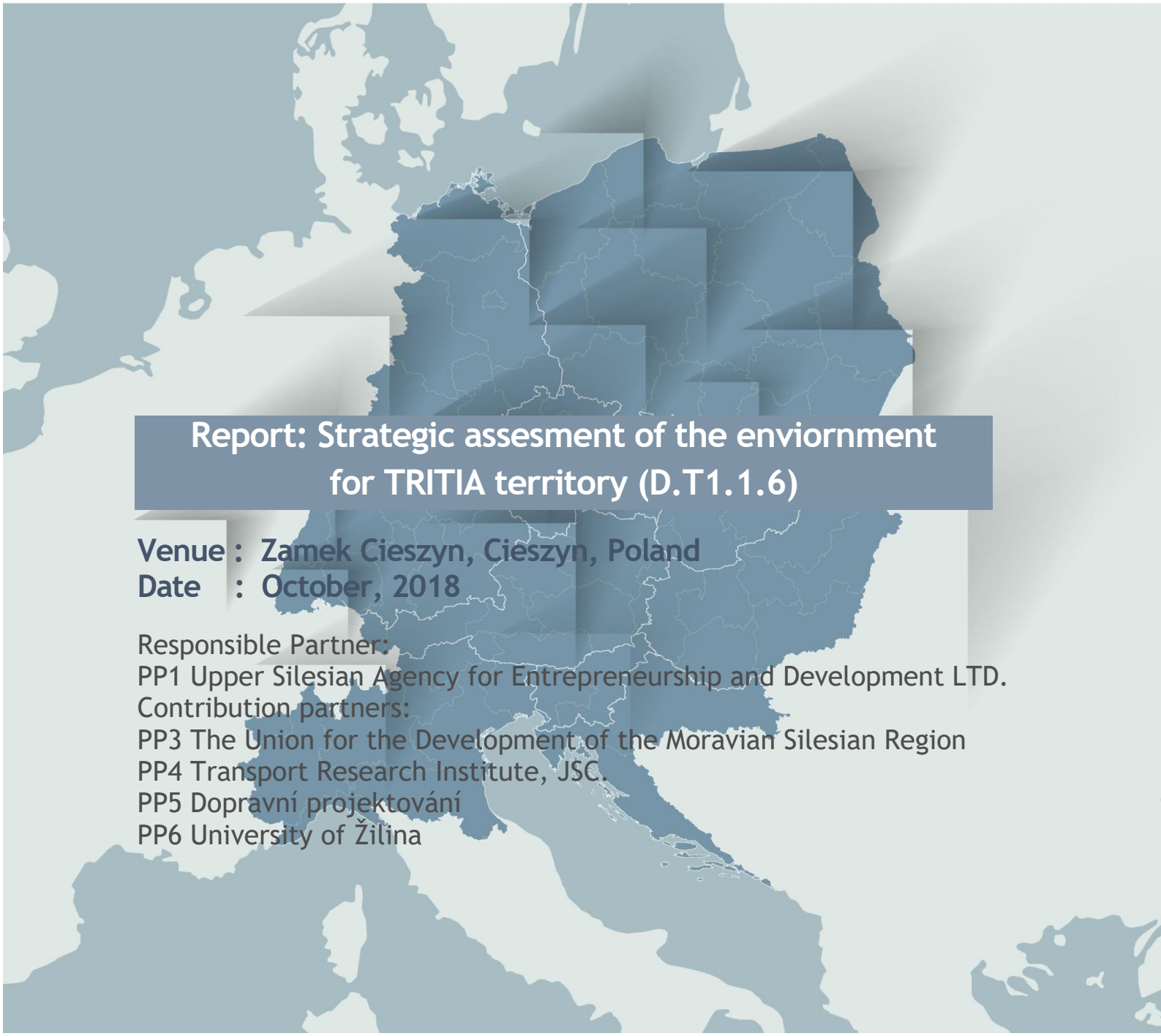

Report: Strategic assesment of the enviornment for TRITIA territory (D.T1.1.6)

Venue : Zamek Cieszyn, Cieszyn, Poland
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Responsible Partner:
PP1 Upper Silesian Agency for Entrepreneurship and Development LTD.
Contribution partners:
PP3 The Union for the Development of the Moravian Silesian Region
PP4 Transport Research Institute, JSC.
PP5 Dopravní projektování
PP6 University of Žilina

Content

1. Report

1.1. SWOT analysis of the TRITIA area for the development of multimodal transport

1.2. An attempting to identify key actions and projects for the development of multimodal transport

SWOT	Common features	Differences between countries / regions	Suggestions/ objectives/actions/projects Already implemented or new (at what level: local, regional, national, international)
1	2	3	4
Opportunities	– Economic growth (GDP growth) (CZ, PL, SK) – High fuel price (increasing of road freight transport costs, opportunities for more ecologic modes of transport - water, rail) (CZ, PL, SK) – Strategic transport position (new investors and investments) (CZ, PL, SK) – Taxes and fees (for roads and HGVs) (CZ, PL, SK) – Stability of the EU politics (security, duty-free union) (CZ, PL, SK) – Intensification of cooperation of entities in the TRITIA cross-	– Manpower from abroad (SK) – Modernization of railway lines (SK) – Interest of new investors (due to more transport possibilities) (SK) – Increasing cooperation of enterprises with the R & D sphere enabling the transfer of knowledge (CZ, PL)	How to take advantage of opportunities?

	border area (CZ, PL, SK) – Transit of international corridors (fees) (CZ, PL, SK) – Taking into account ecological aspects in the policy of sustainable transport development (CZ, PL, SK) – The development of intermodal transport as a solution supporting the reduction of external transport costs (CZ, PL, SK) – An integrated transport policy of the European Union that includes intermodal transport (CZ, PL, SK) – Development of transport infrastructure in various modes of transport (CZ, PL, SK) – Strong development of containerization and other reloading technologies and their standardization (CZ, PL, SK) – technological development and evolving of modern		

	technologies including information and telematics technologies (CZ, PL, SK – beginning)		
Threats	– Lack of employees (CZ, PL, SK); – High labour costs (CZ, PL, SK); – Financial risk with long-term projects (the risk of exceeding the project budget) (CZ, PL, SK) – Lack transparent-ness political (CZ, PL, SK) – Increase of motorisation rate (CZ, PL, SK) – Some institutions which are the opponents to implemented solutions and investments in the area of transport (e.g. road blocks) (CZ, PL, SK) – Insufficient infrastructure (poor quality, low capacity, delays in the construction and modernization of infrastructure) (CZ, PL, SK) – Lack of money for transport in the national budget (CZ, PL, SK) – Legislative restrictions and high bureaucratic duties (CZ, PL, SK) – Rapid and unregulated	– Poor planning, low drawdown of EU funds (CZ) – Political instability (new priorities) (SK) – Lack of supporting instruments for the implementation of an environment-friendly transport system (incentives, penalties) (PL, SK) – Low level of lobbying in intermodal transport (PL) – Omission of Polish water transport routes in the European TEN-T transport network (CZ, PL) – Lack of coherent regional policy in the field of freight transport (PL) – Lack of proportionality in the implementation of ecological solutions in particular branches of transport (PL) – Diversity of the geographical	How to reduce the impact of risks?

