Breitspur Planungsgesellschaft

putting the future on track

Broad gauge railroad extension
in the Slovak Republic and its connection to Austria

Submitted record on assessment of potential impact to environment
of the above mentioned project which may cross state border(s),
is prepared according to Annex 15 of Act No. 24/2006 on
Environmental Impact Assessment and on amending and supplementing to certain acts

in Slovak, Hungarian, German and English Languages.

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Presented documentation is prepared for the purpose of international cross-border assessment process in accordance with § 40 (b) of Act No. 24/2006 on environmental impact assessment and on amending and supplementing to certain acts (hereinafter only „act EIA“).

Recognising in the introduction, that proposed activity belongs to Section 7, based on the Annex No. 13 of the act EIA „List of activities that are subject to international assessment from the viewpoint of their impacts on the environment which cross the borders“ -„Construction of highways, freeways, long-distance railway tracks and airports with main runway and landing runway 2 100 m long and more.“ Projected activity is considered as long-distance railway track.

Recognising following in accordance with Annex No. 14 to act EIA „General criteria for determination of significantly negative impact crossing the state borders“:

1. Proposed activity is large line construction.

2. Proposed activity is line construction aprx. 375 km long, spreading from Košice to borders with Austria near Bratislava. The route is proposed in such way, that it follows the existing railway corridors where it is possible and it should not be positioned in particular sensitive areas, in which the new lane would be built. Despite that it is not possible to avoid some protected areas near common state border included to Natura 2000 sites network of protected areas on European Union importance as well as bird protection areas (SPA - special protection areas) in national and bilateral (cross-border) level and individual sites for habitat and species protection (SAC – special conservation areas). If would it be possible, here is seeking variant solutions in at least two options. More detailed description of route survey going through protected areas in common border areas is stated below. In particular parts described below, based on the requirement, the impact on protection subject of these territories will be evaluated pursuant to Art. 6.3. And 6.4. of Habitats Directive (Council Directive 92/43/EEC of 21 May 1992 on the conservation *of natural habitats* and of wild fauna and flora) and according to valid generally binding EU/SK methodology (process of appropriate assessment). Broad gauge railway corridor is along the whole section proposed so expected impact on common international or cross-border interests to nature protection including cross-border protected territories will/would be not so significant, that it might cause serious violation of international aims of protection or other international relations.

3. No part of projected railway line shall have significant impact on human population neither in Slovakia nor in neighbouring countries, including border territories. Proposed activity as the whole will not present especially all-embracing and possible negative impact on environment of neighbouring countries, including those that could cause significant impact on humans or rare species or organisms, as well as those that endanger existing or possible utilization of area concerned and cause another load, which the environment is not able to bear.

According to mentioned criteria, proposed activity does not present potential source of significantly negative impact on environment or population´s health particularly in neighbouring countries Hungary and Austria.

At the same time it is stated, that the whole process of cross-border assessment focuses mainly on evaluation of the overall efficiency and environmental feasibility of the whole purpose and project, as a part of the whole process of environmental impact assessment. Based on the mentioned information and after the overall evaluation of other economic, geopolitical, commercial and all other indicators can be proceed to final decision

about possible project implementation and preparation of further project documentation which specifies details of the whole purpose. In case of decision about continuance and possible implementation of presented project, it will be realised in the horizon after the year 2025.

1. Name

Project of broad gauge railroad extension in the Slovak Republic and its connection to Austria

2. Description of proposed activity and its aims.

Description of proposed activity

The whole railway line shall be 1520 mm wide in gauge and will be completely electrified. Supply is projected from alternating-current power supply 25 kV from sources in Slovakia.

It is being projected to be built a new one-track traction with one goods reloading station in Slovakia (Nové Zámky-Palárikovo) and with one distribution station (Košice-Haniska) where the new broad gauge line connects with the existing line from Ukraine. Total estimated length of line in both proposed options in Slovakia varies from 373 to 375 km. In total it is expected to be built 416 to 425 bridges in Slovakia, out of them two longer flyovers. Building of ca. 50 km of tunnels is expected, whereas the longest tunnel should be under the locality Soroška (Jablonica Saddle - Slovak Karst, near to the current tunnel, beginning by the village Hrhov in the variant 2). Oppositely or oncoming moving trains (train sets, rolling stocks) will avoid each other without slowdown at chosen places, two-tracks passing loops and crossing stations. Double-track for avoidance of trains will be situated at section up 2 to 7 km long, the section shall include utility facilities. Since the transportation shall be conducted by sophisticated method at high technical and automated level, each passing loop must be situated at places with optimum possibility to avoid oncoming and opposite consecutive rolling stocks without slowdown or stopping. Exact localization is only roughly proposed at present and it will be more specified.

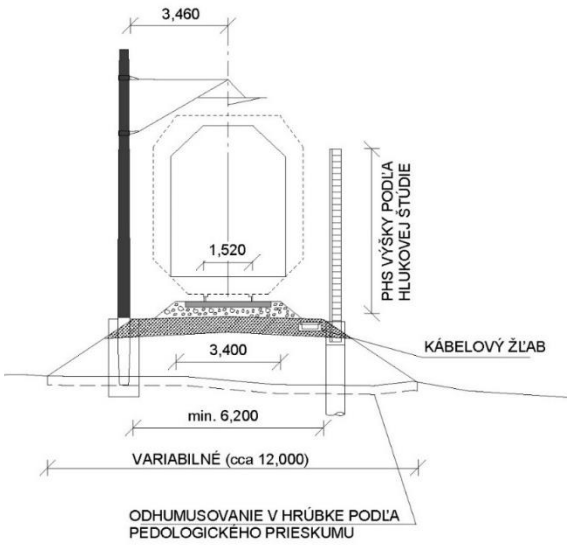


Fig.1. Cross profile of the b-g railroad

Container trains should be max. 1000 m long and shall be pulled by a sturdy 2x3 axle electric locomotives (co-co loco). Average load of container train is 875 tons, total weight is 2045 tons. Other (not container) cargo trains should be pulled by two electric locomotives, they can pull 4438 tons at total weight 6000 tons. Estimated frequency of railway trains passage is 4 trains per hour, 2 from each direction. Railway trains shall focus mainly on shipment of loads, expected operation would be in the limit of 16-20 hours per day. There currently are preferred so called “silent trains” with different system of braking and damping system thereby minimizing noise sources.

General and compact grade line up to 12‰ shall be maintained along the whole line to minimize ascent or descent of line due to slowdown or acceleration of railway trains, which disproportionately increases shipment costs (energy demands) and operation economy (acceleration or slowdown of the whole train). Such general grade line of minimum slope is provided by amount of tunnels, grooves in ground and bridges, including long elevated overpasses. Localization of tunnels and bridges proceeds from terrain morphology of proposed reference lane. General cross profile of broad-gauge track lane (Fig. 1) estimates 12 m wide area in average (embankment, accompanying utility etc.) for one-track traction. At present it is estimated that 62% in option 1 and 68% in option 2 of presented reference lane should be led in concurrence or parallel with current railway line whereas these joint sections should be arranged and renovated as a part of project implementation in accordance with specification of requirements and mutual agreement.

