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TRITIA Intermodal Logistic Terminals Action Plan

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1. KEY OBJECTIVES

1.1. General Objectives

One of key objective of the TransTritia is to coordinate steps for tackling congested freight transport, in particular the road network in the border area of three members states of the EU in four border regions of the EGTC TRITIA. One solution to this situation is to increase the region's accessibility by a railway and transfer part of the freight transport from the roads to the railways.

Given that the main task of the TransTritia Project is the required 30% shift from road to rail transport for transport distances over 300 km by 2030, **it is assumed that intermodal transport will have to play a major role as business logistics does not allow in most cases a** direct connection to rail transport. It is based on the European Union's White Paper on transport entitled as "Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system '(COM (2011) 144 final)". There are a proposals to enable this transfer presented by this Action Plan.

Figure 1 – Area of the EGTC TRITIA

1.2. Models and scenarios based on the TRITIA transport model

Based on the directional survey, an estimate was make of the number of intermodal units, which is the equivalent of container knows as the 40" intermodal unit. The 40"s will needs to be imported, unloaded, loaded and transported in the 2030 horizon within the TRITIA area and of its particular regions. It is based on the percentage distribution of vehicles ending in the regions with respect to the total number of vehicles from directional surveys and their interpolation to major road sections.
The impacts of transiting traffic on the railway network of the TRITIA region was addressed by output D.T2.2.4.

Table 1 - Percentage of vehicles with a route of more than 300 km with the destination or start of the journey in the TRITIA area

Border crossing	Total of vehicles	Vehicles with a route over 300 km	Percentage over 300 km	Internal transport in TRITIA over 300 km	source transport from TRITIA over 300 km	destination transport to TRITIE over 300 km	Total traffic over 300 km for TRITIA	Percentage
SK/PL - Trstená	1134	565	49,84%	8	49	48	105	9,26%
SK/PL - Skalité	959	770	80,28%	4	164	157	325	33,89%
SK/CZ - Mosty	3316	2471	74,50%	10	594	681	1285	38,75%
SK/CZ - Bílá	1273	874	68,72%	9	223	211	443	34,81%
CZ/PL - Chotěbuz	3512	2144	61,03%	7	612	642	1261	35,90%
CZ/PL - Antošovice	6754	3683	54,53%	3	1344	500	1847	27,35%
CZ/PL - Bartultovice	919	555	60,39%	0	142	65	207	22,53%
Total	17 867	11 062	61,91%	41	3128	2304	5473	30,63%

Table 2 - Daily increase in processed "40" intermodal units due to traffic transfer to year 2030

section	Source table from D.T3.1.3	Trucks 2020 in both dirrections - AADT	Growth koeficient 2030/2020	Trucks 2030 - AADT	Share of vehicles with a route over 300 km	30% transfer of vehicles over 300 km (White Paper EU paragraph 2.5 (3))	Percentage of vehicles targeted in the TRITIA area	Number of new 40" intermodal units in 2030
A	B	C	D	E	F	G	H	I
			note 3	C x D	note 1	E x 0,3 x F		G*H
Studénka - Ostrava	table 68	5511	1,37	7550	62%	1402	31%	430
Jablunkov - Mosty	table 69	2983	1,37	4087	62%	759	31%	232
Rychaltice - Frýdek-Místek	table 70	2302	1,37	3154	62%	586	31%	179
Bílá - Frýdek-Místek	table 72	310	1,37	425	62%	79	31%	24
Dětřichov - Krnov	table 74	852	1,37	1167	62%	217	31%	66
Kopřivnice - Příbor	table 77	494	1,37	677	62%	126	31%	39
Total for Moravian-Silesian region								970
Opole - Gliwice	table 105	13486	1,37	18476	62%	3432	31%	1051
Gliwice - Katowice	table 105	21915	1,37	30024	62%	5576	31%	1708
Bohumín - Mszana	table 106	4681	1,37	6413	62%	1191	31%	365
Cieszyn - Bielsko-Biala	table 108	3411	1,37	4673	62%	868	31%	266
Tychy - Pszczyna	table 110	5553	1,37	7608	62%	1413	31%	433
Siewierz - Częstochowa	table 110	7389	1,37	10123	62%	1880	31%	576
Racibórz - Krapkowice	table 111	905	1,37	1240	62%	230	31%	71
Total for Opole and Śląskie voivodeships								4469
Čadca - Krásno nad Kysucou	table 151	3880	1,37	5316	62%	987	31%	302
Ružomberok -Ľubochňa	table 152	2021	1,37	2769	62%	514	31%	158
Žilina – Bytča	table 153	6231	1,37	8536	62%	1585	31%	486
Dolný Kubín - Tvrdošín	table 154	1181	1,37	1618	62%	301	31%	92
Rajec - Fačkov	table 155	232	1,37	318	62%	59	31%	18
Diviaky - Turčianske Teplica	table 156	681	1,37	933	62%	173	31%	53
Total for Žilina region								1109

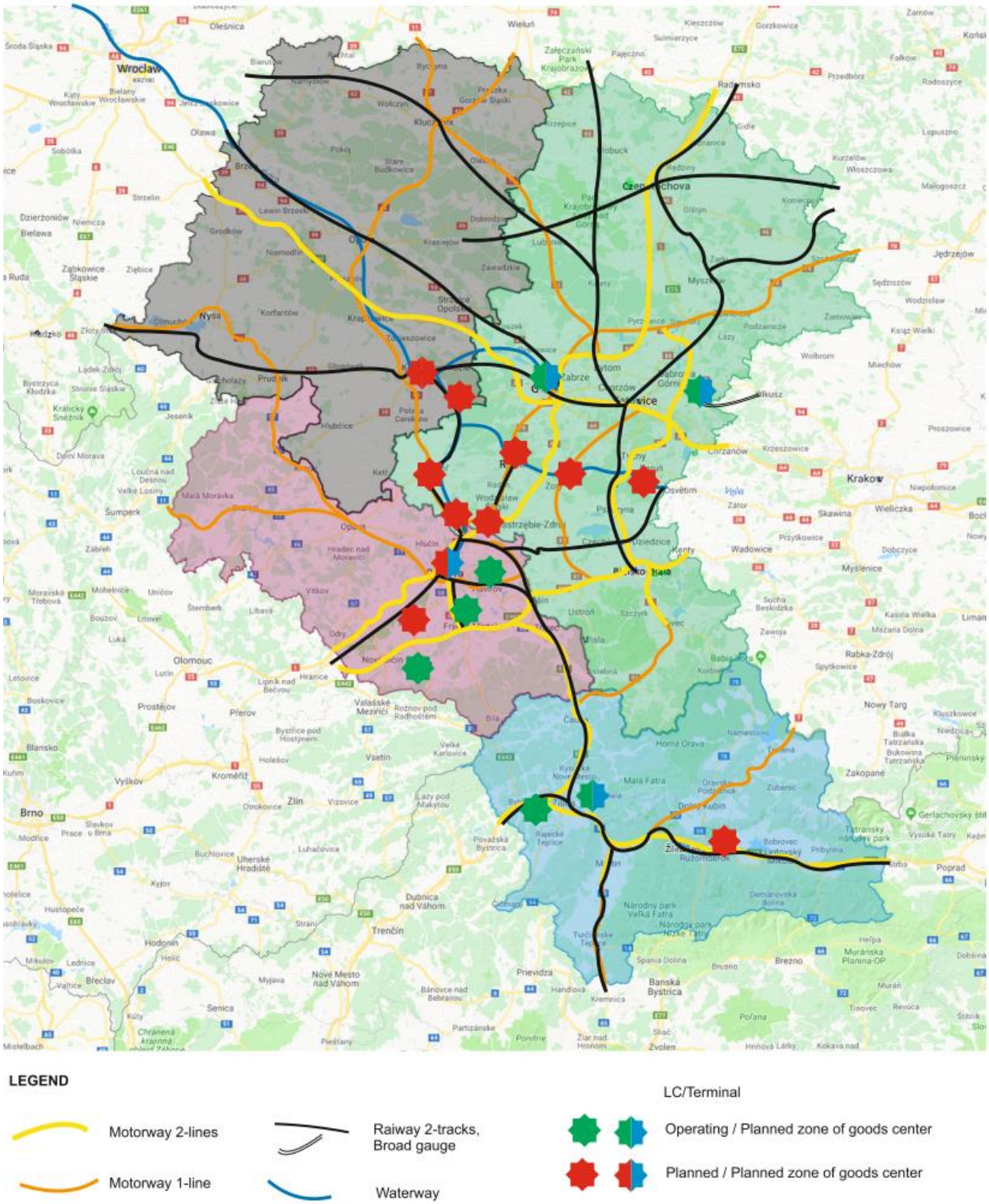
It means to expect increasing of the 40 "intermodal units in terms of annual output for:

REGION	increasing	current capacity
Moravian-Silesian region (CZ)	354.000	300.000
Opole and Śląskie voivodeships (PL)	1,631.000	300.000
Žilina region (SK)	405.000	200.000

1.3. The Main obstacles

1.3.1. Infrastructure of transhipment

Figure 2 – Terminals on the map of the EGTC TRITIA area



1.3.1.1. Moravian Silesian region (CZ)

The existing transhipment terminals in **Paskov** and **Havířov (Šenov)** operate at the capacity limit, while the transhipment depots in Havířov (Šenov) have already had to be spread over two approximately 4 km distant locations and a significant increase is not possible. The transship terminal in **Kopřivnice** serves mainly the nearby industrial zone and due to the ongoing construction of the terminal in **Mošnov**, it is not avaiable to considering a significant increase and potential for handling goods for other localities. There is not 750 m long unloading track with portal unloading technology available in any of the transhipments point, direct entry of trains of this length is not possible and transschiping must always be performed at the nearest railway station of the national railway network or in the case of the terminal in **Paskov** on its own non-electrified handling track.

There is room in the Czech Republic for the completion of the terminal network (comparison see the D.T2.3.2, figures 52 and 53). It could be at least one terminal inthe area of the Moravian-Silesian region, due to the absence of trimodal facilities and space restrictions at the terminal in Havířov (Šenov).

1.3.1.2. Opole and Śląskie voivodeships (PL)

There are 4 intermodal terminals in the Śląskie voivodeship. The two most important are the **Euroterminal Sławków** and the **Silesian Logistics Center**. They are described within the Report D T2.3.1 (Chapter 5.3.2.). There are no intermodal railway terminals in the Opolskie Voivodeship. There are two ports at Kędzierzyn Kożle (**KK Terminale** and **Port Grupy Azoty ZAK SA**) that have the potential for future development. (For more describing see chapter 5.3.2. of the Report D T2.3.1 *Map of the Intermodal centres/terminals at TRITIA area*)

1.3.1.3. Žilina self-governing region

In the Žilina self-governing region, it is possible to assess the current number of 2 transhipment points due to the number of inhabitants as sufficient. Temporarily unused terminals in **Ružomberok** and **Trstená** (primarily intended for RO-LA) also remain in the reserve. No capacity problems are expected either, even if the terminal in Žilina is at the limit of its capacity, without the possibility of simple expansion, either of the track or storage capacity. The **TIP Žilina** terminal has been in operation for a little over a year and so far uses only a fraction of its capacity, which can be expanded if necessary by using additional handling equipment.

1.3.2. Transshipment points transport connection

1.3.2.1. Moravian-Silesian region

Of the four transhipment points that will be in operation after 2025, only the transhipment depot in Havířov (Šenov) is connected to the double-track electrified line with the possibility of exiting in all main directions. Any of the transhipment point is not located directly on the network of the main railway corridors Austria - Poland and Slovakia - Poland, ie the RFC network - corridors 5 or 9. The transhipment point in Paskov lies on a

single-track non-electrified line and the Railway Administration expects double-tracks and electrification by 2025. The problem is the exit from the transhipment point, which is possible without overtaking only on the 20 km distant line Přerov - Ostrava. Direct exit to Slovakia without change of direction and switching is possible only within significant detours through Bohumín or Vsetín (in this case using non-electrified rails without appropriate inclination conditions. At Mošnov and Kopřivnice transhipments points, the impossibility of direct connection should be solved by planned addition of direct rail to Přerov. The head-line of Přerov-Ostrava is about 10 km away from the transhipment point in Mošnov using a electrified single-track line, to Kopřivnice it is another 10 km using a non-electrified single-track line.

The road connection to all transhipment points is solved by connecting to capacitive roads without passing through residential zones.

1.3.2.2. Opole and Śląskie voivodeships

Euroterminal Sławków has connections with the transport network in domestic and international traffic, through the following rail connections: direct connection with the LHS broad-gauge line about 400 km long via the border crossing Izow / Hrubieszów via Ukraine with the Far East and access to lines specified in the AGTC Agreement (agreement on the main lines of combined transport).
Śląskie Centrum Logistyki S.A. is directly connected to railway line No. 137 Katowice - Legnica via the electrified connection No. 675 Szobiszowice - Gliwice Port. When it comes to road transport, it is perfectly connected to national roads and A1 and A4 motorways, as well as to the Drogowa Trasa Średnicowa road. Currently, the four out of six locks of the Gliwice Canal (waterway connection) are the completion or implementation of the planned modernizations (until 2030 year) to class Va. Additionally, near the start of the Gliwicki Canal is preparing to build the Kędzierzyn Koźle(PL)-Ostrava(CZ) crossborder waterway (year 2021-2030) as a part of the target Oder-Danube waterway connection (after 2030).

1.3.2.3. Žilina self-governing region

Two terminals in Žilina are connected directly to the railway branch of the Žilina station. The Žilina terminal is connected to the entrance head from the direction of Bratislava and to the place of communication along which there is access to the road I 61 which is connected to the motorway network via the D3 feeder in the Žilina - Strážov district, respectively to roads I/18 and I/64 on road network of the city of Žilina. The TIP Žilina terminal opens into the Entrance segregated station of the Teplička nad Váhom establishment station and is connected to the road network via a service road, intended exclusively for the needs of the terminal on route II/583A by means of an intersection with unsatisfactory parameters. The intersection is currently operated in a way where the road vehicles coming out of the service road of the terminal have the commanded direction of travel to the right, while the load from the terminal is directed in the opposite direction and must therefore turn on the pump. At the same time, the affected road may not provide sufficient capacity in the long run due to the fact that it is supplied for KIA together with associated production, located in the cadastre of Teplička nad Váhom and Gbeľany and is the only road connecting the city of Žilina with the tourist center Terchová and Vrátna, which are important goals of tourism with a transnational significance.