	growth of passenger transport (insufficient capacity) (CZ, PL,SK) – Low increase in commercial speed in the field of rail freight transport (CZ, PL, SK) – Legislative and political delays (CZ, PL, SK);	environment - problems with the construction and modernization of infrastructure (PL, SK);	
Strengths	– Current and potential labour market (potential supply of employees) (CZ, PL, SK) – Physical resources - number and location of re-loading terminals, logistics and distribution centres, available storage, logistic operators, number of transportation companies(CZ, PL, SK) – Sufficient number of intermodal operators (CZ, PL, SK) – Number of trucks, trailers and semi-trailers (CZ, PL, SK) – Availability of inland waterway infrastructure (CZ, PL, SK) – Knowledge resources: high numbers of colleges and universities; high level of	– Road infrastructure (PL) – Cluster (SK, CZ/cooperation network PL) – Low industry risk (CZ, SK) – Technological requirements - new, modern and fuel saving vehicles provide advantage of the competition (CZ, SK). – Strong support of business environment institutions (CZ, SK) – Development of information and telematics technologies (CZ)	How to enhance and use the strengths?

	education (CZ, PL, SK) – Demand for transport and logistics services (CZ, PL, SK) – The level of market saturation (CZ, PL, SK) – Market dynamics and new investments (CZ, PL, SK) – High barriers of entry (CZ, PL, SK) – Low barriers of exit (CZ, PL, SK) – Middle level of cooperation (CZ, PL, SK) – High competition in freight transport and logistics (CZ, PL, SK)		
Weaknesses	– Number of employed persons (CZ, PL, SK) – Low salaries for specialists (CZ, PL, SK) – High fluctuation of employees (CZ, PL, SK) – Number of fleet of barges, towing barges (CZ, PL, SK) – Low quality of roads, waterways and railways (CZ, PL, SK) – Insufficient level of investment in the development of freight	– Low level of innovation implementation (PL, SK)	How to reinforce weaknesses?

	transport (CZ, PL, SK) – Support of finance institutions, government institutions (CZ, PL, SK)		

2.3 Main values, vision

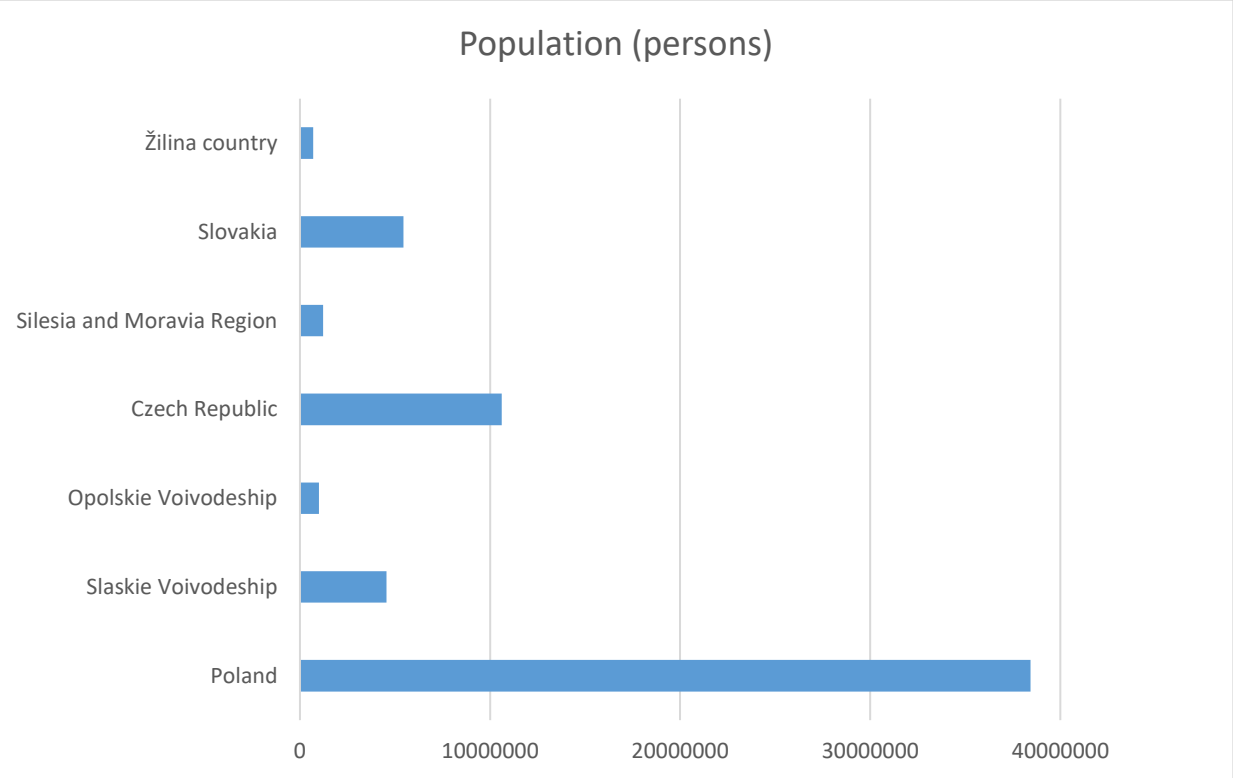
Value
Functionality, efficiency, complementarity, cooperation, formalisation of multimodal freight transport
Vision/mission
Creation of a support system for the TRITIA area in order to increase the functionality and efficiency, complementarity, cooperation and regulation of multimodal freight transport

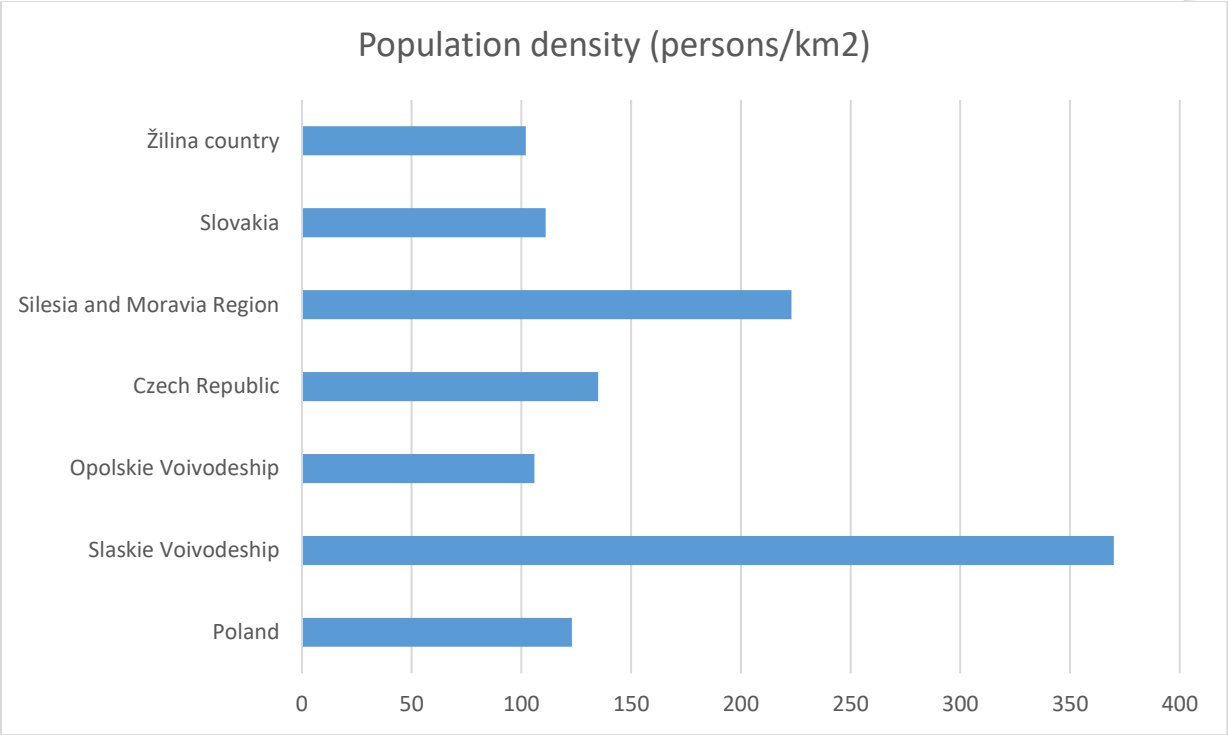
Report: Strategic assessment of the business environment for Tritia territory