All crossings with existing transportation constructions, roads, highways, purpose-built lanes and structures and bridging of rivers will be overpassed.

Tunnels span all morphological structures of the country and they will possibly be used in the areas of necessary protection of the country, especially in minimization of impact on natural resources and interests of state and European Union for territorial nature protection, including territory NATURA 2000

The line will be fenced off with special fence to protect people at chosen points (close to living areas or other objects) as well as to protect property and facilities of line or as guidance fence for protection of migrating animals in wildlife corridors into specific passages through the line (passing corridors as eco-tubes, eco-bridges etc.). Noise barriers used also as physical barrier will be built in designated places.

The whole line will constantly be monitored and protected also from the targets of human safety as well as against undesired intervention and possible damages.

<u>Basic description of proposed alignment of broad gauge railway line through countryside</u>

This part mentions only basic description of projected broad gauge line (as reference line), which is graphically shown in map of Annex 1 for the purpose of cross-border assessment.

Broad gauge line starts near Kosice in technical area of railroads near the village Haniska, where currently ends the existing broad gauge railway from Ukraine. Reference lane follows the existing railway line No. 160 Kosice - Lucenec with only small deviations from village Haniska. Alignment between villages Hrhov and Lipovník is solved in variant options. In the option 2 it enters into long tunnel going through mountain saddle Soroška - connection of Silica plain and Horny vrch plain of Slovak Karst mountains. Option 1 follows the existing line (Hrhov, Hrušov, Lipovník) and is assumed to build new parallel tunnel next to the existing tunnel *between villages*

Hrušov and Lipovnik, a new one in similar parameters. Further it bypasses Roznava and goes to South through large valley of Slaná river between Silická and Plesivec plains of Slovak karst. It follows the existing rail line from Tornala, Jesenské to Filakovo. Around the Filakovo city the variant solution of alignment is proposed which allows avoiding the Górtva valley and the city of Filakovo. Then continues towards Lučenec, it turns away to alluvial lowland of river Ipel near the village Holisa. The line continues beside the village Velká nad Iplom along the border with Hungary in the variant solution (no existing railway there). In this area due to nature conservation within and along the river Ipeľ (common international bird protection areas Natura 2000, several other protected areas) is also proposing variant options that bypasses protected areas, these variants are marked on map in the Annex 2. *In option 2 it crosses the alluvial lowland through the meander of Ipel river in close contact with border of Hungary in the area Raros - Mula, this is the localisation nearest to border line with Hungary. Option 1 avoids this sensitive areas through landscape in sufficient distance from border and protected areas (but h*owever, it is economically less favorable solutions and complicated by several tunnels needed).

Line continues towards Želovce. It spans hillocks of Potor hills under Velký Krtiš via long tunnel. Crosses andesitic flows of Čebov hills via several tunnels close to village Slovenske Darmoty and bypasses villages Balog nad Ipľom and Veľka nad Ipľom.

Line should bypass the city Šahy through the tunnel northerly of the city and continues towards Želiezovce. Here it recedes away from borders of Hungary towards cities Nove Zámky, Sala, Senec and Bratislava. Neighbourhood of Bratislava is very complicated territory which is densely populated with preserved important landscape and historical elements, protected territories and important utilities of public interest. The line continues between villages Most pri Bratislave and Rovinka in long bridge elevated flyover, which spans existing infrastructure of roads and railways and also projected solution of highway D4 and expressway R7 and their crossing close to Slovnaft factory. High bridge elevated flyover (estimated length ca. 14 km and the highest height ca. 20 over the terrain) goes over the river Dunaj and its adjacent territories and continues towards Jarovce. Elevated flyover of reference lane connects with the ground close to border with Austria nearby former customs Jarovce and continues in the territory of Austria (compare the map of proposed routing in the Annex 1 and 2).

Aims of proposed activity

Many historical reasons caused development of railways across the world in various gauge. Nowadays, broad gauge line works efficiently and ends on the eastern border of European Union. Several lanes go beyond European Union, the most important is line from Ukraine into Katowice in Poland, line from Užhhorod in Ukraine to Kosice in Slovakia (northern line into steelworks U. S. Steel) and to Čierna nad Tisou (southern line) in Slovakia with goods reloading station for European gauge line.

Extension (prolongation) of existing broad gauge railway from Ukrainian border up to Vienna is a subject to presented project. The main motive is building of continuous and efficient transport network from Russia, China and other Asian countries into the Middle Europe and EU. The network creates competitive alternative of transport connection of Europe and Asia built on broad gauge line, which can save up to 30 days in transportation from the East to the Middle Europe and connect important economic regions by means of one of the longest transport corridor of the future. It enables connection to transportation via Danube from the global

strategic viewpoint. Vienna in Austria and Nové Zámky in Slovakia (projected terminal point) will serve as an important logistic point of the Middle and East Europe for goods reloading on the railway with standard gauge in the EU, on the water transportation via Danube and on the compact network of road utilities in the EU.

Building of continuous network from Russia, China and other Asian countries in the Middle Europe offers a new dimension of railway transportation for Eurasia, which is advantageous from time save´s point of view and at the same time it is sustainable from the point of environmental impact in global, national and regional level. Building and the operation of such transport network shall have important positive macroeconomic impact. With the positive support of public concerning to railway utilities in Europe projects, the broad gauge connection may attract more investment motivation and development of local and supra regional character.

Extension of broad gauge railway creates conditions for continuous transportation and at the same time for important shipment of big amount of goods from trucking (cars-trucks) to environmentally friendlier and cheaper railway transportation. Time aspect is also very important in relation to environment, when long-time transfer of goods via container ship and reloading in ports causes more emissions of pollutants into environment (e.g. emissions of greenhouse gases) than much faster and more continuous railway shipment designed by this project. This project estimates total volume of 16 million tons of goods for the y 2050 (transfer East to West and back).This amount will be transported by approx. 43 trains in each direction (in average, out of them 40 container trains and 3 non-container trains) per day. Transport volume under the best condition can/could achieve the capacity 24 million tons (69 trains per day). It is estimated to be a considerable step forward in comparison with double-track line, road and inland water transportation and that particularly as faster transportation, financial saving, system of one multifunction place (terminal and transhipment point), reliability, safety and additional services offered in terminals such as warehousing or goods reloading but the step forward is mainly on global or even local level from the environment´s point of view. This development is based on the assumption that the railway utility will be significantly improved across Russia, Ukraine and in Slovakia from Ukrainian border to Košice and it would enable the reduction of total transportation time from China to Vienna to 15 days. It is a significant difference in comparison with 23 days of today´s railway transportation and 25 to 45 days needed in sea transportation.