2. PRIORITIZATION OF INVESTMENTS

2.1. Terminals

The target state should be terminals fully equipped with portal reloading technology above the 750 m long tracks, which allow direct entry without the need for further manipulations and with sufficient capacity of storage areas for intermodal units. As it is an infrastructure facility that will serve several decades, it must be dimensioned with a long-term perspective, not only to meet the requirements of 2030. It is always necessary to consider a further increase due to economic growth and convergence to developed European countries and under the other targets for the transfer of transport to 2050 and the GREEN DEAL policy.

The parameters of combined transport terminals change over time. For this reason, it is advantageous and expedient to increase the capacity of the terminal (and thus the fixed costs of the terminal) in stages and to expand the terminal within the individual modules. However, when deciding on the construction of the first module, the space requirements for the future construction of other modules must be taken into account. The parameters of terminals intended for continental combined transport differ significantly from the parameters of terminals intended primarily for transhipments of ISO containers, which can be stacked in several layers. The difference therefore lies primarily in the need for significantly larger paved areas for parking intermodal semi-trailers and swap bodies. The handling technique also differs, which must be equipped not only with a spreader enabling the reloading of containers, but also with collets enabling the reloading of swap bodies and intermodal semi-trailers.

The track capacity of the terminal should allow the creation of trains up to 740 m long, which is the limit of the length of trains on railway freight corridors given by the European directive.

Based on the facts above, the authors of this report proposed of follow terminal levels:

2.1.1. Proposal of terminals LEVELs

LEVEL 1 Trimodal Logistic Terminal

LEVEL 2 Specialized terminal

LEVEL 3 Goods station terminal

LEVEL 4 Specialized terminal on the waterway

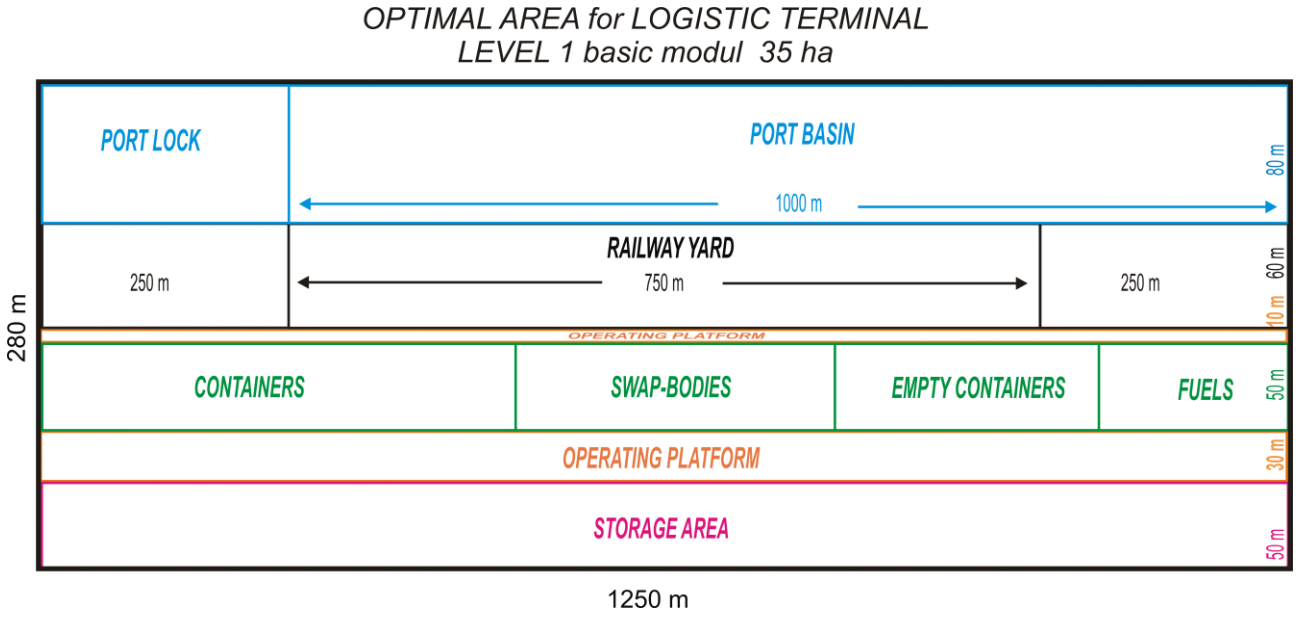
Table 4 – Levels and parameters of Logistic Terminals

LEVEL	DESCRIPTION & INTENTION	public access	multimodality	length of the track	number of tracks	intermodal units area	swap-bodies area	storage area
1	The purpose is the central collection of goods from a region of 1 - 2 million inhabitans or at the hubs where meet the European transport networks.	yes	yes	740 m	10	2ha	6ha	2ha
2	The terminal does not have to be tied to the size of the area or the number of inhabitants, the decisive factor is the catchment of nearby industrial zones.	optional	optional	740 m	5	1ha	2ha	1ha
3	A terminal that reduces to a minimum the following road traffic and will be necessary in the future to meet the stricter conditions for the transfer of goods from the road by 50% by 2050 and within the GREEN DEAL policy. *)	yes	no	local conditions	2	0,5ha	0,5ha	-
4**)	The terminal is designed for transhipment for specific large companies doing business in the field of turnover of commodities eligible for water transport. Another potential is the addition of facilities for the transhipment of extra-cargo costs; currently possible within TRITIA area only in Opole.	yes	yes	-	-	0,5ha	-	-

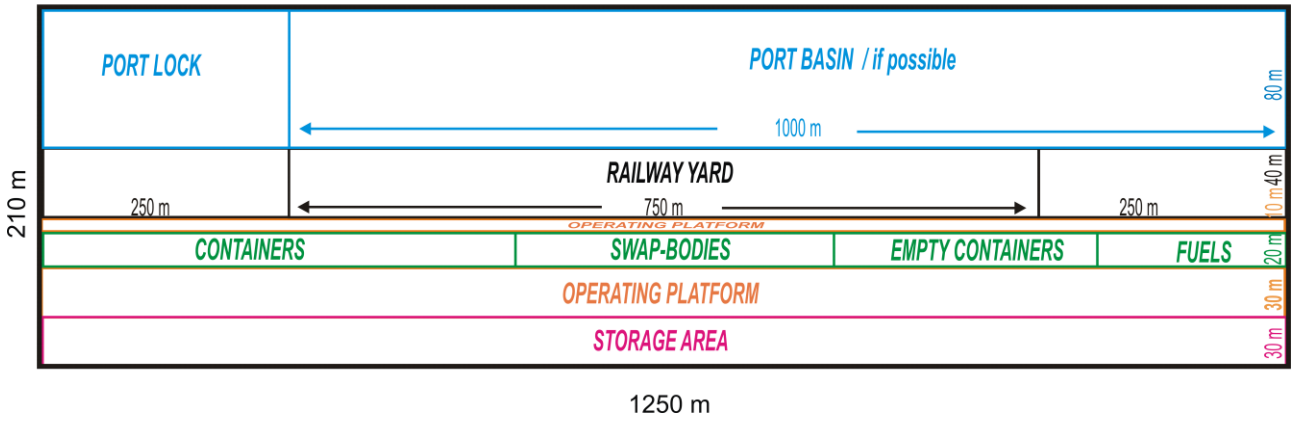
*) The operation of the terminal is assumed to be automated with one common dispatcher for several stations. The transport and transport of railway wagons would take place by a handling train. The terminal will replace previously canceled siding connections and make rail transport available to new entrants for a fraction of the investment in railway sidings. The terminal would only handle:
- manipulator-loadable intermodal units for swap bodies
- intermodal units that can be loaded onto a railway car without the help of handling equipment
- intermodal units for which the carrier has its own handling equipment