Based on a wide PEST analysis, structural analysis and stakeholder analysis prepared according to the adopted strategy implementation methodology (report D.T.1.1.), the report presents the most important data according to the AF records. The report will provide current territorial data (2016) and trends concerning:

1. Population

	Population (persons) on 31 December … last year (2017 or 2016)	Population density (persons/km^2)
Poland	**38 432 992**	**123**
Slaskie Voivodeship	4 559 164	370
Opolskie Voivodeship	993 036	106
Czech Republic	**10 612 974**	**135**
Silesia and Moravia Region	1 209 879	223
Slovakia	**5 443 120**	**111**
Žilina country	691 023	102





2. Economy

Poland

Table 1 . General characteristics of the economy of region

Specification	**Region/ SLASKIE**	**Country**	**Share (%)**
GDP per capita ….(last year 2017 or 2016) (PLN/person)	46 499	44 686	-
The number of enterprises (**2017**)	425 693	3 901 469	10,9%
Revenues from the sale of goods and services	382,3 bn zl	3 254,2 bn PLN	11,74%
Higher education institutions graduates (persons) in 2017 or 2016	33 940	364 399	9,3%
Secondary schools graduates (persons) in 2017 or 2016	28 058	268 502	10,4%
Number of employed persons in 2017 or 2016 (in thousands)	1 868	16 197	11,5%
Structure of employed persons in 2016 or 2017	Agriculture: 10,4% Industry: 37,1 % Services: 52,5%	Agriculture: 10,6% Industry: 31,4 % Services: 58%	-
Investment outlays (PLN m) in 2017 or 2016	1 010,8	83 788,9	1,2%
Capital of companies (PLN mln) in 2017 or 2016	2 093,9	203 897,8	1,0%
Special Economic Zones (SEZs) in the voivodship and clusters			
SEZ: - Katowice - Gliwice Clusters: Sieć Transportu Szynowego, Śląski Klaster Lotniczy, Klaster Innowacji logistyczno-transportowy;			

Distinguishing investment attractiveness ratings PAI _2 and RAI (class A, B and C)	
Potential investment attractiveness PAI_2	National economy class C Labour-intensive industry class C Scientific and technical activity class C
Real investment attractiveness RAI	Scientific and technical activity class C

Specification	Region/ OPOLE	Country	Share (%)
GDP per capita ….(last year 2017 or 2016) (PLN/person)	36 299	44 686	-
The number of enterprises (last year - 2017 or 2016)	92247	3 901 469	2,3%
Revenues from the sale of goods and services	50,6 bn	3 254,2 bn PLN	1,55%
Higher education institutions graduates (persons) in 2017 or 2016	7 389	364 399	2,0%
Secondary schools graduates (persons) in 2017 or 2016	6 554	268 502	2,4%
Number of employed persons in 2017 or 2016 (in thousands)	396	16 197	2,4%
Structure of employed persons in 2016 or 2017	Agriculture: 2,6% Industry: 38,8 % Services: 58,5%	Agriculture: 10,6% Industry: 31,4 % Services: 58%	-
Investment outlays (PLN m) in 2017 or 2016	7 084,5	83 788,9	8,5%
Capital of companies (PLN mln) in 2017 or 2016	17 094,3	203 897,8	8,4%
Special Economic Zones (SEZs) in the voivodship and clusters			
SEZ: Polska Strefa Inwestycji w woj. opolskim Clusters: none			
Distinguishing investment attractiveness ratings PAI _2 and RAI (class A, B and C)			
Potential investment attractiveness PAI_2	National economy class B Capital-intensive industry class B Labour-intensive industry class A Trade and repairs class A Scientific and technical activity class B		
Real investment attractiveness RAI	National economy class C Industry class C Accommodation and catering class C Scientific and technical activity class C		

Czech Republic

Table 1 . General characteristics of the economy of region

Specification	Region	Country	Share (%)

Market potential			
GDP per capita (2016) (EUR/person)	15 409,88 – 1 EUR=25 Kč	17 352,38 – 1 EUR=25 Kč	-
The number of enterprises (2017)	31 897	462 275	6,9 %
Revenues from the sale of goods and services	21 570 mil. EUR (100+empl.)	137,226 (mil. EUR)	15,5 %
Higher education institutions graduates (persons) in 2016	33178	267 565	12,4 %
Secondary schools graduates (persons) in 2016	48 400	424 561	11,4 %
Number of employed persons in 2017 (in thousands)	569,4	5 129,7	11,1 %
Structure of employed persons in 2017	Agriculture: 1,58 % industry 42,13 % services 56,29 %	2,9 % 38,1 % 59,0 %	-
Investment outlays (PLN m) in 2017 or 2016	N/A	N/A	N/A
Capital of companies (PLN n) in 2017 or 2016	N/A	N/A	N/A
Special Economic Zones (SEZs) in the region and clusters			
Clusters: Bezpečnostně technologický klastr, z.s., Český telekomunikační klastr z.s., ENVICRACK, družstvo, MoPharmaC - Moravian Pharma Cluster, z. s., Havířovsko-karvinský kovo klastr, z.s., IT Cluster, z.s., Klastr aditivní výroby, z.s., Klastr sociálních inovací a podniků - SINEC z.s., Moravskoslezský automobilový klastr, z.s., Moravský lesnický klastr, z. s., NÁRODNÍ DŘEVAŘSKÝ KLASTR, z.s., NÁRODNÍ ENERGETICKÝ KLASTR, z.s., Národní strojírenský klastr, z.s. SEZ - planned: Ostrava, Mošnov, Havířov - Dukla Industrial parks: Dolní Benešov, Dolní Lutyně, Hnojník-Třanovice, Horní Tošanovice, Karviná – Nové Pole, Krnov – Černý Dvůr, Mošnov, Nošovice, Ostrava – Hrabová, Paskov, Podnikatelský areál Vlčovice		
Distinguishing investment attractiveness ratings PAI _2 and RAI (class A, B and C)			
Potential investment attractiveness PAI_2	N/A		
Real investment attractiveness RAI	N/A		

Slovakia

Table 1 . General characteristics of the economy of region

Specification	Region	Country	Share (%)
GDP per capita (2016) (EUR/person)	12 888,90	14 943,27	-
The number of enterprises (2017)	26 008	248 945	10,45 %
Revenues from the sale of goods and services	15 843,739 mil. EUR	180 328,644 (mil. EUR)	8,79 %
Higher education institutions graduates (persons) in 2016	4201 (31.12.2017)	39080 (31.12.2017)	10,02 %
Secondary schools graduates (persons) in 2016	7395 (15.9.2017)	48297 (15.9.2017)	15,42 %
Number of employed persons in 2017 (in thousands)	320,10	2 530,7	12,65 %
Structure of employed persons in 2017	Agriculture: 2,65 % industry 37,88 %	2,46 % 32,37 %	-

	services 59,47 %	65,17 %	
Investment outlays (PLN m) in 2017 or 2016	N/A	N/A	N/A
Capital of companies (PLN n) in 2017 or 2016	N/A	N/A	N/A
Special Economic Zones (SEZs) in the region and clusters			
Clusters: Z@ict, Žilina, Cluster Liptov, Liptovský Mikuláš, Cluster Orava, Cluster Turiec SEZ: Teplička nad Váhom, Gbeľany, Nededza, Námestovo Industrial parks: KIA (teplička nad Váhom, Gbeľany), Martin-Sučany, Nededza, Strečno, Varín, Dolný Hričov, Horný Hričov, Martin, Gbeľany, Námestovo, Sučany, Košťany nad Turcom, Čadca, Krásno nad Kysucou, Nižná, Bytča			
Distinguishing investment attractiveness ratings PAI _2 and RAI (class A, B and C)			
Potential investment attractiveness PAI_2	N/A		
Real investment attractiveness RAI	N/A		