Extension of broad gauge line in central areas of the European Union offers several advantages in comparison with improvement of today´s railway with standard gauge:

- transportation heading to West of Slovakia or Vienna region can do without reloading in East Slovakia and thus save time and finances. Transit transport will profit from the latest equipment and logistic possibilities
- significant part of transferred good will thus be rearranged from freight vehicles and trucks to modern, electrified and quick railroad,
- Central European region will profit from this transportation and from accompanying development in current decrease of environmental load from freight transportation,

- broad gauge line used as solely freight transport can work in constant speed without restraints caused by passenger transport.
- broad gauge line enables higher load of axle and total train load, resulting thus in costs saving in comparison with railways with standard gauge,
- new social facilities will be built at many designated places to decrease impact of railway transportation on population and social utility concerned due to high percentage of projected switches with existing network of railway lines, e.g. noise barriers, embankment changes, railroad and technical facility optimization etc.

3. Description of reasonable options of proposed activity with potential cross-border impact and option of non-performance of proposed activity.

The envisaged project is submitted in two variant options – option 1 (blue line), with distance of 373.2 km and option 2 (red line) with primary envisaged distance of 375.4 km (see Annex 2). The above variants are different only in selected sections in order to minimise potential impacts on landscape and residential areas (infrastructure). On the other hand, the attention was also paid to the economy of railway track construction. Optional solutions are included in those parts of the plan which represent selected sections of the designed railway track in the landscape.
Basic description of differences in the above options:

Section 1 – Soroška and transition through the Jablonica saddle.
Option 1 (blue) represents the adjustment of the existing track from the village Zádiel overpassing village Hrhov and construction of a new parallel tunnel near the existing tunnel of the single railway track. The safety exit corridor system and safety roads will be created by connecting of both tunnels. The length of this tunnel is approx. 3.5 km.
Option 2 (red) is designed to run southwards of the Hrhov where the beginning of a long tunnel is projected, ending past the Lipovník on the other side of the Jablonica saddle beneath the portal of the existing tunnel. The length of this tunnel would be approx. 9.6 km, whereas the interference with protected areas would be minimum. Both options assume to run into unknown carst phenomena (underground cavern system), while option 2 would be in a close contact with the subterranean system of Hrusov cave. See Annex 2/1.

Section 2 – Slaná river
The Slaná river is designated as the Natura 2000 site in length of ca. 5.5 km of projected area. Protected are marshland river habitats including shore vegetation.
Option 1 (blue) projects with an adjustment of the existing railway track and the routing of the new track in its place. To the north of the Slavec municipality, the contact with Natura 2000 site is necessary; or a partial transition across the river and the protected area.
Option 2 assumes transition across the river and the Natura 2000 site by means of a long flyover whereas the bridge pillars would be situated outside the protected area and the bridge would be sufficiently high in order to

prevent any major interference with the protected objects. Unavoidably, a part of the area under the bridge will be overshadowed. There will be no direct contact with the protected area. See Annex 2/2.

Section 3 Tornaľa

Option 1 crosses the town utilizing the existing railway corridor.

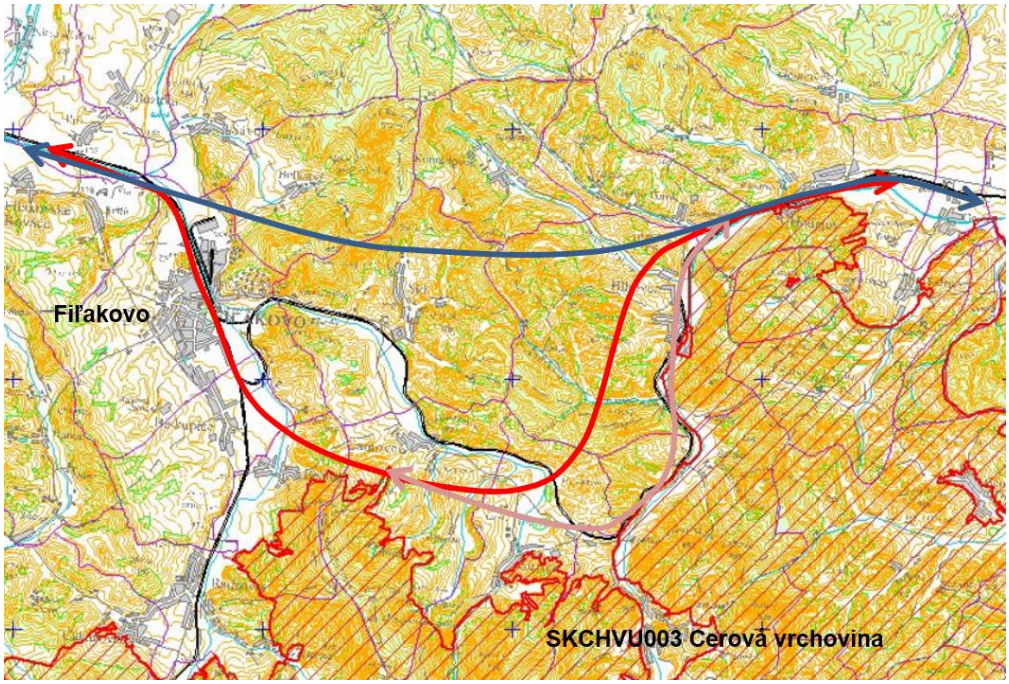
Option 2 bypasses the town from the East.

Section 4 Górtva

Option 1 (blue) bypasses the valley of the Górtva river to the north of the Šíd village across the unprotected area and it bypasses the city of Fiľakovo.

Option 2 (red) from the village Blhovce crosses the Galaš mountain range by means of a long tunnel and it enters the town of Fiľakovo. An alternative option can also be considered, i.e. the use of the existing railway corridor by relocating it alongside the valley of the Górtva river. Options of designed plan can be found in Fig. 2 and in Annex 2/3 of the attached map.

Fig. 2: Designed options in the Górtva river section



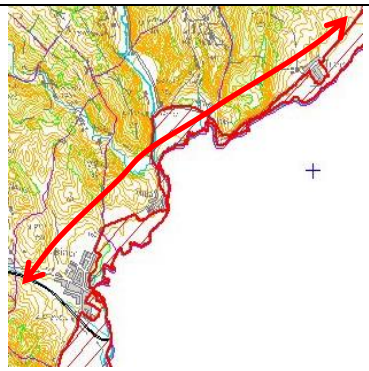
Section 5 Ipeľ

The borderline river Ipeľ belongs to a broader Natura 2000 area – a bird protection area - SPA Poiplie extending over the Slovak – Hungarian border territory. Apart from this territory, there are also other nature conservation areas and Natura 2000 sites in Slovakia. Designed options are presented in the Annex 2/4.

Option 1 (blue) is technically more complicated; however, it bypasses the bird protection area of Poiplie and all other protected areas (no contact).

Option 2 enters the protected area past the Holiša municipality routing to Panické Dravce village. It continues in direction of the village Trenč with the possibility of alternative options of transition across the border territory Hámor – Muľa. One of the alternative options crosses the Dedinská hora mountain range, which is designated as Natura 2000 site – SAC Dedinská hora. Although a tunnel traverses this mountain range, its portals will be in close contact with this area with a potential secondary impact to the objectives of SCI. The second alternative option is the transition through the bird protection area Poiplie – Hámor, closely touching the Hungarian border. Inundation of the Ipeľ river in this area would be bridged by means of a bridge. A detailed view is displayed in the map – Fig. 3.