**) This species was designed based on idea of one of city's on the Oder Waterway in Poland.

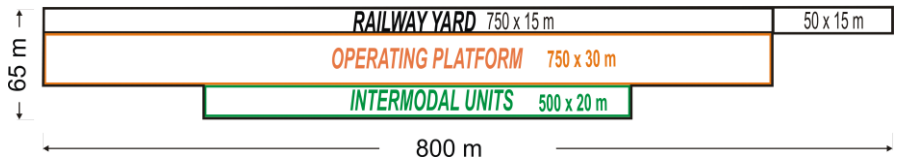
Figures 3,4,5,6 – Scheme of terminals sample



OPTIMAL AREA for LOGISTIC TERMINAL
LEVEL 2 basic modul 16 ha (excl. port basin)



OPTIMAL AREA for LOGISTIC TERMINAL
LEVEL 3 basic modul 5 ha



OPTIMAL AREA for LOGISTIC TERMINAL
LEVEL 4 (transschip point) basic modul 2 ha

2.1.2. Moravian-Silesian region

2.1.2.1. New trimodal terminal

According to D.T2.1.4, it is assumed that the water transport route to Ostrava will be brought by 2030. However, there is no terminal near the planned route and a new one will have to be set up. The use of the proposed location for the port in **Ostrava-Mariánské Hory** seems to be optimal, where there is at the same time a direct connection to the RFC railway network and the junction on the D1 motorways. This terminal would become the main intermodal center of the region with an ideal connection to all three types of networks. At the same time, it would be the only terminal owned by the public sector, as the other terminals are owned by private entities.

2.1.2.2. Upgrade of current terminals

Havířov (Šenov) – no significant expansion of areas is expected at the terminal, as it would be necessary to intervene in the land of the surrounding entities and invest in soundproofing from the housing estate. It is expected to increase capacity by adjusting the organization of work and adding transhipment mechanisms.
Paskov – the capacity of the terminal is gradually increased in a modular manner and further increase is expected, especially by adding transhipment mechanisms and expanding areas for temporary deposition of intermodal units
Mošnov – so far only warehouses and handling areas have been put into operation from the terminal, the target form after completion roughly corresponds to the LEVEL 2 terminal (without port basin), except for the useful length of the tracks. Completion of the entire complex is expected in 2023.
Kopřivnice – the terminal has sufficient development opportunities in the area of the freight station of Kopřivnice, if necessary

2.1.3. Opole and Śląskie voivodeships

2.1.3.1. New trimodal terminals

The following investments are planned in Śląskie and Opolskie within the scope of building trimodal terminals by 2030.

2.1.3.1.1. Along the polish section Dunaj-Oder-Elbe waterway

Krzyżanowice - the location proposed by the commune authority has direct access to the national road (motorwayand the existing siding; it is placed also direct on the route of the planned Odra waterway. From the point of view of location development, one can expect LEVEL 2.
Racibórz - the location was considered with the city authority of Racibórz and is consistent to the spatial development plan. Railway and national road are within reach; the location is related to the newly builted Racibórz reservoir - one of the elements of the planned Odra waterway. The location indicates the possible construction of logistics center on the LEVEL 2.
Kuźnia Raciborska- planned specialized terminal for near factory. LEVEL 4.

Gorzyce - planed container terminal using Olza river as an international waterway and using to the west variant of planned polish section Dunaj-Oder-Elbe connection on the czech-polish border; it can aim to the LEVEL 2. There is possibility to start of the crossborder logistic centre (knows as projected TILC Gorzyczki/Věřňovice).
Localizations of possible trimodal terminals are presented in the Annex No.1.

2.1.3.1.2. Along the Śląski Canal

Rybnik – targeted trimodal transshipment terminal - the most convenient location at the Rybnik Power Plant; that connected by a national road to the motorway junction in Sośnica, availabe to use the track on the spot and Rybnickie Lake - one of elements of the planned Śląski Canal. Localizationof terminal was discussed with the city management. The planned terminal has the potential to develop up to LEVEL 2.
Żory – 100 ha of land available for post-industrial regeneration, area perfectly connected to the A1 motorway; as part of the concept of the Silesian Channel, an inland port will be built as part of the peak position of the Żory-Zgoń canal near Gostyń, south of Łaziska Górne; the port will ultimately fulfill the role of a transhipment terminal; achievable for the LEVEL 2.
Bieruń - the location of the reloading terminal along the route of the Ślaski Canal (in the area between Jedlin and Bieruń Nowy), which is to enter the Vistula valley here; area with great potential, undeveloped at backwater of the Vistula, access to national road S1; ultimately LEVEL 2

Taking actions in relation to the terminal locations depicted is strongly dependent on the creation and course of the Silesian Channel. By 2030, the course of the Silesian Channel means undertaking necessary investments in the Kotlarnia reservoirs in connection with Rybnik and the reservoir in Bieruń.
Localizations of possible trimodal terminals are presented in the Annex No.2.

2.1.3.1. Upgrade of current terminals

AZOTY- probably future specialist port connected by the Kędzierzyn Canal with the Gliwice Canal and the Oder waterway situated on the former port. The Kędzierzyński canal together with Gliwicki canal and Śląski planned canal will create a water loop with great economic and environmental potential, which will multiply the planned construction of a polish section of the Odra - Danube - Elbe connection together with the Racibórz and Kotlarnia reservoirs. Thanks to these investments, the port in Azoty would be the focal point on the economic map of Silesia, Lesser Poland, the Moravian-Silesian Region in the Czech Republic and partly Slovakia. Apart from the waterways, a railway line leads to the port in Azoty, while the areas of Grupa Azoty, Pola Południe and JPM Holding S.A. plans are to be communicated by road. LEVEL 2.
KKT / Kędzierzyn Koźle Terminale, former port until 60years of 20-th centrury; in first decade 21/st century was start the rebuilt, but as for currently, work are suspended.
Localisation and local/regional conditions suggest the potential to achieve LEVEL 1
Euroterminal Sławków has connections with the transport network in domestic and international traffic, through the following rail connections: direct connection with the LHS broad-gauge line about 400 km long via the border crossing Izow / Hrubieszów via Ukraine

with the Far East and access to lines specified in the AGTC Agreement (agreement on the main lines of combined transport). Localisation and local/regional conditions suggest the potential to achieve LEVEL 1 just after construction the Śląski Canal (after 2030) with the Slawkowski Sub-canal (with turn-round in Euroterminal Sławków).
Śląskie Centrum Logistyki S.A. is directly connected to railway line No. 137 Katowice - Legnica via the electrified connection No. 675 Szobiszowice - Gliwice Port. When it comes to road transport, it is perfectly connected to national roads and A1 and A4 motorways, as well as to the Drogowa Trasa Średnicowa road. Currently, the four out of six locks of the Gliwice Canal (waterway connection) are waiting for the completion or implementation of the planned modernizations (until 2030 year). Additionally, near the start of the Gliwicki Canal is preparing to build the Kędzierzyn Koźle(PL)-Ostrava(CZ) crossborder waterway (year 2021-2030) as a part of the target Oder-Danube waterway connection (after 2030).
Localisation and local/regional conditions proved Śląskie Centrum Logistyki SA as suggest LEVEL 1 trimodal terminal. In order to achieve ŚCL level 1, it is recommended to acquire new investment areas and to modernize railway goods to 750 m. If there are problems with the above recommendations, it is proposed to consider the concept of a dispersed center.
Opole (Metalchem, FAMET) The area is fully developed with access to road 423 and the railway track (double track) and direct access to the Odra through the port basin. Development plans include maintenance and strengthening as a tri-modal terminal for oversized loads. Additionally potencial connect to planned south road bypass. Development potential for specialized terminal (LEVEL 4).