3. Infrastructure

Poland

Physical resources	There is one logistics center in the Śląskie Voivodeship (Śląskie Centrum Logistyczne SA) located in Gliwice. It has the character of an intermodal facility under which road, rail and inland waterway transport are used. There is no typical logistics center in the Opolskie Voivodeship. Distribution centers are numerous represented in the Śląskie Voivodeship (eg distribution centers of many large retail chains such as Biedronka, Lidl, Rossman, Decathlon, etc.). However, in available reports there is no separation between storage facilities and distribution centers, hence it is not possible to specify a specific number of distribution centers. Reports indicate the number of available warehouse spaces in which distribution centers are also included. The Śląskie Voivodeship is indicated as a region with a very strongly developed warehouse area. One can particularly point to the areas of cities such as Katowice, Mysłowice, Gliwice, Chorzów, and Sosnowiec. The Śląskie Voivodship is currently in second place in the country in terms of both demand and supply of warehouse space. The amount of warehouse space as well as the distribution centers themselves has been growing over the years. At the same time, the region is still indicated as one of the most competitive for new logistics investments. Table 1. Warehouse space of the Śląskie Voivodeship in the years 2014-2016

	ROK		
	2014	**2015**	**2016**
Supply [thous. m2]	1 545	1 701	1 955
Gross demand [thous. m2]	319	359	491
Net demand [thous. m2]	172	226	340
Vacancy rate [%]	11,1	7,4	7,2

<table>
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<tr><td>Base rent [€ / m2 / month]</td><td>3,0-3,7</td><td>2,8-3,5</td><td>2,8-3,5</td></tr>
<tr><td>Effective rent [€ / m2 / month]</td><td>2,4-3,3</td><td>1,9-2,7</td><td>1,9-3,1</td></tr>
</table>

A different situation is in the case of the Opolskie Voivodeship, which is located in remote places in the available warehouse space. In the annual rankings: Warehouse market, prepared by JLL, there is only a general reference to the Opolskie Voivodeship, but due to the small available warehouse space it is not particularly analyzed. Most of the area is located in the vicinity of Opole. The so-called Opole Logistics Center. However, if it is available storage space, it is difficult to classify it as classic and developed logistics centers.

The Śląskie Voivodeship is very well developed in terms of logistic operators operating within its territory. The region stands out in this respect on the map of the country. The largest global logistics operators operate in this region, eg DB Schenker, DPD Polska, Rohlig Suus Logistics SA, JAS FBG SA, Raben Group, Kuehne & Nagel, DHL, Dachser, and many others. In the region there are also carriers with the largest share in intermodal transport: PKP Cargo, Lotos Kolej, DB Cargo Polska. In the province Very high employment in the logistics industry is noted in Śląskie - second place in the country after the province Mazowieckie, which also underlines the strong development of the industry. Opole Voivodeship in terms of employment in the TSL industry ranks at one of the last places in the country. This shows that the region is not well developed in terms of access to the TSL industry, including logistics operators. It is also visible in terms of available warehouse spaces or reloading terminals.

- Number and location (indicate neighbouring city) of re-loading terminals
The Śląskie Voivodship is considered to be relatively well developed in terms of available inter-industry transhipment terminals. In its area, mainly four railway intermodal terminals are mentioned. These are: Cargosped Container Terminal (Gliwice), Euroterminal Sławków sp. O.o., PCC Intermodal - Terminal PCC Gliwice, Polzug Terminal Dąbrowa Górnicza. In addition, one should also mention the Gliwice port operating within ŚCL and MPL Pyrzowice, developing cargo services. In the Opolskie Voivodeship, one can mention the water port of Kędzierzyn Koźle, which has plans to invest in the creation of a modern logistics base.</td></tr>
<tr><td>Infrastructure</td><td>- rail, road and inland roads (length of roads divided by class)
road infrastructure:
The distinctive feature of the Śląskie Voivodeship in comparison to other regions of Poland are undoubtedly its communication and transport routes. Not only the main routes decide about the very good transport accessibility of the region, but also the very high density of road infrastructure (in the ranking of transport accessibility of voivodships, Śląskie occupied the 6th position). This region is one of the best communicated in the country. An important role in the communication system is provided by the Śląskie Agglomeration, in which the A1 and A4 motorways intersect. The dominant direction in the agglomeration is the east-west direction, along which the A4 motorway and the Drogowa Trasa Średnicowa (DTS) run, on which the combined traffic flows may reach in the near future in Katowice about 150,000. vehicles daily.

Noteworthy is also the transit location of the Region, where the Pan-European transport corridors guarantee the development of the motorway network:</td></tr>
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	• corridor III (Berlin - Wrocław - Katowice - Kraków - Lviv) • corridor VI (Gdańsk - Katowice - Žilina). The Opolskie Voivodeship is assessed as an area of medium transport accessibility (9th position in the ranking). The average density of public roads in this voivodeship is 111.4 km per 100 km2 and is lower than the national average (134.2 km per 100 km2). The central axis of the circular transport of the Opolskie Voivodeship is definitely the A4 motorway, which is part of the III pan-European transport corridor from Calais, France to Kiev, Ukraine. Comparing the technical condition of the national road surface on the GDDKiA board of both voivodships, the Opolskie Voivodeship falls better in this respect (in which as many as 60% of roads are rated as good, 25.5% as unsatisfactory and 14.5% as bad, while in Śląskie respectively 45 , 2%, 41.2% and 13.6%). Rail infrastructure: In Śląskie Voivodship, where the network density is 2.5 times higher than the average in Poland (Śląskie - 15.9 km per 100m2, country - 6.1 km per 100 m2), about 50% of domestic rail transport is carried out. The railway network in the Opolskie Voivodeship slightly exceeds the network density in other parts of the country, while the transport volume is only approx. 3%. The share of electrified lines in the Śląskie Voivodeship is 85% and it is one of the highest rates in the country in the field of electrification of the railway network, while in the Opolskie Voivodeship only 55%. The share of double-track lines is also significant, which in the Śląskie Voivodeship is 54%, and 56% in the Opolskie Voivodeship. In Silesia, there is one of the largest railway junctions in Europe - Tarnowskie Góry. Transport between Bielsko, Katowice and Warsaw is organized by the Central Railway Bus (CMK), and between Katowice and Gdańsk by the Port Main Bus which transports most of the goods from the territory of the Voivodship. The end section of the non-electrified Wide-gutter Broadway Line (LHS) is located in the Śląskie Voivodeship. This line through the Ukrainian railway system has direct access to the Trans-Siberian Railway, which gives the opportunity to connect with the railway system of Ukraine and Russia and create a pan-European Europe-Asia land transport corridor. The railway region of significant importance for domestic and foreign transport runs through the region of the Opolskie Voivodeship (routes Dresden-Moscow, Malmö-Bratislava). There are a number of speed limits in the railway network of the Śląskie Voivodeship, which are caused by: general poor technical condition of tracks, inappropriate geometric layout of tracks and poor condition of turnouts. The lines with unsatisfactory technical condition constitute 54.5% of all railway lines in the Śląskie Voivodeship, while lines with poor technical condition - 0.8% (according to PKP PLK SA data). Air infrastructure: International Airport "Katowice" in Pyrzowice in the Śląskie Voivodeship plays an important role in cargo transport, because it ranks first in the country among regional airports - the volume of cargo traffic handled in 2015 was over 16 thousand. tone. Pyrzowice serves six cargo carriers (all-cargo and courier), and is part of the BAC-Baltic - Adriatic transport corridor. The port has the highest runway in Poland (303 m.n.p.m.), which is associated with the lowest rate of flights cancelled due to fog compared to other airports in Poland.