Fig. 3: Designed options for the Hámor area and Natura 2000 sites

Option 2 SAC0261 Dedinská hora	Option 2 SAC0261 Dedinská hora	Option 2 *SPA021* Poiplie
		

Section 6 Cerovina

An important site of Natura 2000 in Slovakia - SAC Cerovina in lowland watercourses of Kompa and Perec.

Option 1 bypasses this area without any contact and impact.

Option 2 crosses the area via a bridge above the Perec and Kompa watercourses in the narrowest point of the protected area. The construction of bridge will not affect any protected area, however, it will cast a respective shadow on its surroundings. See Annex 2/5.

Section 7 Nové Zámky

Option 1 bypasses the town from the north due to lack of space in the central part of the town and within the existing railway station, that cannot accommodate the new railway track structure.

Option 2 follows the existing track corridor and it crosses the railway station in the town. See Annex 2/6. Both options pass between the towns of Nové Zámky and Dvory nad Žitavou through the bird protection area SPA Dolné Považie.

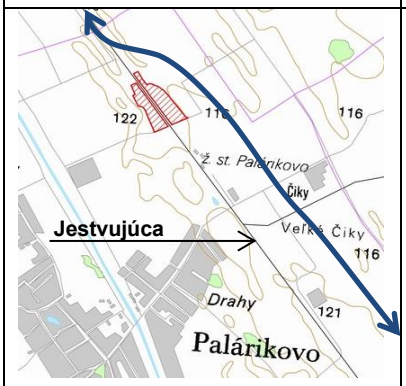
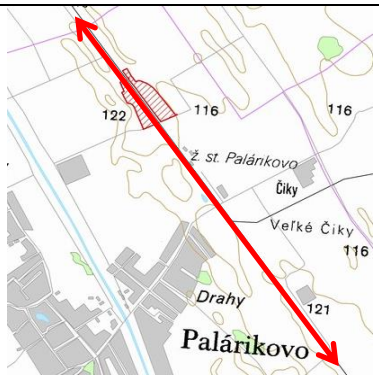
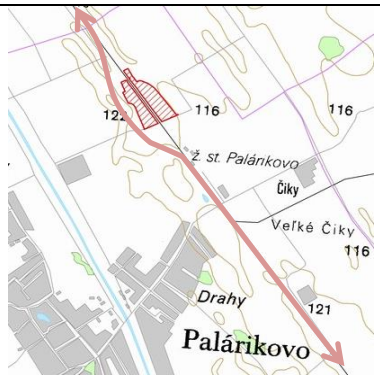
Section 8 Palárikovo meadows

An especially significant protected site of Natura 2000, the SAC Palárikovo meadows is situated to the north-west approx. 10.5 km from the city Palárikovo. It protects rare salt marshes and salt water habitats lying in a slight depression. The existing railway track divides this area into two halves, see Annex 2/6 and the envisaged solutions present an alternative proposals of its transition.

Option 1 (blue) continues with the bypass of the town of Nové Zámky, bypassing the Natura 2000 site (protected area) at the same time without any contact therewith, subsequently joining the existing track.

Option 2 (red) continues alongside the corridor of the existing railway and it creates a new track to the west from the existing double-track, approx. 15 m wide. This will cause an interference with the eastern part of the SAC (see map fig. 4.) in the width of the new parallel track. Any damage to or loss of the SAC objectives Palárikovo meadows will need to be analysed in an appropriate assessment procedure, and based on this, appropriate compensation measures will need to be designed and provided for. One of the possible solutions includes an alternative option of the bypassing the whole area from the west, however, this would cause enormous technical problems, as there is not enough space for this alternative option and several elements of the existing infrastructure present an obstacle.

Fig. 4: Options designed around the area Natura 2000 Palárikovo meadows

Option 1 SAC0097 Palárikovské lúky	Option 2 SAC0097 Palárikovské lúky	Option (sub) 2 SAC0097 Palárikovské lúky
		

Section 9 Cities of Šaľa, Galanta, Sládkovičovo

This optional solution arises from the need to bypass several towns and their infrastructure and from the impossibility of adjusting the existing track for the purposes of this project. See Annex 2/7

Option 1 detours from the existing track near the Jatov municipality and bypasses urban areas of the cities Trnovec, Šaľa and Sládkovičovo and their territorial reserves for further development.

Option 2 follows the existing track and technically adjusted for the existing infrastructure and new development projects, it crosses these towns and their structures. All the variations, consequences and impacts will be compensated for in mutual agreement.

Section 10 Small Danube River region

A very complicated and densely populated territory to the east of Bratislava, between the town of Senec and the Danube river. Alternative solutions search for the optimum route crossing this territory whilst minimising impacts on its population and infrastructure, see Annex 2/8.

Option 1 near the village Kraľova pri Senci detours from the existing track to the south in direction to Janíky, where it crosses the Small Danube river. After that, it continues in direction of the Miloslavov and Rovinka municipalities and to the south of Slovnaft refinery, in the Podunajské Biskupice municipality it goes up and joins the bridge across the Danube river.

Option 2 detours from the existing track to the south of the city Senec and it bypasses the recreation lakes area. It crosses the Small Danube river near the Hruby Sur village and leads in direction of the Tomášov village. It bypasses newly-built and planned residential areas in this territory. Similarly to option 1, it continues to the Rovinka and in the Podunajské Biskupice municipality it joins the bridge across the Danube river.

Alternative solutions of the project as described above do not have any environmental impact beyond the state borders of Slovakia and its neighbouring countries. There are 10 sections of affected area (Annex 2), where alternative and variant solutions are included mainly due to bypassing of protected and urban areas. None of the options do not cross the borders of neighbouring countries and any of the options with their construction and potential operation, despite the closeness of the state border, will have non-significant affects to the environment extending beyond the borders into the territory of the neighbouring country.

There are no other planned options of the broad gauge railway track at this stage of preparation; alternative options are available locally in order to optimise solutions at the next stages of assessment. If necessary, new options will be designed on the basis of submitted requests and resolution of conflicts of interests including international assessment requirements.

Option of non-realisation of the above activity.

If the above activity is not realised, there will get no construction and operation of the broad gauge railway on the designed route, the existing conditions of landscape and environment designed to be crossed within the territory of Slovakia and Austria, remain unchanged. It is to be assumed that each and every construction projects affects both landscape and environment to certain degree. If the project is not realised, it will have no effect. This also applies to the envisaged effect on the social and economic development of the affected region as well as border regions, but also the impact in a broader geopolitical context.

4. Description of environment´s elements which can probably be seriously concerned by proposed activity or by its options.