2.1.4. Žilina self-governing region

Žilina terminal- does not meet the requirements for a modern terminal with a length of at least 700 m, as its tracks have a length of less than 500 m and even during the modernization of the Žilina junction will not change the connection and extension of the terminal tracks. The terminal has a private character and is used primarily for the needs of the KIA car manufacturer, for which the current capacities are sufficient due to the storage of containers also directly in the car manufacturer's premises. No project is currently being considered that would directly improve the connection of road transport to the main transport network. As part of the modernization of the Žilina junction, the security equipment of the connection to the railway head will be modernized; Incorporation into LEVEL 3
TIP Žilina built according to modern requirements for intermodal terminals and it is possible to manage two trains with a length of up to 750 m at the same time. In the near future, it is expected to expand the storage space to cover the expected customer requirements for storage of empty and full IPS. The current unsatisfactory situation of connection to the road II / 583A will be solved in the future by widening the intersection, based on the modification of the road (its widening) and its bridging in Strečno with the I/18 road (direction Strečno). Targeted for LEVEL 2
Ružomberok and Trstená terminals - at present no projects are foreseen aimed at expanding terminals and improving their connection to the road or rail network. This situation is based on the current suspension of these terminals.

2.2. Connection to the RFC railway network.

2.2.1. Moravian-Silesian region

Vratimov – Ostrava-Bartovice rail coupling.
This coupling has already been planned for implementatrion several times, but at the same time it is not being prepared. In terms of train transport to the **Paskov terminal**, however, it allows connection to Slovakia by a route shorter by about 30 km than is currently the only possible dead end route through Bohumín, where there are also 2 bottlenecks on the railway network. The deadlock in Ostrava-Kunčice is not yet a problem due to the departure of trains from the Paskov terminal in independent traction. However, after the electrification of the line, it will be a limiting factor that will worsen the economy of the routes to Slovakia.

Capacity increasing of the section Ostrava-Vítkovice – Ostrava-Svinov
The capacity increasing of the line is crucial for the terminals **Paskov** and **Havířov (Šenov)**. It removes a bottleneck on the rail network for freight transport, which is the only route for the removal of trains from these terminals towards Poland and for the Paskov I terminal towards Slovakia, if no dead center is to be carried out in Ostrava-Kunčice. This deadlock is not yet a problem due to the departure of trains from the Paskov terminal in independent traction. After the electrification of the track, however, it will be a limiting factor.

Rail coupling – triangle of Studénka
Completion of the connection of the Kopřivnice - Studénka line for dead-end in the direction of Přerov is essential for train transport to the **Mošnov terminal**, from which without this connection it will be possible to depart directly only to Poland and Slovakia, not to Germany and Austria or other terminals in the Czech Republic. In addition, the Studénka station is not suitably configured for the dead end of long container trains. For the **Kopřivnice terminal**, this restriction is not as fundamental as for the terminal in Mošnov, but with the prospective use of locomotives with a last-mile module, the coupling will allow trains to leave directly to the destination without further processing.

2.2.2. Opole and Śląskie voivodeships

Euroterminal Sławków SA
It has direct connections with the lines: - CE30: Zgorzelec-Wrocław-Katowice-Kraków-Przemyśl-Medyka, - CE65: Gdynia-Gdańsk-Warszawa-Katowice-Zebrzydowice and the PKP LHS to Ukraine and planned connection to Belarussian.

Śląskie Centrum Logistyki SA
it is directly connected to railway line No. 137 Katowice - Legnica via the electrified connection No. 675 Szobiszowice - Port of Gliwice. (detailed description in the report DT2.3.2)

2.2.3. Žilina self governing region

Žilina terminals

are connected via infrastructure at the Žilina junction directly to the RFC5 and RFC9 freight corridors, which currently provide sufficient capacity to expand rail transport orders.

Ružomberok terminal
is connected to the RFC9 corridor in the turnout of Lisková.

Trstená terminal
is not located directly on any corridor, the connection to the RFC9 corridor is located in the Kraľovany station, which requires the use of a single-track non-electrified line, which has limited capacity. When considering the re-operation of this terminal, it will be necessary to take into account the need to address capacity options and increase the cruising speed on the entire section Trstená - Kraľovany.

2.3. Road connection

2.3.1. Moravian-Silesian region

All of the 4 existing intermodal terminals have a direct connection to the capacity road network without the need to go through continuos urban area. It will be necessary to complete only a short connection to the new trimodal terminal in Ostrava.

2.3.1. Opole and Śląskie voivodeships

All of existing intermodal terminals have direct connections to the high-capacity road network without the need to develop them (A1, A4, DTŚ motorways). It is only necessary to build a connection between the Sławków Euroterminal and S1 and national road DK94.

2.3.2. Žilina self-governbing region

Both Žilina terminals use local roads to connect to the national network. In the case of TIP Žilina, the capacity of the intersection is to be increased and its modification to create a direct turn towards Žilina, which will significantly improve the connection of the terminal to the road network. The capacity of this road, which is to be extended to 4 lanes with the current 2 lanes and its connection to road I / 18, through a bridge over the Žilina dam between the villages of Mojšova Lúčka and Strečno, will also be significantly problematic, thus significantly easing the traffic situation in the city. and the overall passability will be improved together with the creation of a better connection of the terminal to the motorway network to the east, where vehicles will be able to use the road under Strečno (which will be significantly lightened after the opening of the D1 Dubná Skala tunnel) and connect to the motorway via the Dubná Skala exit.
Measures that will lead to an increase in the capacity of the road network on the used infrastructure are not being considered for the Žilina terminal. These are primarily urban roads, the modification of which is not directly affected by the terminal operator.

3. BUDGET OF SELECTED PROJECTS

The chapter does not take into account whether the infrastructure is owned by the private or public sector., because that public finances are also used to finance investments for terminals owned by the private sector through subsidy titles.
Below the estimated investment cost of potential terminals and infrastructure were provided based on 2020 price level.