Czech Republic

Physical resources	- Number and location (indicate neighbouring city) logistic and distribution centres, CTpark Ostrava Hrabová CTPark Nový Jičín Ostrava business park Multimodal logistic center Mošnov - Area and location (indicate neighbouring city) of available storage, CTpark Ostrava Hrabová – plants, offices and stores rented area – 220 000 m^2 CTpark Nový Jičín – plaints, offices and stores rented area – 48 100 m^2 Ostrava business park – plaints, offices and stores rented area – 54 000 m^2 Multimodal logistic center Mošnov – in process, planed area 520 000m^2 - Number of logistic operators There is open area for logistic operators in Moravskoslezský region. That's why there isn't accurate number of logistic operators. More than 50 companies are on websites with address in Moravskoslezský region. - Number and location (indicate neighbouring city) of re-loading terminals 3 existing re-loading terminals: Paskov (AWT) – 71 000 m^2 area and 4 800 TEU capacity (end of 2018) Havířov-Šenov(Metrans) 25 000 m^2 area and 5 000 TEU capacity Kopřivnice(ARGO Bohemia) 10 000 m^2 area and 400 TEU capacity terminals will have competition in new constructed terminal in Mošnov - **advantage** - Number of transportation companies (carriers) – 3 386 companies with activity in 2016 (total number of of legal and natural persons in Moravian – Śląskien region – 123 513) - **advantage** - Number of intermodal operators – 2 (AWT, Metrans) - **advantage**, - Number of trucks, trailers and semi-trailers – number of heavy vehicles 63 855 in 2016 (number of semi-trailers 5 289) - **advantage** - Number of fleet of barges, towing barges – 0 – **weak point** - Number of rolling stock (platforms) - 2016 in the Czech Republic: Number of locomotives – 814 (electric), 1156 (diesel) Number of goods wagons – 34 596 Number of wagons for intermodal transport – N/A
Linear infrastructure	- rail, road and inland roads (length of roads divided by class) road infrastructure: motorways and expressways 100,00 km **(weak point)**, 1st class roads 628,00 km, 2nd class roads – 840,00 km, 3rd class roads – 1895,00 km railway infrastructure – 667 km inland waterway infrastructure – 6 km (dam sightseeing cruise) Moravskoslezský region is without inland waterways, but with quite density road and railway infrastructure. Motorways and expressways are still in construction and the important roads are part of the Core TEN-T networks which intersection are in Moravskoslezský region (North-South, West – East). From this reason the evaluation is **advantage.**

Slovakia

Physical resources	- Number and location (indicate neighbouring city) logistic and distribution centres, CTP Park Žilina PointPark Žilina - Strečno - Area and location (indicate neighbouring city) of available storage, CTP Park Žilina - 44 564 m^2 PointPart Žilina – Strečno – 27 000 m^2 - Number of logistic operators- ???, - Number and location (indicate neighbouring city) of re-loading terminals – 2 (1 private, 1 public – procurement of the operator) – Existing private terminal will have competition in new constructed terminal - **advantage** - Number of transportation companies (carriers) - 1 051 companies in 2017 (total number of companies in Žilina region – 22 507) - **advantage** - Number of intermodal operators – 1 (Rail Cargo Operator in Žilina) + 1 planned in new public terminal - **advantage**, - Number of trucks, trailers and semi-trailers – number of heavy vehicles 34 602 in 2016 (number of semi-trailers 2876) - **advantage** - Number of fleet of barges, towing barges – 0 – **weak point** - Number of rolling stock (platforms) - 2016 in the Slovak Republic: Number of locomotives – 485 (electric), 455 (diesel) Number of goods wagons – 14 495 Number of wagons for intermodal transport – 545 (60 basket wagons, 485 container wagons - **advantage**
Linear infrastructure	- rail, road and inland roads (length of roads divided by class) road infrastructure: motorways and expressways 120,76 km **(weak point)**, 1st class roads 502,62 km, 2nd class roads – 327,24 km, 3rd class roads – 1100,14 km railway infrastructure – 396 km inland waterway infrastructure – 0 km Žilina region is without inland waterways, but with quite density road and railway infrastructure. Motorways and expressways are still in construction and the important roads are part of the Core TEN-T networks which intersection are in Žilina (North-South, West – East). From this reason the evaluation is **advantage.**

4. Traffic data

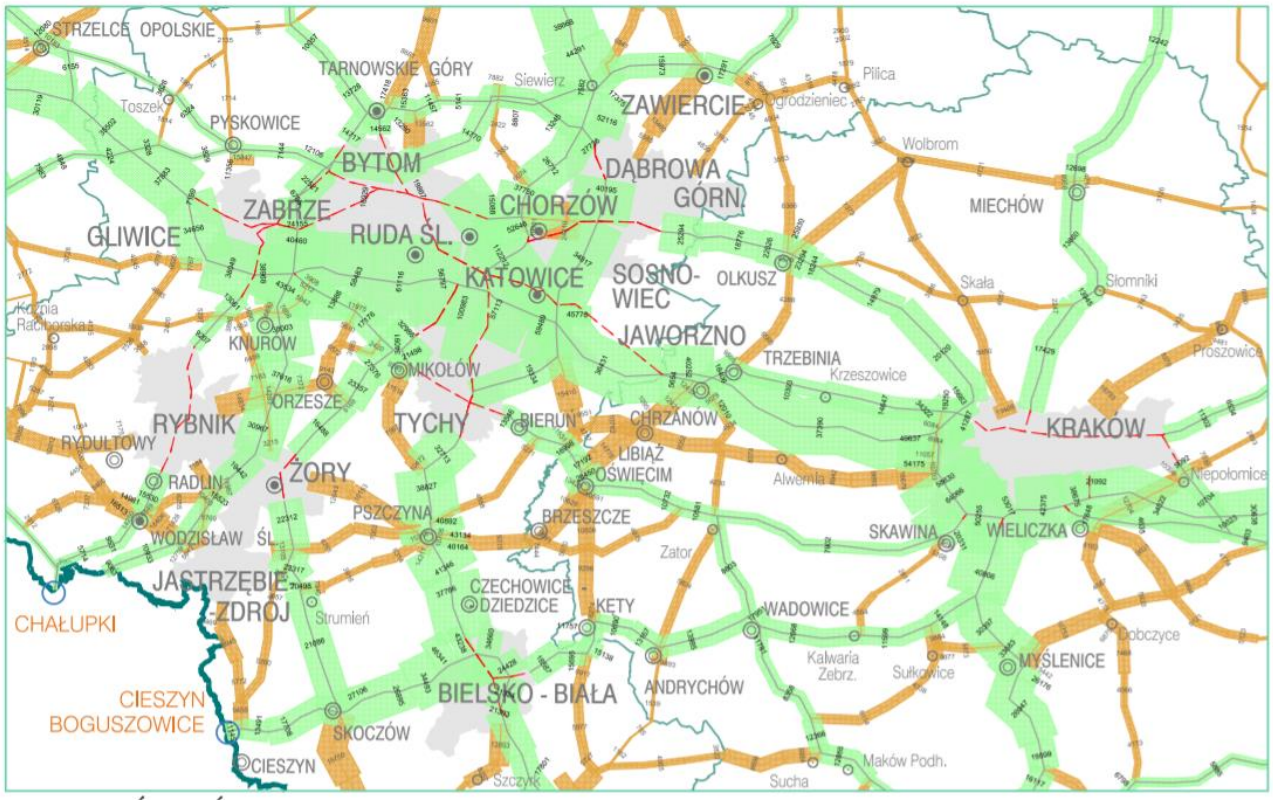
Poland

The most important information and conclusions received on the basis of the results of the GPR (General Movement Measurement) on provincial roads are as follows: the average daily annual traffic of motor vehicles (SDRR) in 2015 on the voivodship roads network was 3520 vehicles / day. Large differences were noted in the load on the provincial road network in individual provinces. The largest traffic load, more than 5,000 terms / day, occurred in the following provinces: Małopolskie and Śląskie.

