

POTENTIAL INTERMODAL SERVICES IN CENTRAL/SOUTHEAST EUROPE

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Abstract This paper's aim is to focus on the specifications of the intermodal services in Slovakia (partly also in the Czech Republic and Austria) as representative of Central Europe as well as on the existing and potential clients of intermodal transport through the region of Southeast Europe. The analysed market has enough potential to offer intermodal services. Currently, the competitive situation compared to road transport is very unsatisfactory. Yet, it is hardly possible to realize a good revenue situation with intermodal transports. Nevertheless, the paper identifies three areas in question where potential was analysed by doing literature researches as well as using expert opinions. New intermodal services from the Adriatic port to Slovakia as well as between Central Europe (Slovakia) and the southern CIS countries, e.g. Russia have been identified. In addition, new intermodal services into the direction of Romania and respectively Turkey show enough potential to establish several strategies to enhance the transport level within the whole corridor. Especially Turkey is characterized as "chance" for the area in question.

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1. INTRODUCTION

The paper was developed during the project FLAVIA and intends not to present a new “spatial planning corridor” or a specific road or rail connection. The approach of the paper is logistic process oriented with the challenge to identify potential intermodal cargo flows instead of building new infrastructure.

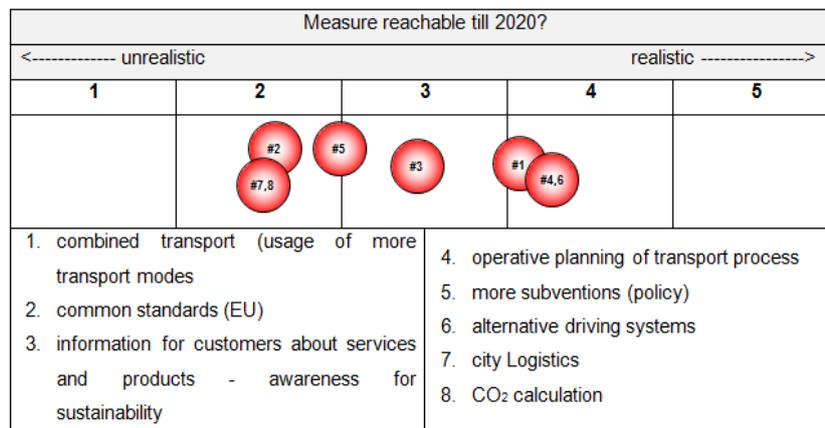


Fig. 1 Single measures of tools to make transport chains greener – evaluation regarding their chance to get implemented till 2020

By looking 40 years ahead the current development cannot continue the same path. If all stakeholders in the transport industry stick to the ‘business as usual’ approach the CO₂ emissions from transport would remain one third higher than their 1990 level by 2050. Moreover forecasts indicate that congestion costs will increase by 50 % in 2050 as well as social costs of accidents and noise would continue to increase (McKinnon, Cullinane, Browne, & Whiteing, 2010). Sustainability within logistics is therefore a determining factor to actively create a framework which boosts the implementation of environmental friendly solutions in transport operations. Shifting trucks from road to rail can help to reduce emissions as well as making the transport movement more efficient by integrating higher utilization and combinations of different modes. Based on challenges in the future as well as present state of the art topics an evaluation of a set of measures was done in order to check them against their real chance to be implemented in the future and make transport chains greener within the time horizon of 2020. The weighted average values are calculated by the evaluation of 12 experts who stated if a measure has realistic or unrealistic chances to get implemented. Unrealistic topics have been evaluated within the left side of the scale where block 1 starts. The number of answers given will be weighted with these numbers. Through the division of the answers given (12 answers) the location of the bubble is determined (weighted num-

ber divided by 12 answers). The higher this average number of the measure the higher is the chance to get implemented.

To sum up, the availability of combined transport and the operative transport planning process were evaluated as highly important when talking about sustainable logistics solutions. Comments indicate that especially intermodal transport solutions are used by shippers when adequate transport offers (including pre and post run), created by logistic service providers which match the shippers needs, are available. In particular, flexibility was mentioned as one main factor concerning competitiveness. Shippers require specific frequencies of operation to different destinations. In fact, these operations need to be provided on a cost- and time-efficient way to facilitate rail transport. Therefore, the paper examines potential intermodal services within the area of Central and Southeast Europe. To do so, several studies and expert know-how are used and analysed. Additionally different literature sources are collected to obtain a variety of opinions as well as facts and figures concerning the potential of intermodal services and the different regions within the analysed corridor. Experts were interviewed in order to show potential markets where intermodal services can be applied and extended in the future. (Logistikum Steyr, 2012)

To underline the importance of intermodal transport services some first contributions regarding the European standpoint are given. Here, strategic papers have to be mentioned, in particular the EU White Paper in terms of present strategic documents which affect the combined transport (White Paper "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system", European Commission (EC), 2011). As highlighted in the paper, if European Transport area do not address the oil dependence, people's ability to travel – and consequently the economic security – could be severely impacted with dire consequences on inflation, trade balance and the overall competitiveness of the EU economy.