3.1. Moravian-Silesian region

Table 5 – Projects for Moravian-Silesian region

No.	Project title	Estimated costs mil. €
1	Trimodal terminal Ostrava	70
2	Road connection to trimodal terminal Ostrava	40
3	Rail coupling of Vratimov – Ostrava-Bartovice	30
4	Capacity increasing of section Ostrava-Vítkovice – Ostrava-Svinov	65
5	Rail coupling – triangle of Studénka	25
6	Upgrade of the Paskov terminal	10

3.2. Opole and Śląskie voivodeships

Table 6 – Projects of the Opole and Śląskie voivodeships

No.	Project titlecosts	Estimated costs mil. €
1	Krzyżanowice transshipment terminal	45
2	Racibórz logistic centre	45
3	Cointainer terminal Gorzyce-Věřnovice	45
4	Rybnik inland port&transhipment terminal	45
5	Żory transshipment terminal	45
6	Bieruń transchipment terminal	45
7	AZOTY specialist transschipment teminal	120
8	Kędzierzyn Koźle container terminal	100
9	Opole (Metalchem, FAMET)	90
10	Śląskie Centrum Logistyki SA (rail / road terminal and strarage yard)	90
11	Euroterminal Sławków –(road connention with road infrastructure)	160

3.3. Žilina self-governing region

Table 7 – Projects for the Žilina self-governing region

No.	Název	Estimated costs mil. €
1	TIP Žilina crossroad and extension of road I/583A with connection to I/18	40
2	Expansion of storage capacities of TIP Žilina	15

4. SETTING THE ACTION/MONITORING GROUPS

4.1. Monitoring and evaluation - main assumptions

Monitoring of outputs means to observe whether intended products are delivered and whether implementation is on track.
Cohesion policy programmes are implemented in the context of multilevel governance with a clear demarcation of roles and responsibilities. The actors in this system – implementing agencies, managing authorities, the regional, national, multinational and the EU level – differ in their information needs to be met by monitoring.
Monitoring also observes changes in the result indicators. The values of result indicators, both for baselines and at later points in time, in some cases can be obtained from national or regional statistics. In other cases it might be necessary to carry out surveys or to use administrative data.
Evaluation is in the most general sense an assessment of quality, value and meaning. It is a systematic study conducted using a variety of methods, consisting of data collection, analysis, evaluation and reporting of results. Its purpose is to assess (in relation to clearly defined criteria) the quality and value of the process and the effects of implementing the action plan.
Monitoring and evaluation are aimed at collecting, reporting and interpreting data describing the progress and development of mulimodal transport (including the action plan for the development of logistics centers) as well as possible effects of public intervention (design, program or strategy).
In this regard, monitoring focuses mainly on the level of result and product, and evaluation is mainly interested in impacts, especially in the medium and long term.

4.2. Monitoring the implementation of the Action Plan

The implementation of tasks in the area of monitoring and evaluation will be based on the current structure of the EGTC TRITIA, supported by the **Steering Committee for the development of multimodal transport established at EGTC TRITA**.The EGTC TRITIA is proposed to ensure interconnection between entities, especially ministries and regional authorities, from the Czech Republic, Poland and Slovakia in solving problems that require the participation of entities from several countries. At the same time, a continuous control of the implementation of plans for the EGTC TRITIA would be carried out.
Every year, based on implementation reports and monitoring indicators, EGTC TRITIA presents a report to the Steering Committee. Reports are prepared by the **Multimodal Transport Network Observatory** in the TRITIA area. Key indicators monitored by the TRITIA observatory include:

- Number of intermodal (tri and bimodal) and non-intermodal terminals,
- Arrangement of intermodal and non-intermodal terminals,
- The volume of loads served by intermodal and non-intermodal terminals,
- Number of TEU and FEU units supported,
- Number of innovative applications in the field of reloading technologies,

- The use of handling devices in terminals,

at national level it should be:

- monitoring the dates of implementation of investment plans in transport networks,
- monitoring rail capacity and recommending necessary investments to increase its required level,
- monitoring the network layout of intermodal terminals and supplementing the network with missing public terminals,
- monitoring and harmonization of infrastructure charges,
- monitoring the load on the road infrastructure and regulating charges for access to it,

and at international level should be:

- options for ordering routes for trains 740 meters long,
- establishment of a network of public transhipments, which must be seen as part of the infrastructure, similar to roads, railways or airports,
- harmonization of price conditions in transport so that it is not possible to use toll roads leading parallel to toll rail routes,
- creation of conditions for the management of interstate lines of combined transport in the public interest in directions where there is not enough potential for purely commercial traffic.

In addition, an important role especially in the area of evaluation will be played by **the Co-ordinator of multimodal transport network** in the area of TRITIA, which will provide EGTC TRITIA with impact indicators, especially in the long-term on the topic of:

- creation of conditions for the management of interstate lines of combined transport in the public interest in directions where there is not enough potential for purely commercial traffic.
- progress in the implementation of projects related to logistics terminals,
- changes in scenarios for the development of multimodal transport, including the placement of tri and bimodal terminals,
- selection of the method and mechanisms of coordination of the multimodal transport network in the TRITIA area
- design of innovative transport traffic management systems contributing to the reduction of environmental pressures generated by road transport
- developing cooperation platform including an information system for multimodal transport networks.

Cooperation with **freight transport associations** in each country is considered meaningful, as these associations usually have information on real capacity problems, can propose effective solutions and are the target group whose work is to evaluate traffic flows and eliminate bottlenecks. They can thus act both as an opponent and as a source of valuable information. If necessary, other entities, such as **chambers of commerce**, may be invited to cooperate.

4.3. Action Groups

Reports on the implementation of the action plan should be presented to institutions at higher levels: european, international and national.

4.3.1. European level

At European level the role is proposed for the team of the **European Commissioner for Transport and the UIRR (Union internationale des sociétes de transport combiné Rail-Route)**. On the European level, legislative conditions need to be created for the growth of land-based intermodal transport in particular, as this transport will be key to achieving the objectives of the 2011 EU White Paper on Transport. The participation of EU representatives in the Steering Committee should be considered.

4.3.2. International level

At the international level, reports on the development of mulimodal transport in the TRITIA area should reach, among others to the Visegrad Group, to the European Coordinator for the Baltic - Adriatic Corridor.
Within the countries of the **Visegrad Group**, only Poland is a state that can have a sufficiently numerous network of national intermodal transport lines, but even so the majority of traffic over 300 km will be interstate traffic. In this way, the elaboration of a joint proposal for a network line with such a frequency of departures should be initiated that they can serve as a competitive offer for customers.

4.3.3. National level

On the national level, it is recommended to monitor:

- term fulfillment of investment plans in transport networks
- addition of buildings that increase railway capacity to the required level
- supplementing the network with missing public terminals
- harmonization of infrastructure charges
- an increase in road infrastructure charges, which are 2 to 3 times lower in the countries of the TRITIA region compared to Austria

Due to the fact that freight transport is not the responsibility of individual regions, as well as constructions on the railway network, it is necessary that the tasks be provided by the **Ministries of Transport** of individual states, because a transnational bodies groups cannot administer these tasks directly.

5. ACTION STEPS

5.1. Legislative

In order to support the transfer of goods from road to rail, it is necessary to harmonize the conditions for rail and road, especially **in transport infrastructure charges**.

Due to the fact that combined transport will develop the most in the future, the **amendment of Directive 92/106 / EEC for combined transport has not yet been completed**. It was withdrawn from the EC program this year after the European Parliament approved in the mobility package (based on the recommendations of the so-called trilogue) the liberal procedure of individual EU states in assessing cabotage at distributions and pickups within the combined transport transport chain. a very unpleasant deterioration in the legislative conditions compared to the above-mentioned directive. The UIRR therefore continues to promote the principle of legislative equality between international combined transport and international road freight transport. In other words, pick-ups and deliveries from terminals abroad should not be considered as unauthorized cabotage.