Voivodship roads are much less used by freight traffic than national roads. Traffic of light commercial vehicles and trucks without trailers on provincial roads was about 4 times smaller than on national roads, whereas truck traffic with trailers - about 11 times smaller than on national roads

As counted by the General Directorate of National Roads and Motorways, every day the route between Katowice and Sosnowiec is transported by 112 212 vehicles. The third busiest road in the country is the A4 motorway in Katowice: 100,983 vehicles pass every day. The Śląskie Voivodship is in the first place when it comes to the intensity of traffic in the country: on national roads every day, over 20 thousand travel here. cars, and international ones - 38 thousand In the province Among the most crowded roads in Śląskie are: A4 motorway Ruda Śl.-Chorzów, A4 Gliwice Sośnica-Ruda Śląska, DK86 Będzin-Sosnowiec, DK1 Siewierz-Wojkowice (52 115), DK1 Częstochowa-Poczesna, A1 Gliwice-Knurów, S1 in Dąbrowa Górnicza or DK1 in Pszczyna. The A1 motorway between Pyrzowice and Bytom, not included in the measurements from 2010, passes from 14 to 19 thousand. vehicles daily.

The figures show the average daily annual traffic of motor vehicles on the network of national and provincial roads in the Śląskie and Opolskie Voivodeship.



Czech Republic

According to the census in 2016, the number of freight vehicles (excluding vehicles up to 3.5 t) in the waterway direction was as follows: Ostrava direction south - 4425 daily with an estimated tonnage of 111 thousand tons

Ostrava direction north - 2981 vehicles daily with an estimated tonnage of cargo of 74 thousand tons

According to the White Paper, if 30% of the transport is achieved, it would be necessary to convert 37,000 tonnes of goods in the south direction and 25,000 tonnes in the direction north to the year 2018. The current traffic flow on this route can now be considered as large enough in order to transfer the cargo to other modes of transport. The transmission values in tonnes correspond to approximately 35 pairs of freight trains in the south and 25 pairs of freight trains north or 18 pairs of fully loaded kits south and 13 pairs of fully loaded kits northward in class Va.

Slovakia

In 2015, in the territory of the Slovak Republic, a nationwide road census was organized as part of a European-wide road census, organized by the European Economic Commission and the international organization EUROSTAT. This has been done on all sections of motorways, express roads, roads I and II. class and selected sections of roads III. Classes. The results of the national census for 2015 for selected sections within the Žilina Self-Governing Region (hereinafter ZSK) are summarized in the following table. The high share of heavy freight on I / 11 along with the I / 12 route between Žilina and Čadca to the Czech Republic and Poland is due to transit in the north-south direction and to the transport between the Zilina and Bohemian Nošovice motorways.

5. Transit, External influences, Scenario analysis

Transit

Freight transport in the countries of TRITIA area

Table 1 Share of freight transport modes (%) – country 2017

Country	Railway transport	Inland waterway transport	Road transport	Intermodal transport
Slovakia	47 790 000 t (21,112 %)	1 780 000 t (0,786 %)	176 790 000 t (78,101 %)	5 000 332 gross tons
Czech republic	**96 516 000 t (17,005 %)**	**1 568 000 t (0,276 %)**	**459 433 000 t (80,947 %)**	**** Number of containers 796 882, Gross tons 13 323 000, Net tones 10 058 000 t (1,772 %)**
Poland	222 523 000 t* (11,264 %)	5 778 000 t (0,292 %)	1 747 266 000 t (88,444 %)	60 827 594 t

*without shunting

The share of individual transport branches in Poland indicates the dominant importance of road transport, much higher than in the Czech Republic and Slovakia. With a significantly smaller share of rail transport, twice less than in the Czech Republic and Slovakia. The inland waterway transport is also marginal.
In 2017, 60 827 594 tons of cargo in container transhipment operations at intermodal terminals were registered. Of which 11 002 978 t concerned rail transport, 11 975 979 t road transport and 37 848 637 t maritime transport.

Table 2 Share of freight transport modes (%) – region 2017

Region	Railway transport	Inland waterway transport	Road transport	Intermodal transport
Žilina region	not available	not available	not available	not available
Moravian-Silesian region	*** Exports to other regions - 2 418 600 t Imports to other regions - 2 013 500 t Within the M-S region - 8 006 800 t**	**-**	*** Exports to other regions - 4 787 600 t Imports to other regions - 5 166 000 t Within the M-S region - 39 777 300 t**	not available
Silesian voivodship	not available	139 300 t	Table 3	1 242 512 t*
Opole voivodship	not available	1 500 t	Table 33	45 055 t*

* Transport of goods in containers by national intermodal road transport by the voivodship in 2017

In general, in 2010, Polish airports handled 1,05 million TEU, and in 2017 it was already over 2 million TEU.
In the number of trains traced in domestic traffic from the Zebrzydowice station, nearly 3,6 thousand they were mass trains, and the number of intermodal routes amounted to over 630. The average length of intermodal trains opened from the Zebrzydowice station was almost 600 meters, and the mass of nearly 950 gross tonnes. According to the carriers to or from the Petrovice / Zebrzydowice station, about 150 trains, known as intermodal ones, arrived / departed monthly. This means that every day these stations served 5 intermodal trains. An important part of international connections

made by international carriers are intermodal transport. Routes in this segment are mainly related to the reports from seaports to terminals and whether they are launched as part of the "New Silk Road".

Table 3 Voivodship balance of goods road transport in 2017 (thousand tones)

Region	Delivered				Received				Transport balance
	Total	Within the voivodship	To other voivodships	Abroad	Total	Within the voivodship	To other voivodships	Abroad	
Silesian v.	149 113	95 282	41 782	12 049	146 341	95 282	39 939	11 120	+2 772
Opole v.	42 098	21 293	17 502	3 303	37 926	21 293	14 534	2 098	+4 172

External influences

Poland

Political	Economical
• Political stability; • Ecological/environmental current legislation; • Political lobbying - national and regional political pressures; • Level of cooperation between responsible entities in the Tritia cross-border area; • Importance of transport in the policy of the region, the government and the EU	• The business cycle; • Taxation, duty and toll; • Infrastructural investment; • Financing sources; • Labor costs;
Social	**Technological**
• Social external costs of transport; • Environmental awareness • Social sensitivity I activity in the field of freight transport; • Differentiation of the geographical environment; • Natural hazards (floods, mining damages, landslides); • Demographic factors;	• Eco-innovations in freight transport; • Development of modern inter-branch reloading systems; • Development of IT technologies and ITS; • Acceptable and commercial speeds on railways; • Knowledge transfer flows (including technologies); • Level of cooperation between enterprises and R&D units; • Standardization and compliance with quality standards

Czech Republic

Political	**Economical**
- Strategic documents - Transfer of plans to another government - Functionality of legislation - Cooperation at national and regional level - The absence of border barriers - Ranking priorities for the state and institutions - Electoral programs - Insufficient and complicated preparation and realization of transport infrastructure buildings	- State budget level - Phase of the economic cycle - Orientation of the national economy - Donation policy - Charging processes and approaches to the transport infrastructure - Targeted support for the development of a particular mode of transport - Monetary policy
Social	**Technological**
- Density of settlement and availability of attractions - Employment opportunities - Organization of work - Land attractiveness and quality of life - Externality - Economic strength of population	- Transport nodes - Support for modern technologies - Share of traffic just-in-time - Interoperability of railway transport - Maximum permitted speeds - Priority of passenger transport to freight transport