We can state on the basis of the above mentioned and of impact assessment on environment in Slovakia in accordance with valid legislation and generally binding standards that proposed project of building and operation of broad gauge line will not seriously harm any elements of the environment from the viewpoint of requirements

of international impact assessment. Impacts will concern the following elements of environment from the viewpoint of international requirements (cross-border impacts):

- possible impacts on common cross-border interests of nature protection, especially on the interest of European Union in the protected areas network Natura 2000, specified impacts on special protected areas in chosen section of the line in border areas or migration routes of birds within integrity of these territories,
- noise impacts from operation of railway line on human population which probably and demonstrably will/would cross borders,
- local impacts on surface waters courses during the building of railway in border stream courses,
- impact on the change of characteristic appearance of the country and its visual from the viewpoint of neighbouring country (e.g. movement of railway train in the country),
- dumping sites of the building waste during the construction and building transportation.

None of these possible impacts has a character of serious cross-border environmental impact from the point of laws, rules and requirements of international assessment. However, it is expected within cross-border assessment, that relevant bodies of countries concerned will exactly specify further requirements, ambiguities or unresolved impacts which are not indicated in this documentation and would be relevant from the viewpoint of measure´s solution or changes in the project.

5. Description of possible cross-border impact of proposed activity or its option and the seriousness´ estimation.

5.1. During the construction

During the construction we can expect the impact of building activities and machines on immediate surroundings of construction along the whole section of railway construction. This involves mainly own line construction at flat landscape by removal of organic soils, building of embankments, bridges, retaining walls, stream courses changes and tunnelling (tunnel exploitation). Dust pollution (PM_{10}) arises mainly in dry, windy and warm season during this basic building activity. Dust can be brought behind the borders in cross-border areas by strength of the wind and wind direction. It applies to both countries, at more cross-border areas with Hungary and on the line passage through borders to Austria. Dust emission will be regularly monitored in synergy with current wind and other climatic conditions. Simple measures based on watering can prevent the formation and transfer of dust (PM_{10}) into bigger distance up to temporary interruption of works in the particular section unless the unsuitable local climatic situation ends (e.g. strong hot wind, storm, twister etc.). Other impact will not have character and amount that would influence the environment´s state and population´s health behind the borders.

5.2. During the operation

Possible impacts of broad gauge line´s operation crossing the state borders with Hungary and Austria in places where line approaches the border or crosses borders (Austria) were identified as follows.

5.2.1. Noise emission from b-g railway operation

Broad gauge line approaches border with neighbouring countries (Hungary and Austria) to the distance of possible noise spread from line´s operation in these sections (refers to both variants, the one who is closer to the border and to the project as a whole):

No	Place	Distance to the nearest place to state border		
		in meters	to the nearest village behind the border in meters	
1	Lenartovce	2168	Banréve, Hungary	2554
2	Rimavská Seč	3009	Susa, Hungary	3375
3	Fiľakovo	9940	Somoskoujfalu, Hungary	9625
4	Veľké Dálovce	1583	Ipolytarnocz, Hungary	1650
5	Trenč	1193	Litke, Hungary	2432
6	Rároš	408	Rárospuzsta, Hungary	522
7	Muľa	204	Rárospuzsta, Hungary	1140
8	Slovenské Ďarmoty	1698	Balassagyarmat, Hungary	2065
9	Balog nad Ipľom	771	Ipolyvece, Hungary	1974
10	Veľká nad Ipľom	1219	Ipolyvece, Hungary	2264
11	Vyškovce nad Ipľom	1261	Tésa, Hungary	3252
12	Jarovce (border crossing)	0	Kittsee, Austria	668

Noise from line operation will be decreased by morphology of the landscape and its vegetation cover. In case there is identified spreading of noise impact on local population, it will be eliminated by means of noise barriers - walls construction after agreement (relevant requirements) with state and local bodies of public administration of Hungary and Austria.

International noise impact assessment is and will be performed in cooperation with Austrian and Hungarian experts and the predictive model of estimated noise impacts on environment and population concerned will be mutually calibrated in accordance with mutual agreement to reach the same impact in crossing of state border (Austria) or solution of railway in contact nearness of state border considering the nearest residential units and residences (Hungary).

In the proposed activity, all legal and other requirements for environment protection and public health protection are related to territory concerned and to groups of population situated in immediate surroundings of proposed activity pursuant to valid legislation with meeting the all legal requirements on environment protection and public health protection.

The verified existence of significant cross-border impacts to the environment is practically impossible during the provision of environment protection requirements and public health requirements in the nearest territory concerned in around to 1000 meters.

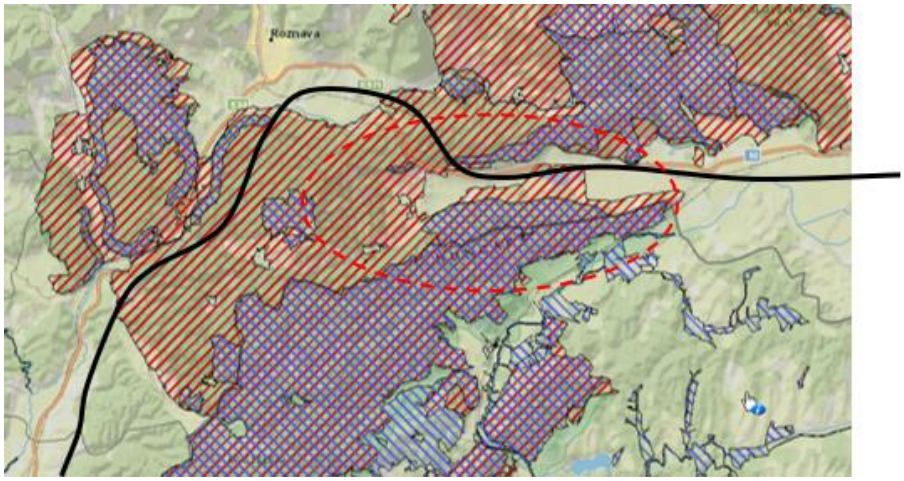
5.2.2. Cross-border impacts on nature protection interests

Similarly as noise emission influence the public concerned (human population within of border areas), operation of broad gauge line can cause cross-border impact on commonly protected interests of nature protection, especially on area of European interest in Natura 2000 network. These are situated mainly in cross-border areas with Hungary and by passage the alignment to Austria as follows:

International marking:	Original name of the territory	Category*)	Common territory and localization**)	
HUAN10001	Aggteleki karst	SPA	Slovak karst	Fig.5
HUAN20001	Aggteleki karst és peremteruletei	SAC	Slovak karst	Fig.5
HUBN20063	Karacs	SAC	Cerová vrchovina highland	Šiatorská Bukovinka
HUBN20062	Kozepso-Ipoly volgye	SAC	- -	Trenč
HUDI10008	Ipoly volgye	SPA	Poiplie	Fig.6
HUDI10008	Ipoly volgye	SPA	Poiplie	Fig.6
HUDI10008	Ipoly volgye	SPA	Poiplie	Balog nad Ipľom
HUDI20026	Ipoly volgye	SAC	- -	Balog nad Ipľom
HUDI10002	Borzsony és Visegradi-hegység	SPA	Poiplie	Šahy
HUDI20008	Borzsony	SAC	Alluvium Ipľa	Šahy
AT1125129	Parndorfer platte - Heideboden	SPA	Syslovské polia	Fig.7