Legislative action to promote combined transport at European and national level must be targeted and, above all, aimed at increasing support for continental unaccompanied combined transport, which has yet to be developed:

- to support the emergence of new continental lines, especially in regions and territories where a sufficiently dense network of lines does not yet work (both in terms of area and time)
- creation of system investment support for the acquisition of intermodal semi-trailers (see Austria, the Czech Republic and allegedly now also Germany)
- support for terminals aimed at reducing the unacceptably high prices charged for transhipments, as well as the high prices charged for the addition of railway wagons to terminals

5.2. Organization

Within the organizational area, it is appropriate to clarify and unify the management of intermodal transport lines. The current situation, where several operators with their own networks operate in the area, occurs when some lines are not worth operating because one operator is not able to fill the economically meaningful capacity of the train. Customers are interested in daily departures in the required directions so that they do not have to store the goods. If intermodal transport does not offer them and forces them to wait for the goods to leave the train, the whole process becomes more expensive and transport remains on the roads. The starting point is the organization of intermodal transport to the line, where the lines of individual operators will not overlap and new lines will be created by joint action, which do not make sense for one operator. Of course, operators can continue to operate independently in very strong sessions with regular daily departures. It is a system similar to the organization of passenger transport, where the private and public sectors coexist. The private sector cannot be responsible for meeting the objectives of the

White Paper, it must provide the public sector by creating the conditions. The system can then be further upgraded to further the goal of transferring 50% of long-distance transport to rail by 2050.
The basic building blocks of the network would be 4 multimodal terminals level 1 (one in each region), into which the load from level 2 and level 3 terminals would be collected, which is not enough in these terminals to run daily lines.

The assumed node terminals of this system are:

- Ostrava (Mariánské Hory) - Moravian-Silesian Region
- Sławków (EUROTERMINAL)- Silesian Voivodeship
- Gliwice (ŚCL) – Silesian Voivodeship
- Kędzierzyn-Koźle (KKT) – Opole Voivodeship
- Žilina - Žilinský self-governing region

5.3. Investment

By 2030, it is necessary to comply with all planned investments according to output D.T3.2.2 Table 3 and Table 4.
It is also necessary to make the investments proposed in Chapter 2 of this output. It is envisaged to use the standard financial resources of the European Union, because the TRITIA region does not fall into the regions that would not be eligible for support. Due to the fact that the current financial programs will be terminated, it is necessary to create new financial programs.

6. TIMETABLE

6.1. Monitoring groups

Table 8 – Levels of the monitoring groups

MONITORING GROUP	INDICATORS	PERIOD
EGTC TRITIA Steering Committee for multimodal transport development in the TRITIA area Multimodal Transport Network Observatory Multimodal Transport Coordinator (+*representative of freight transport associations and chambers of commerce)*	Number of intermodal (tri and bimodal) and non-intermodal terminals Arrangement of intermodal and non-intermodal terminals, The volume of loads served by intermodal and non-intermodal terminals, Number of TEU and FEU units supported, Number of innovative applications in the field of transhipment technologies, The use of handling devices in terminals	2021 - 2030

Note: The description of the monitoring structure is in the Report DT1.1.5. within the Work Package 1

6.2. Transnational actions groups

Table 9 – Levels of the action groups

LEVEL		ACTIONS	PERIOD
European		Harmonization in terms of charging for transport networks	2021-2023
International	Visegrad Group	Preparation of intention to creating of transport lines incl. the localizations of terminals within the Visegrad Group area.	2021-2025
	EGTC TRITIA	Coordination of activities within the cross-border region on the self-governing regions level	2021-2030

That the steps proposed in Chapter 4.1. and 5.1. effective, materials need to be created at European level without delay. Some support mechanisms are already in place but not sufficiently effective, for example the construction of public logistics terminals is limited only in Slovakia and with major problems during commissioning.

Harmonization in terms of charging for transport networks is absolutely crucial. Already today, road transport charges are lower than rail transport in terms of transport unit. When electromobility enters the field of trucks, the fee for the transport route, which is paid through the excise tax on fuels, will drop sharply. In combination with other fuel costs, the total costs of transport companies will be reduced by up to 10%, which will bring them back into play on routes where rail transport is currently more advantageous. Given that the average age of a truck in long-distance transport is well below ten years, up to tens of percent of vehicles may change by 2030 and market conditions will change dramatically if

tolls are not harmonized. Rail transport on most major routes is already electrified, so it cannot be assumed that without state intervention, the cost of the transport route would decrease as in road transport.

In 2021, start working on the plan for the management of intermodal transport lines, including the location of the network of terminals in the Visegrad group, preferably within a joint material that will map the impact of tasks from the 2011 EU White Paper on transport and is mentioned in output D.T2.2.4.

6.3. National level

6.3.1. The Czech Republic

Table 10 – Proposed dates for projects in the Moravian-Silesian Region

No	Project title	Year of completion
1	Ostrava trimodal terminal	2030
2	Road connection to Ostrava trimodal terminal	2030
3	Rail coupling of Vratimov – Ostrava-Bartovice	2030
4	Capacity increasing Ostrava-Vítkovice – Ostrava-Svinov	2025
5	Rail coupling – triangle of Studénka	2025
6	Upgrade of Paskov terminal	2030
7	Subsidies for transdhipment equipment	continuously
8	Establishment of station terminals	continuously

6.3.2. Poland

Table 11 – Proposed dates for projects in Opole nas Śląskie voivodeships

No.	Project titlecosts	Year of completion
1	Krzyżanowice transshipment terminal	2030
2	Racibórz logistic centre	2030
3	Cointainer terminal Gorzyce-Věřnovice	2030
4	Rybnik inland port&transhipment terminal	2030
5	Żory transshipment terminal	2030
6	Bieruń transchipment terminal	2030
7	AZOTY specialist transschipment teminal	2030
8	Kędzierzyn Koźle container terminal	2030, on condition that the investment resumes
9	Śląskie Centrum Logistyki SA	< 2030
10	Euroterminal Sławków	< 2030

6.3.3. The Slovak Republic

Table 12 – Proposed dates for projects i Žilina self-governing region

No.	Název	Year of completion
1	TIP Žilina crossroad and extension of road I/583A with connection to I/18	2030
2	Expansion of storage capacities of TIP Žilina	2020

7. MAPS OF PROPOSAL OF NEW TRIMODAL TERMINALS

7.1. Map of the Potential localization of logistic terminals along planned waterway connection Kędzierzyn-Koźle (PL) – Ostrava (CZ)

7.2. Map of the Potential localization of logistic terminals along palnned waterway Silesian Canal (connection Odra-Wisła)

POTENTIAL LOCALIZATIONS of LOGISTIC TERMINALS

along planned waterway connection Kędzierzyn-Koźle(PL) - Ostrava(CZ)

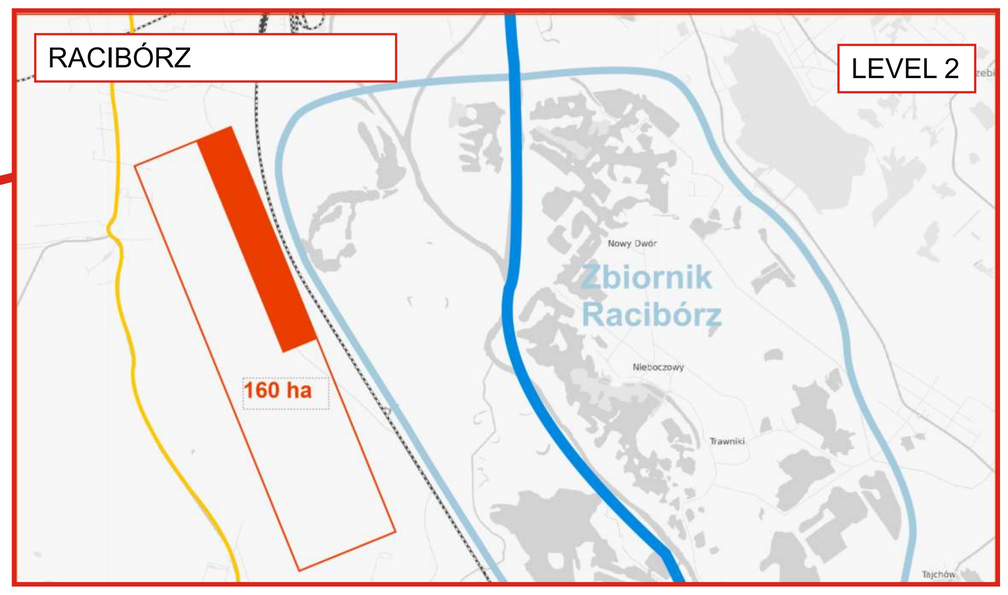
Interreg CENTRAL EUROPE — European Union, European Regional Development Fund