Slovakia

Political	Economical
– political instability – change in government policy – corruption – export and import regulation – environmental and environmental legislation	– manpower – fuel Price – gross Domestic Product – discount rate – inflation – taxes and fees
Social	**Technological**
– demography – population age status by sex and age – migration – education – motorization/automobilization rate	– exhaust emission limits – GPS monitoring – transfer of vehicle freight transport to other modes of transport

Scenario analysis

According to the literature, scenarios are particularly useful in creating development strategies when (a) we adopt the perspective of a long-term (minimum five-year) time horizon of the strategy, (b) we have a limited number of key elements affecting its success and (c) they are characterized by a high degree of uncertainty . An additional advantage is that even if the probability of the events described in the scenario is low, they are a source of learning or inspiration for decision-makers, enabling non-standard thinking (out of the box). This is particularly important in the context of shaping innovation policy, assuming focus on unconventional solutions and not resulting directly from current development directions.

The scenario building process is related to the forecasting process. There are seven steps to developing scenarios. Their order is as follows:

1. Defining the forecast object - defining its elements and relations between them, as well as defining the scope of the scenario.
2. Identification and description of phenomena belonging to a given object, i.e. areas of impact that have a significant impact on the development of the forecast object.
3. Quantitative documentation of connections between elements of the object and those occurring between the object and its surroundings.
4. Preparation of variable forecasts in the area of the facility's surroundings significantly affecting the examined object - e.g. using expert opinions and reaching for studies prepared for other purposes (e.g. demographic, economic).
5. Preparation of pre-scenarios - preparation of forecasts of variables belonging to the object. They are used to create a multi-variant description of the object's development.
6. Identification of factors disrupting the facility development process - sudden events that cause the forecast phenomenon to change its adopted development path.

7. Preparation of scenarios - a synthetic description of the condition and development of the examined object in the future, including quantitative and qualitative changes occurring in the object itself as well as its surroundings, including disturbing factors.

In the scenario analysis of the development of intermodal transport in the TRITIA area, the first step was to select the factors that have the greatest impact on the development of intermodal transport. The factors were grouped according to 4 criteria: economic, political and legal, technological, socio-cultural, demographic and environmental sphere. Then, 10 experts from each country were asked to determine the probability of occurrence of a given factor in terms of upward, stable and downward trends. Then experts were asked to rate each of the factors on a scale of -3 to +3, assuming that -3 is the lowest rating and +3 is the highest rating of the factor. Then, using the adopted methodology, four types of scenarios were developed: optimistic, pessimistic, most likely scenario (from) and most likely scenario (up to).

Factors / trends in the environment	Trend	Impact strength from -3 to +3	Probability 0 - 1
Economic sphere			
The level of GDP per capita	Growth	1,78	0,47
	Stabilization	0,56	0,31
	Regress	0,89	0,23
The level of financial support from the state in the development of multimodal terminals	Growth	2,00	0,37
	Stabilization	0,78	0,40
	Regress	-0,56	0,53
State expenditure on the development of line and point infrastructure of various transport branches	Growth	2,39	0,51
	Stabilization	1,06	0,31
	Regress	-0,11	0,17
The level of demand for inter-branch transport	Growth	1,44	0,45
	Stabilization	0,00	0,39
	Regress	-0,56	0,16
	Growth	2,11	0,62

The price level of services in the road transport	Stabilization	0,44	0,32
	Regress	0,06	0,07
The price level of services in the rail and inland waterway	Growth	0,56	0,50
	Stabilization	0,44	0,39
	Regress	0,89	0,10
Level of international transit and commercial exchange	Growth	2,28	0,69
	Stabilization	0,56	0,22
	Regress	0,28	0,09
Accessibility to sources of financing transport investments	Growth	1,89	0,43
	Stabilization	1,17	0,34
	Regress	-0,06	0,22
The level of uniformity of financing the individual branches of transport	Growth	0,56	0,21
	Stabilization	0,33	0,47
	Regress	-0,17	0,31
Internalisation of the external transport costs	Growth	2,50	0,52
	Stabilization	-0,11	0,42
	Regress	-1,11	0,06
Exchange rates	Growth	0,39	0,26
	Stabilization	0,44	0,54
	Regress	0,83	0,20
Discount level in multimodal transport	Growth	1,83	0,28
	Stabilization	0,78	0,53
	Regress	-0,06	0,19
Raw material costs (fuel, energy, etc.)	Growth	1,61	0,70
	Stabilization	0,50	0,22
	Regress	0,83	0,08
Costs of access to off-road infrastructure	Growth	0,28	0,45
	Stabilization	-0,17	0,38
	Regress	-0,56	0,17

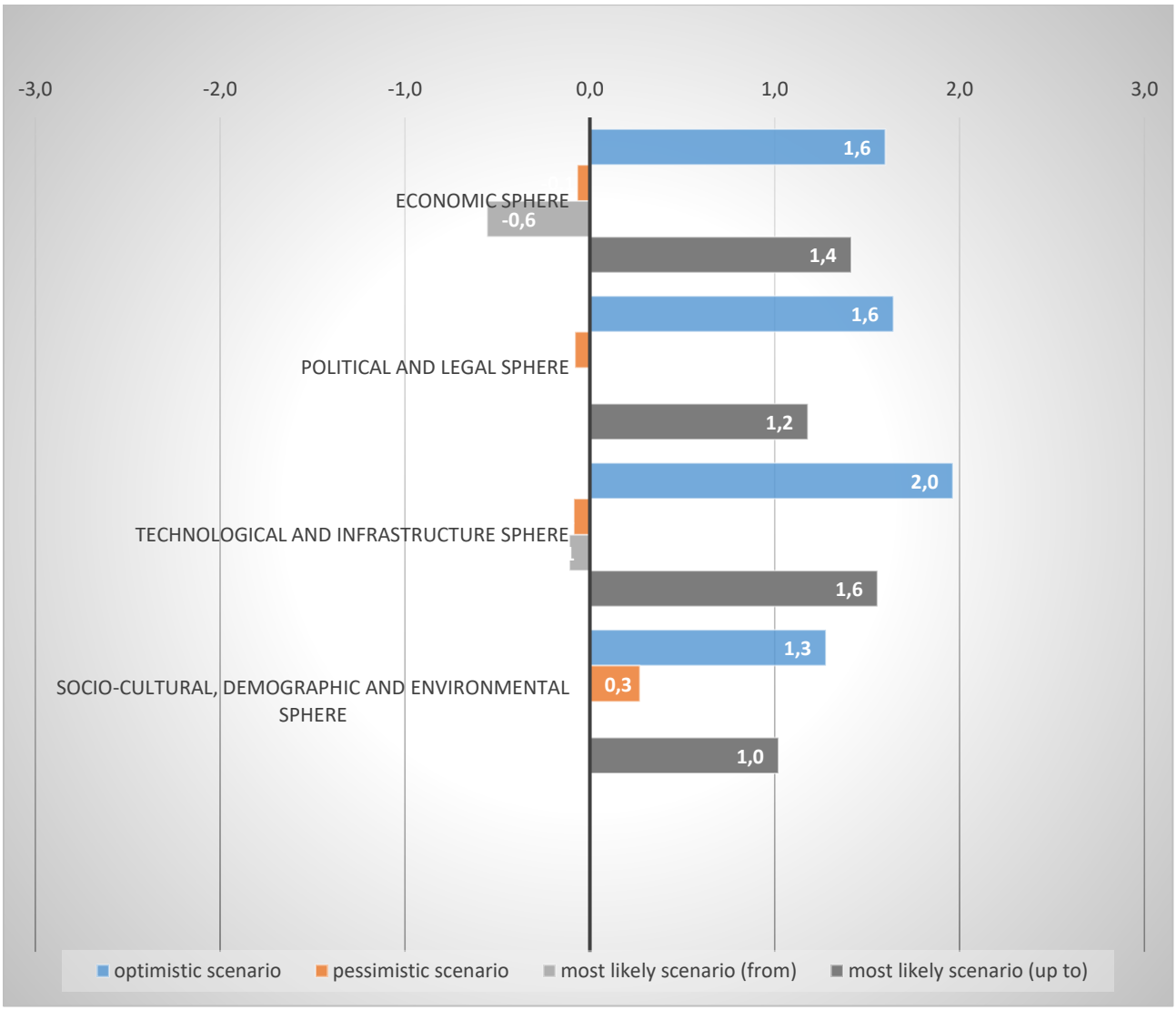
Political and legal sphere			
The level of convergence of the transport policy guidelines of neighboring countries in the TRITIA arealA	Growth	1,83	0,48
	Stabilization	0,22	0,41
	Regress	-0,06	0,11
Number of agreements between countries and regions regarding transport	Growth	1,44	0,51
	Stabilization	0,78	0,38
	Regress	-0,11	0,10
The level of harmonization of transport legislation in individual countries	Growth	2,00	0,54
	Stabilization	0,44	0,36
	Regress	0,00	0,09
The number and degree of implementation of the state programs formulated for the development of multimodal transport	Growth	1,89	0,39
	Stabilization	0,06	0,40
	Regress	0,22	0,19
Level of lobbying for sustainable transport	Growth	1,89	0,44
	Stabilization	0,44	0,38
	Regress	-1,11	0,17
Level lobbying inhibiting growth of sustainable transport	Growth	0,50	0,36
	Stabilization	0,06	0,39
	Regress	0,72	0,24
Number of regulations limiting transit traffic in road transport	Growth	2,06	0,39
	Stabilization	0,94	0,47
	Regress	0,39	0,14
The level of spatial coherence	Growth	1,22	0,42
	Stabilization	0,67	0,45
	Regress	0,17	0,12
The level of coordination the local government structures and	Growth	1,72	0,45
	Stabilization	0,39	0,39