This is why a development based on elements like optimization of multimodal logistics chains, including greater utilization of more energy efficient modes of transport in cases where other technological innovations may be insufficient (e.g. transportation of cargo for long distances), needs to be guaranteed. The following goals, directly related to combine transport, are presented:

“30 % of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors. To meet this goal will also require appropriate infrastructure to be developed.”

“A fully functional and EU-wide multimodal TEN-T ‘core network’ by 2030, with a high quality and capacity network by 2050 and a corresponding set of information services.”

“By 2020, establish the framework for a European multimodal transport information, management and payment system.”

“Move towards full application of “user pays” and “polluter pays” principles [...].”

This paper's aim is to focus on the specifications of such environmental friendly solutions within Central- and Southeast Europe. Within the project FLAVIA the described regions were analysed by several pre-feasibility studies dealing with similar topics. Here the regions covered are clustered according to the CENTRAL EUROPE programme that encourages cooperation among regions of nine central European countries: Austria, Czech Republic, Germany, Hungary, Italy, Poland, Slovakia, Slovenia and Ukraine. [see Central Europe Programme] As the paper wants to focus on some specific countries which were identified as high potential for further developments regarding intermodal transport solutions, Slovakia and partly the Czech Republic and Austria have been chosen.

1.1. The corridor: Slovakia – Southeast Europe

Road freight transport is the dominant transport mode in Slovakia up to this time. The sector of private road freight operators was growing fast due to its flexibility and decreased ability of state-owned rail companies to compete in new solutions. From 1.1.2010, the toll system of pricing for road freight transport was introduced. Changes in the pricing are characterized by high political sensitiveness. The current situation in pricing is more advantageous for road transport compared with other transport modes like rail. Given problems related to road transport in Slovakia can be summarized with following points (Hricová, 2012):

- not finished infrastructure of motorways and expressways,
- obsolescence and bad quality of 1st class roads,
- insufficient capacity of existing roads, and bottlenecks in some nodes,
- safety and security issues,
- some operators are bypassing tolled sections of roads via parallel roads of 2nd and 3rd class, thus damaging infrastructure very quickly,
- insufficient sources for investments into infrastructure,
- public protests against heavy lorries due to noise, damage of houses by vibrations and accidents in some critical urban and transit areas.

The South East Europe Programme Area includes 16 countries. For 14 countries the eligible area is the whole territory of the country, namely for Albania, Austria, Bosnia and Herzegovina, Bulgaria, Romania, Croatia, the former Yugoslav Republic of Macedonia, Greece, Hungary, Serbia, Montenegro, Slovakia, Slovenia and Republic of Moldova (see South East Europe - Transnational Cooperation Programme). As there are some overlapping countries (compared to the clustering of the Central Europe programme) the direction "southeast" is the most important criteria for the examination of potential intermodal services. Especially Romania defines a direction of interest.

Romania is one of the most important riparian states on the Danube, extending from km 1075 to the Black Sea. The river forms the border with Serbia and Bulgaria. The left bank is occupied by Moldavia over 1 km and Ukraine for 54 km. Be-

tween 1975 and 1984, the Danube-Black Sea canal was built which since then connects the Danube (south of the town of Cernavoda) with the Black Sea (at Agigea - Constanta South) and shortens the shipping route to Constanta by about 400 km. (worldcanal.com, 2010) Within the TEN-T corridor Romania plays an important role. They are directly connected to Romania mentioned in the Trans-European Transport Network (TEN-T) Progress Report for 2012 (European Commission, 2012).

- Priority Project 7 – Motorway axis Igoumenitsa/Patra-Athina-Sofia-Budapest
- Priority Project 18 – Waterway axis Rhine/Meuse-Main-Danube
- Priority Project 22 – Railway axis Athina-Sofia-Budapest-Wien-Praha-Nürnberg/Dresden

After this first overview of the defined countries within the analyzed sector some corridor specific aspects are mentioned in this paper. First, the question “Who are the customers of existing/new intermodal services?” is answered. To show existing clients using intermodal services, a map demonstrates important terminals within a surrounding area of Bratislava (1.300 km) which got calculated by the FLAVIA-Tool . Here the southeastern section is published as the map becomes too big by showing all directions.