TRANS TRITIA

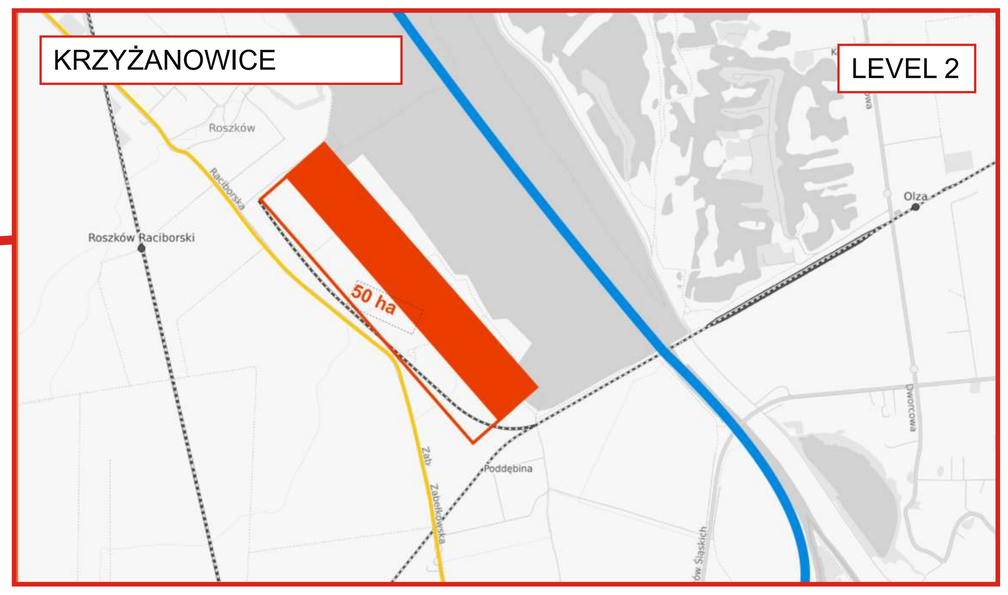
AZOTY — LEVEL 2

KUŹNIA RACIBORSKA — LEVEL 4

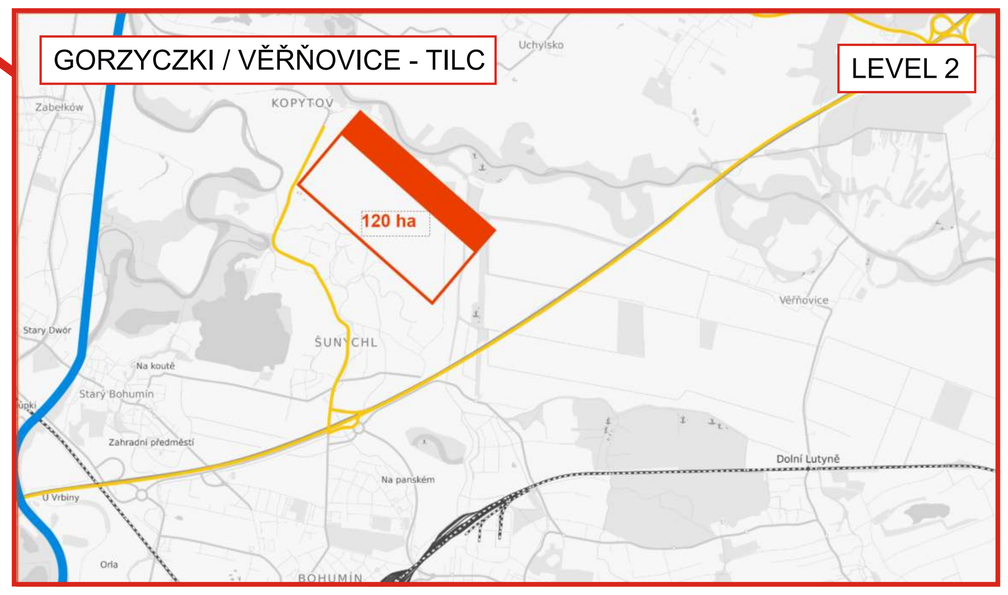
RACIBÓRZ — LEVEL 2



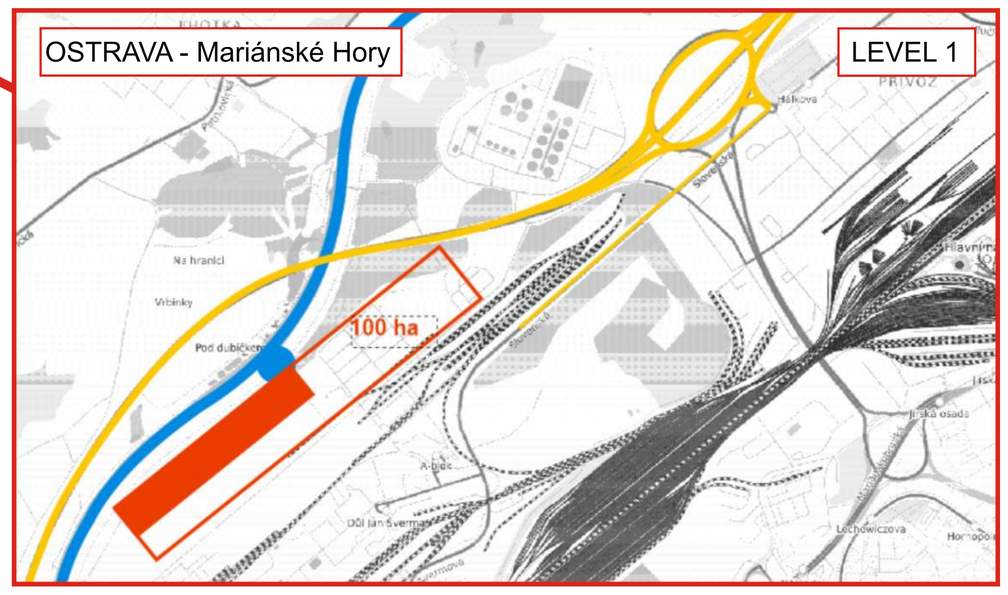
KRZYŻANOWICE — LEVEL 2



GORZYCZKI / VĚŘŇOVICE - TILC — LEVEL 2



OSTRAVA - Mariánské Hory — LEVEL 1



POTENTIAL LOCALIZATIONS of LOGISTIC TERMINALS
along planned waterway Silesian Canal (connection Oder - Vistula)

Interreg CENTRAL EUROPE
European Union European Regional Development Fund
TRANS TRITIA