government administration in regions	Regress	-0,11	0,15
Technological and infrastructure sphere			
The degree of transport integration in the TRITIA area	Growth	2,11	0,54
	Stabilization	0,44	0,38
	Regress	-0,44	0,08
The level of transport corridors development including multimodal infrastructure	Growth	2,78	0,73
	Stabilization	0,39	0,23
	Regress	0,11	0,04
The level of R&D cooperation of various entities in the cross-border area in the field of development of mulimodal freight transport	Growth	1,33	0,51
	Stabilization	0,39	0,38
	Regress	0,06	0,11
Level of rail system interoperability (e.g. track gauge, electrical voltage)	Growth	2,06	0,53
	Stabilization	0,89	0,43
	Regress	0,22	0,04
The level of applications of new information technologies in cross-border transport	Growth	1,61	0,64
	Stabilization	0,50	0,30
	Regress	-0,33	0,06
The level of access to qualified staff in freight transport and logistics	Growth	1,56	0,41
	Stabilization	0,11	0,39
	Regress	-0,11	0,19
Density of multimodal terminals in cross-border areas	Growth	2,11	0,45
	Stabilization	0,67	0,52
	Regress	0,56	0,03
The level of technical parameters of multimodal terminals	Growth	1,78	0,49
	Stabilization	0,39	0,42
	Regress	-0,22	0,09
	Growth	1,78	0,65

The level of innovation in multimodal freight transport in the TRITIA area	Stabilization	0,44	0,28
	Regress	0,17	0,07
The level of separation of linear infrastructure in setting priorities for freight and passenger transport	Growth	2,33	0,56
	Stabilization	0,72	0,38
	Regress	-0,61	0,06
The degree of use the modern transhipment technologies (ro-ro, lo-ro, ro-la)	Growth	2,28	0,46
	Stabilization	0,94	0,44
	Regress	-0,33	0,10
The level of compliance of intermodal loading units with road traffic regulations of various modes of transport	Growth	2,11	0,46
	Stabilization	0,78	0,47
	Regress	0,06	0,06
The level of production potential in the industry of modern means of transport and ITS	Growth	1,61	0,74
	Stabilization	0,61	0,19
	Regress	-0,22	0,07
The level of quality of inland waterway transport infrastructure	Growth	2,06	0,36
	Stabilization	-0,11	0,48
	Regress	-0,06	0,16
Socio-cultural, demographic and environmental sphere			
Population density level	Growth	1,61	0,16
	Stabilization	0,72	0,59
	Regress	0,44	0,24
Urbanization level	Growth	1,44	0,30
	Stabilization	0,67	0,54
	Regress	0,72	0,16
Income level of population	Growth	1,94	0,63
	Stabilization	0,50	0,28

	Regress	0,61	0,08
The level of social external costs of transport	Growth	1,28	0,38
	Stabilization	0,44	0,36
	Regress	0,83	0,25
The level of awareness of enterprises and society in relation to ecological aspects	Growth	1,33	0,59
	Stabilization	0,39	0,33
	Regress	-0,22	0,09
Climate variability and surface features	Growth	0,50	0,48
	Stabilization	0,11	0,38
	Regress	0,28	0,14
Occurrence of natural hazards (landslides, mining damage, crashes, floods)	Growth	1,17	0,53
	Stabilization	0,33	0,37
	Regress	0,61	0,09
The number of pro-ecological organizations and actions aimed at the development of sustainable transport	Growth	0,94	0,31
	Stabilization	0,56	0,47
	Regress	-0,11	0,22

SCENARIOS	Economic sphere	Political and legal sphere	Technological and infrastructure sphere	Socio-cultural, demographic and environmental sphere
optimistic scenario	1,6	1,6	2,0	1,3
pessimistic scenario	-0,1	-0,1	-0,1	0,3
most likely scenario (from)	-0,6	0,0	-0,1	0,0
most likely scenario (up to)	1,4	1,2	1,6	1,0



The optimistic scenario assumes an increase in factors related to shaping the integrated transport structure of the each countries, with simultaneous increase in R&D expenditure, which will result in lower costs of shaping transport systems and their services. In addition, the optimistic scenario assumes an increased focus on shaping policies that promote intermodal. In addition, there is a need to increase links in river infrastructure with rail infrastructure in each countries.

In the realistic scenario, with the unchanged integrated transport structure in the each countries and the lack of changes in the scope of links between river and rail infrastructure, there will be an increase in R&D expenditure, which may result in lower costs of shaping transport systems and their services. Political and economic conditions conducive to the development of shipping are also assumed, and new inland navigation programs will be formulated, increasing the degree of implementation of infrastructure and organizational projects in this area.

The stagnation scenario assumes that the country does not keep up with the opportunities created by the state and European Union institutions for financing the development of inland navigation; the result of this situation, e.g. the lack of projects, may be insufficient application for financial support for inland waterway transport projects. The effect of this state of affairs may be an increase in the decapitalization of infrastructure fragments in inland waterway transport.

In the pessimistic scenario, assuming slow economic development, small investments in transport infrastructure, poor policy promoting intermodal transport and the lack of programs for intermodal transport development, there will be a decrease in R&D expenditure and a significant increase in decapitalization of infrastructure transport fragments, which will further reduce the share of shipping inland and rail freight transport in the TRITIA area.