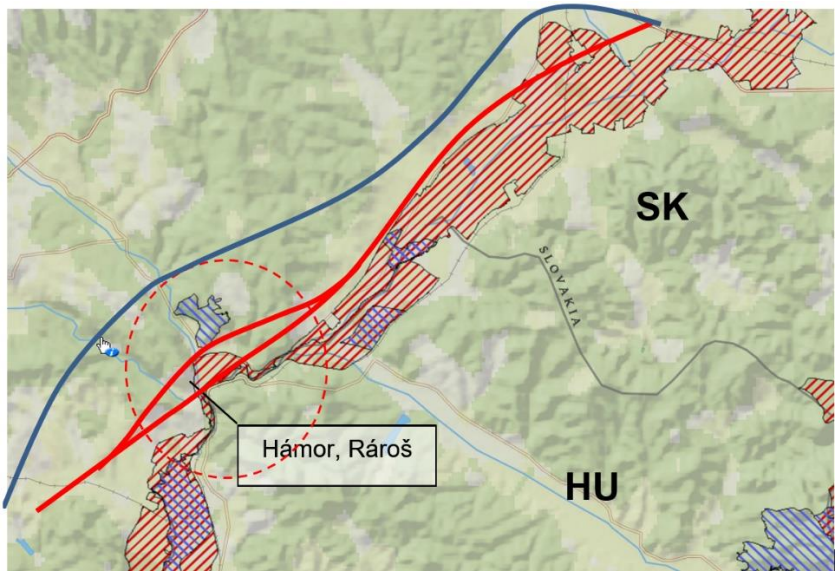
*) SPA - special protected area for bird species of European and national interest
SAC – special areas of conservation for habitats and species of European interest
**) Localization shows the nearest municipality or geographical name with the closest point of broad gauge line with boundary of protected area at state border

Fig.5: Map of route through the common cross-border area of SAC and SPA of Natura 2000 in Slovak karst and in Hungary



In the present extent of knowledge it is expected and shall be evaluated possible impact only on territory near Hámor – Ráros in the preference of the option 2 (blue, see Fig. 3 and 6) where adequate assessment will be applied pursuant to Art. 6.3. And 6.4. of Habitats directive (Council Directive 92/43 EEC). This assessment and evaluation of impacts (AA) is performed mainly for the reason of choice of variant solution in the given locality (described above) and at the same time it evaluates impact on birds species and their habitats which are subject to protection of common special protected area Poiplie and Ipoly volgye (SPA´s).

Fig.6: Map of solution in locality Hamor – Raros / Rárospuzsta.

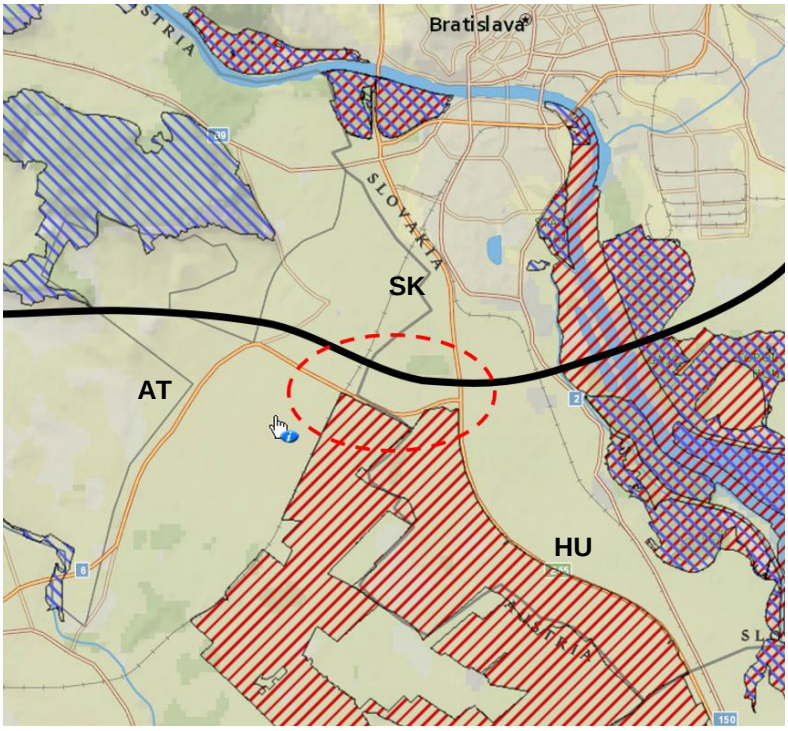


Key:

Special protected areas (SPA)
Areas of European interest and conservation (SCI, SAC)
proposed route of broad gauge line

In the contact distance a common Slovak-Hungarian-Austrian SPA´s as common bird protection area exist focused mainly on species protection of the great bustard (Otis tarda) and other accompanying protected bird species. This internationally important territory will be directly non affected neither by construction nor by broad gauge line operation. The broad gauge line will be 678 m far from common border of SPA in crossing of border Slovakia-Austria (Slovakia - Syslovské polia, Austria - Parndorfer platte – Heideboden), see fig.6.

Fig.7: Map shows common interest on bird species protection around borders with Austria.



Key: Special protected areas (SPA)
Areas of European interest and conservation (SCI, SAC)
Proposed route of broad gauge line

Map source, website: http://natura2000.eea.europa.eu/#

From the list of protected areas on national level, the broad gauge line passes through the territory of National park Slovak Karst, which form its inner buffer zone. This territory is at the same time common national park in Hungary - Aggteleki Nemzeti Park and at the same time the territory is included into UNESCO Man and the Biosphere Programme as International Biosphere Reserve. Route of broad gauge line does not reach into territories of these national parks at some places concerned.

5.2.3. Other identifiable cross-border impacts

No negatives impacts from the present knowledge were seen, that would cross the borders of Hungary or Austria. Railway will be fully electrified and thus will not produce any pollutants into the air.

It is positive that great part of goods transported by freight vehicles - trucks and container vehicles will be transferred to railway trains, which will have much lower or zero increment of emissions and pollutants that would present possible air pollution for short or long distances.