1.2. Existing and potential clients of intermodal transport

The two orientation points are Bratislava (red point) and Constanta. The distance between these two points is approximately 1.300 kilometers (road). The three circles demonstrate three areas whereby the inner circle is the region reachable easily according the selected margin calculated with 1.300 kilometers. It can be argued that if a great amount of intermodal terminals can be reached with a certain effort (time, costs, energy consumption, - all directly related to the distance shown) the accessibility of the single regions is well developed. By moving further away (to the middle and outer ring) from this area, more effort is required to offer sustainable and cost efficient solutions (e.g. transports by truck are not very efficient in the outer zone as they need too much energy consumption due to the long distances which in turn is not cost efficient). This is why intermodal transport are facing big advantages due to their nature of being economic friendly and cost efficient under these certain circumstances (long distances, already installed liner services, etc.) whereby the main run is carried out by rail transport.

In order to evaluate the existing conditions and potentials in a more practical way expert interviews (done in Austria) with railway operators as well as logistics service providers have been done. The following chapter states the most important statements of experts. Within the practical examination, a conclusion can be drawn by showing the most potential markets which in turn demonstrates the existing chances to implement/enhance new/existing solutions within the described corridor.

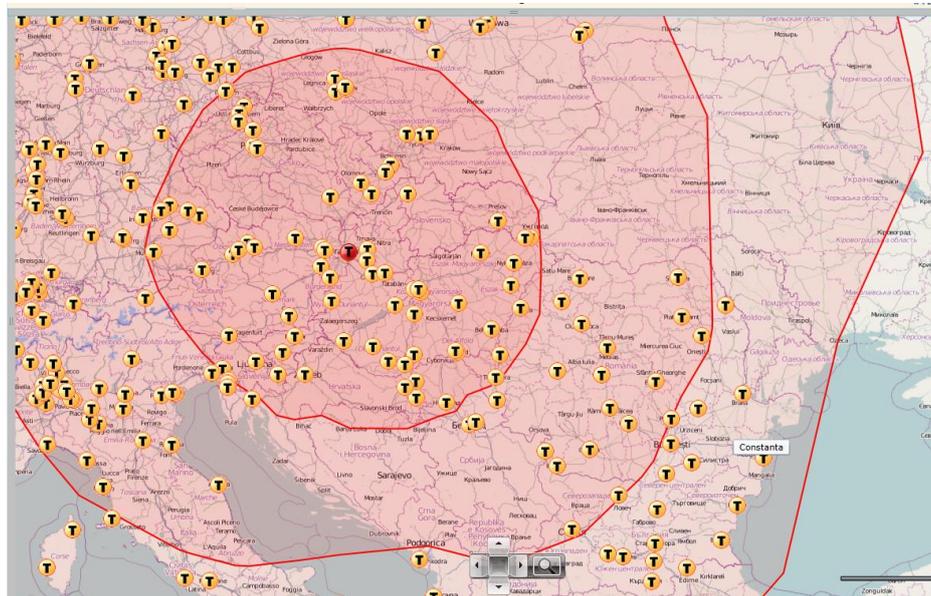


Fig. 2 Intermodal transport infrastructure within the analysed corridor (terminals)

2. POTENTIAL MARKETS FOR INTERMODAL SERVICES ALONG THE CORRIDOR

When analyzing the corridor in question it has become evident that especially the markets in Slovakia but also the area of Czech Republic are very competitive oriented. There exists strong competition among big players (operators). Beside this, there are efforts to push public terminals in Slovakia. Through this great density in the corridor around Slovakia and the Czech Republic price pressure among competitive operators occur. Additionally, problems dealing with internal procedures in single terminals (e.g. transshipment, etc.) are mentioned. They are not optimized in a way that guarantees a full degree of free usage for all users. Also the terminals in Hungary do not work in a way that all railway undertakers can freely have access to their services which leads to fact that international transports to this region are only possible when operators have own facilities in the single countries. Although infrastructure is a big topic in order to enhance the overall level of intermodal transports many further issues have to be taken into consideration:

- level of operational quality
- delays
- partly very high infrastructural costs
- great competitive disadvantages compared to road transport.

2.2. Potential market Adriatic – Hungary - Slovakia

Starting from Dunajska Streda going to Koper several services are already installed. Currently there exist 15 round trips between Koper – Hungary – Slovakia and vice versa per week. The import sector in Slovakia is very extensive. Through the fact that all mentioned nodes are located within the European Union topics like customer duty procedures do not occur as big problems. Within this area several large operators offer intermodal services which again result in the circumstance that this area is facing lot of competitiveness.

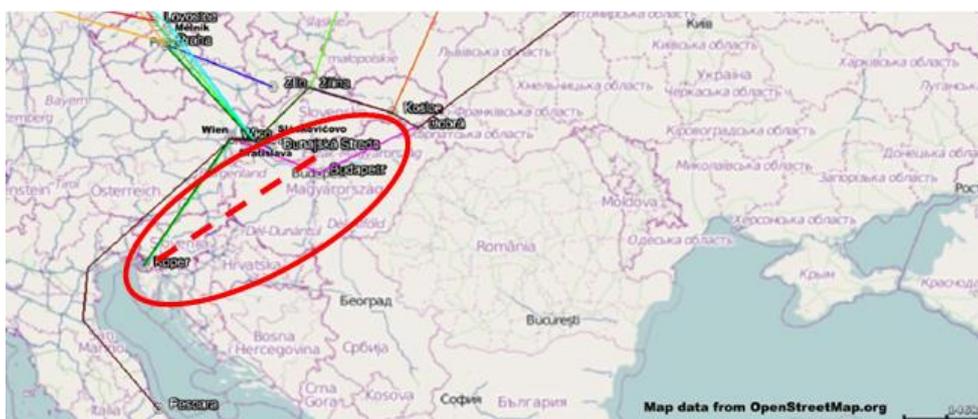


Fig. 4 Regular intermodal connections (SK) with focus Adriatic – Hungary – Slovakia

2.3. Potential market Romania/Turkey

As shown in the figure below, there are less intermodal services into the direction of Romania and respectively Turkey. The latter country is seen as a strong growing market. Currently the region around Vienna acts as a strategic key point on this connection. Several strategic plans try to promote this region which is also a great possibility for Slovakia, as classic vehicle transports to Turkey are planned as enablers for such an increase in the transport performances. Measures to execute several construction projects within the transport infrastructure was indicated as great weakness, especially in Romania. As example the current works between Curtici and Constanta have been mentioned. In Curtici the whole infrastructure is limited. Here only 50 % of the existing tracks can be used which is caused by an inefficient planning of such projects. This problematic becomes more and more evident when going from Romania to Turkey. Running times get expanded dramatically (e.g. to Romania there exist running times of 6-7 hours, from Romania to the direction of Turkey running times increase to 20 hours).

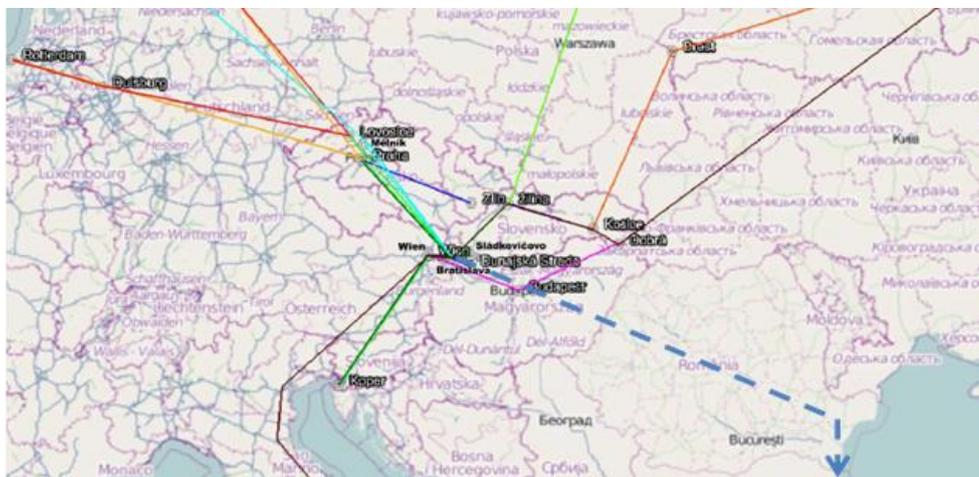


Fig. 5 Regular intermodal connections (SK) with focus Romania and Turkey

Terminals have to provide public and non-discriminatory access for all users of transport infrastructure (rail operator, road operator) to get a flexible selection of the starting and ending points within the mentioned area and a practical radius of concentration of cargo. In addition there are several technical instruments required to guarantee an efficient transport handling. In general there exist different opinions about profitable distances where intermodal services (here rail transport in the main run) should operate (Gnap et. al., 2011).

3. CONCLUSION

Due the given geographical position, the analysed corridor can serve as a strategic European key point within the intermodal transport network. In this study three specific areas were named when showing potential markets for intermodal transport flows.

New intermodal services from the Adriatic port to Slovakia as well as between Central Europe (Slovakia) and the southern CIS counties, e.g. Russia have been mentioned. The obstacle of different rail gauges within the interoperability issue could be solved by highly productive transshipment points, as one exists in Dobrá.

New intermodal services into the direction of Romania and respectively Turkey show enough potential in order to think about strategies to enhance the transport level within the whole corridor. Especially Turkey is characterized as “chance” for the area in question.

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BIOGRAPHICAL NOTES

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