5.2.4. Estimation of international impact significance

Track of broad gauge line, 375 km long pass only through Slovakia and crossed to Austria, where it continues to the terminal near Vienna. The route reaches the borders of Hungary in distance of a few hundred meters only in short passages in this section (Hámor - Raros). There is only sparse population at both sides of the borders and therefore more significant impacts on the environment and population´s health are not expected. We classify the character and rate of cross-border impact on environment and population´s health in this part of information for cross-border assessment as follows:

Character	Rate of impact significance*	Elimination of impact**
Noise emissions	1+	Noise barriers
Emission and expansion of dust PM10	**!**2	Cleaning, sprinkling
Impact of building transport	!1+	Optimization
Waste production	!1	Protection
Impact on protected bird species in SPA´s incl. bird habitats	1++	Monitoring, mitigation measures
Impact on protected species of habitats (esp. migratory) and plants in SCI´s	0	0
Impact on protected areas	0	0
Impact on groundwater	0	0
Impact on surface stream courses and structures	**!**1	Supervision over the technological discipline during the building
Stressful elements for population	0	0
Technical seismicity (tunneling)	!1	Monitoring
Modification of landscape appearance and face	1	0

*) Seriousness rated as significant (2)
Less than significant to insignificant (1)
None (0)
Possibility of risks is shown with +, ++, +++ added to the significance rate
**) Elimination by technical measures which are given as solution example.
!) Temporarily, only during the line construction

From the mentioned we can see that seriousness of cross-border impacts is partial only during the building in specific climatic conditions and that mainly via dust transfer in windy season. It will be possible to eliminate the origin and transfer of dust by suitable and quick response to current weather and windiness, mainly by sprinkling and watering of dusty places or by reduction of building activity.

Influence rate of operation noise will be modelled for future technologies of line operation. The noise will be reduced or removed by line distance from the nearest residences behind the borders and where it will be

necessary or when the relevant requirement will be raised, the noise barriers will be built as a part of comprehensive noise measures along the whole broad gauge line.

It will be possible to evaluate the rate of impact on protected bird species and SPA´s after specification of monitoring conditions of current state of protected bird species which are subject to protection of cross-border special protected areas and after current evaluation of state of their habitats. Afterwards we evaluate the rate of impact of construction and impact of broad gauge line operation on these interests of nature protection and we will receive and implement adequate compensation and mitigation measures in case it is necessary.

Rate of seriousness of other cross-border impact is inconsiderable. Their proving will have to be specified on the basis of raised relevant requirements of responsible bodies of state and public administration.

No serious cross-border impacts were identified in the sections of broad gauge alignment which are close to borders with Hungary and Austria.

6. Description of measures which reduce serious impact on environment on minimum.

6.1. During the construction:

- monitoring of progress of climatic conditions along the whole section of building and provision of adequate response on quick local changes of climatic conditions and weather, torrential flood and drought prevention;
- watering and spraying of building roads in the season of stronger hot winds, cleaning from the dust and reduction of its transfer by wind, water cleaning of all other roads used during the construction;
- prevention from appearance of dumping sites of building waste along the whole line, especially in border areas;
- monitoring of technical seismicity at blasting and tunneling during the tunnel building;
- eliminate the pollution risk of surface and groundwater flowing to Hungary;
- do not perform activities, that could endanger the animals in their existential activities (migration, searching for food etc.) and observe the conditions and state of their habitats, do not disturb the animals during their life acts, especially birds;
- prevention from spreading of invasive plants species through building objects, dumping sites and finished parts of construction before its release for utilization;
- provide effective safety measure against illegal actions of property, landscape or environment damage.

6.2. During the operation:

- elimination of identified and verified noise impact of broad gauge line operation (passage of railway trains), building of noise barriers on the basis of agreement with relevant bodies of state and public administration and on the basis of results of professional evaluation and modeling of operation noise spreading from railway train passage, that would have impact behind the borders;
- common assessment of impacts on interests of nature protection, especially interests of European importance (territories of NATURA 2000) and other cross-border protected interests, common

monitoring of protected bird species and state of their habitats at chosen places in immediate nearness of state borders, implementation of received measures in case of need and relevant requirements;
- risk elimination of collision of migrating animal species at cross-border wildlife corridors by building of environmentally adequate parts of constructions;
- prevention from lighting of line and its equipments that would affect the landscape and residences on the other side of borders,
- prepare and observe the emergency plan and regular checks of equipments and machine facilities state, prevention from risks and regular monitoring of impacts on chosen elements of the environment;
- build cross-border and efficient regime of information exchange about the environment (e.g. animals migration) and prevention from risks and emergency states.

7. Introduction of concrete used methods of forecasting and initial conditions on which they are based, as well as used relevant sources of data about environment.

This purpose is subject to extraordinary big range of evaluation of conflicts and solutions of particular components of building and operation because it is a big transportation project showing a long and complicated line construction and afterward operation and management of transportation on broad gauge railway. As it is mention above, this stage of impact evaluation process including international cross-border assessment focuses mainly on environmental feasibility of described purpose, which as a project will begin after decision if the project is feasible from all viewpoints. Therefore this stage of impact assessment very thoroughly looks into all possible impacts and consequences of building and operation of the purpose. Assessment methods are definitely objective and in accordance with binding methods and valid legislation. Evaluation is performed by professional team associated in verified project organization, team who completed significant number of evaluation processes. Company Valbek SK s.r.o., Bratislava as a participant of international consortium (BVO – Bernard-Valbek-Obermeyer, Vienna, Austria) which is authorized to perform the feasibility analysis is authorized to assess environmental feasibility in Slovakia, which besides others is solved by comprehensive and objective impact evaluation process on the environment pursuant to Act EIA and its implementing regulations, in accordance with international law (Convention on environmental impact assessment in a transboundary context - “Espoo Convention”, Directive No. 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment) and according to usual process steps and methodology. At present, the purpose of the proposed activity is presented to specify and determine the conditions of further and comprehensive impact evaluation on the basis of opinions of bodies concerned, conflicts of interests, presentation and requirements of state and public administration and self-government, many municipalities and wide public. During the whole evaluation, the basic team will be complemented by other experts for the particular given issues, which arise from requirements of further evaluation from decision of Ministry of the Environment of the Slovak Republic. We present a close cooperation with organization branches of State Nature Conservancy of the Slovak Republic as well as with other professional state institutions and bodies of the public administration.

Noise emissions from operation of broad gauge railway will be evaluated especially responsibly from the above mentioned possible impacts on the environment. This relates to the whole length of line with expert and scientific modelling of impact and reach of noise behind the state borders. Noise analyses and impacts including the cross-border analyses and impacts started to performed by top workplace for evaluation of noise emissions and its impacts on population´s health and living nature. In the next phase of the assessment, the noise and dispersion study will propose technical solutions for elimination of noise impacts. The noise will be eliminated besides others also by building of efficient noise walls or barriers in the border area or by using the morphology and vegetation within the landscape.

Special process will be formed by assessment of impact on nature conservancy subject individually in special protected areas in the Natura 2000 sites which are situated in border areas and have common aims of conservancy of protected birds' species and their habitats. We evaluate the current conservation state of protected bird species at the concrete territory concerned and state of their habitats in case of raised and specified requirements and we assess the operation impact of broad gauge line on the negative state of conservation. We evaluate the impacts of proposed activity according to Art. 6.3. and 6.4. of Habitats Directive (Appropriate Assessment) in special cases and on the basis of necessary requirement or need for which the company Valbek SK s.r.o. provided adequate experts. The given evaluation will be performed in close cooperation with branches of State Nature Conservancy of the Slovak Republic and with cross-border organizations of nature conservancy.

This phase of environmental impact assessment, including forecasting of cross-border impacts, is performed mainly by own experts and by preliminary field research and assessment. Besides that we officially gained (bought) data from State Nature Conservancy of the Slovak Republic and management units of protected areas administration, data from State Geological Institute of Dionýz Štúr related to the geological structure in wider surroundings of proposed railway with emphasis on tunneling and engineering-geological data about landslips, slope stability and seismic stability. We processed data about climatic and weather parameters (Slovak Hydrometeorological Institute), basic expansion of protected categories of agricultural waters (Soil Science and Conservation Research Institute) and surface and groundwater structures (Slovak Water-Management Enterprise, Water Research Institute) and other relevant technical and expert bodies. We searched into many other data sources from local spatial and urban plans of villages, towns and regions and from current valid regional strategic documents. We provided the first contacts with local experts or professional organizations e.g. local groups of Slovak Ornithologic Society, which monitor state of birds in chosen territories, spelunkers and cavers (Slovak karst), fishermen and conservational associations near protected areas.

Proposer thus created comprehensive database about current state of environment in the line of proposed railway in Slovakia and in passage through the borders, where this project approaches mainly borders with Hungary. We created and provided sufficient amount of experts for completion of these data so that we are able to objectively evaluate impacts of proposed project crossing the border of Slovakia mainly on territory and human population of Hungary. Evaluation of cross-border impacts of proposed project on Austria will be performed jointly because it is a joint project with Austria, and it will be compared with evaluated impacts identified in

Slovakia. Similar process will be in territories with contact distance to Hungary, because there is no expectation that cross-border impact towards Hungary will be other than those determined on the borders regions with Austria. In case it is necessary we ask for further accompanying data from databases of countries concerned, that are necessary for overall and objective impact evaluation of broad gauge railway line on the territory of Slovakia but mainly on territory, infrastructure and human population of neighbouring countries.

8. Identification of deficiencies in the knowledge and indefiniteness found out during the collecting of required information.

There are and there will be used standard methods of obtaining and evaluation of currents state of the environment, landscape and legislative and normative requirements in the whole preparation process of accompanying documentation and territory analysis which plans track of broad gauge railway. There were not found any deficiencies and indefiniteness that would not enable objective assessment of cross-border impact on environment and human population´s health in the current stage of evaluation, including in international assessment of cross-border impacts. Other information necessary for forecasting of cross-border impacts and receiving of measures will be performed in close cooperation with foreign experts and after specification of further requirements from the viewpoint of bodies concerned within international assessment.

9. Possible necessary proposal of monitoring and managerial programmes and other plans of post-project analysis.

Subsequent monitoring and evaluating programmes will be specified within process EIA and they will be implemented in case of decision about further process and preparation of project for its implementation. This will relate to measures and programmes during the building of the whole broad gauge line for one thing and for another to monitoring and managerial programmes and measures after its putting into operation. As it is envisaged earliest after 2025, these programmes and measures will have to be in compliance with current valid legislation and standards of environment´s protection, which cannot be foreseen at present, for one thing from the viewpoint of national framework of countries concerned and for another from the viewpoint of common legislation of European Union.

10. Non-technical summary of the project

Documentation for international impact assessment on environment presents information about proposed project of broad gauge railway line which will extend current broad gauge line ending near Košice, close to village Haniska. The project is international and it is being prepared in cooperation with Austria, Ukraine and Russia; the broad gauge line will continue up to Austria. The line is proposed, where it is enabled, in concurrence with current railway from Kosice, running through Rožnava, Rimavská Sobota and Lučenec. Here it turns away from the existing line and follows via new-built lane along border with Hungary. It continues towards Nové Zámky behind the village Šahy and there it connects with existing railway and follows in its lane up to town Senec. This town is bypassed by new line to the south from Bratislava, it goes through long bridge over Danube and enters

Austria near village Jarovce. We expected renovation of current line infrastructure in track of common lane with existing line it. There will be many bridges along the whole line and ca. 50 km of tunnels to maintain elevation grade line and to span morphological structures of the country. Broad gauge line is planned to be built as one-track for the speed of 120 km per hour. Two-track passing loops will be built along the line on the place where oncoming trains will meet. Large reloading terminal is planned to be built near town Nove Zamky, the only one in Slovakia. Transportation will be organized at high automated principle; estimated frequency is 4 trains per hour, two from each side. Railway trains shall focus mainly on shipment of loads, expected operation is 20 hours a day.

Proposed line will approach to borders with Hungary from Slovak karst (Moldava nad Bodvou) up to town Sala. The line will go in renovated current railway lane up to town Lučenec. It will turn away in front of Lučenec through valley of river Ipeľ up to town Šahy and in this section it approaches the border with Hungary, in some section in the distance of few hundred meters (in the option 2). The nearest place to state border is in the locality Hámor, ca. 200 m. Proposal of broad gauge line approaches Austria behind the village Jarovce, where it passes to Austria through the border near village Kittsee and goes up to terminal in that country. This section in Austria is assessed individually according to valid legislation of the Republic of Austria, including international assessment.

Potential impact on environment crossing the state borders has been identified in two levels in this stage - possible impacts during the project construction and possible impacts during the operation of broad gauge railway. None of these identifiable impacts has serious impact on environment as well to human population´s health behind the borders, resp. any significant impact was not verified. Impact during the building relates only to occasional increased dustiness in all sections of the building close to borders during dry and windy days which can be very efficiently eliminated by more measures. Cross-border possible impacts on common interest of nature conservation in protected areas declared in border areas during the building as well as during the operation will be regularly evaluated in further stage of impact evaluation process, if it is necessary by means of process of appropriate assessment according to relevant regulation of commitments of European Union (Habitat Directive, Cross-border assessment directives). Experts and authorized representatives of Hungary and Austria will be invited into this process according to raised requirements and proposals within the process of cross-border assessment.

Results of international evaluation process of impacts on environment will be a basis for environmental feasibility study of full presented international project as it is described in other documentations. It is a high interest of all parties concerned that this project does not cause any unacceptable expected impacts on environment, including impacts crossing the state borders, for which the whole project would become unfeasible and unaccepted from the viewpoint of environmental efficiency. Project implementation should bring supra national economic and environmental benefits, mainly by rearrangement of great volume of goods shipment from ships and freight vehicles to modern and quick railway with minimum impact on environment, including mitigation of increase of climatic changes. At present stage of assessment, there were not identified and verified any possible impacts that would damage or endanger elements of parts of environment or interests of nature protection in national, international and mainly European level in Natura 2000 sites network.

Therefore it is not expected, that if possible important impacts will not be identified to the territory of Slovakia during the running process of impact assessment (EIA) at present in Slovakia, the cross-border impacts cannot be differentiate from impacts (positive or negative) foreseen in Slovakia. In case of need or raised requirements there will be proposed compensation or reducing, mitigation measures, which eliminate any cross-border impact of proposed project together with elimination of possible impact in Slovakia.

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Annexes:

Annex 1: The Basic map of proposed alignment of the broad gauge railway project in the scale 1:300 000.
Annex 2: The selection from the Basic map – details of sections of variant solutions.