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MORE COMPETITIVENESS OF THE PORT OF KOPER THROUGH SUPPLY CHAIN INTEGRATION

ABSTRACT

With the European Union growing eastwards and with the establishment of important production facilities in the countries of Central and Eastern Europe, the hinterland potential is bound to grow even more. The strategic goal of the Port of Koper is to become one of the best ports in the Southern Europe, to develop from a handling port into a commodity distributional centre. Penetrating and exploiting these markets demands cooperation (integration) with the existing inland terminals (logistic centres) and establishing of new ones positioned between Eastern and Western Europe.

This paper aims to present and analyse: (I) supply chains of the flow of goods through the Port of Koper to/from the countries of Central and Eastern Europe, (II) the current state and strategies to optimize the flow of goods, (III) market potential, investments in new terminals and capacities.

KEY WORDS

Port of Koper, strategies, goals, supply chains, integration, new terminals, market potential, investments

1. INTRODUCTION

“A port is always standing within a network where the inland part is as important as the sea part. We always look in the whole supply chain” [1].

Today, the whole supply chains are competing, not just ports among themselves. Ports are important elements in the logistic chain and their level of integration with intermodal transport and hinterland is very important (*Figure 1*)

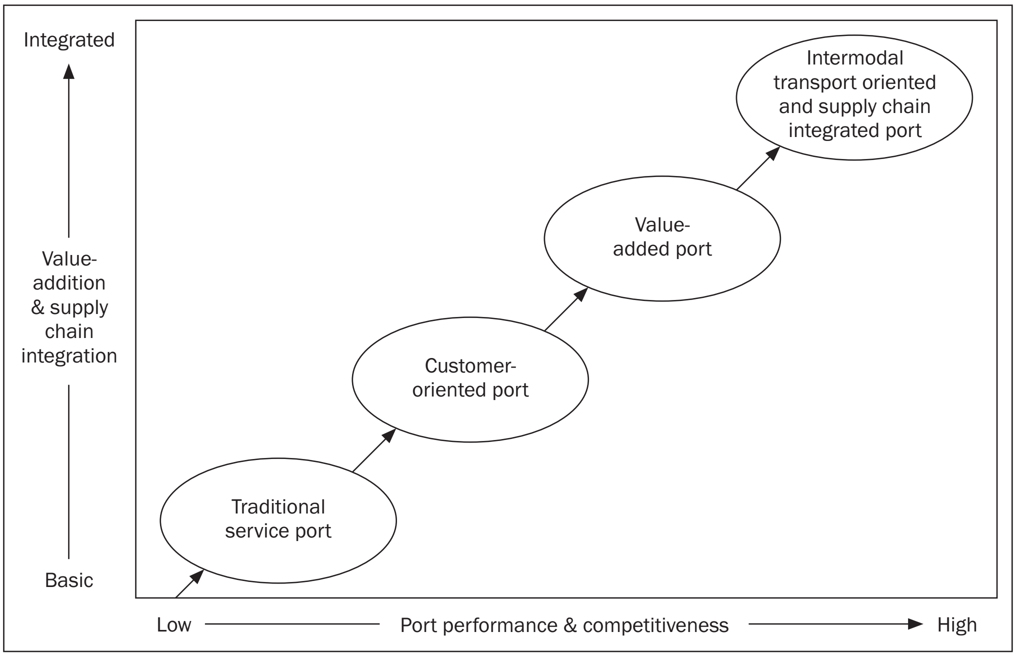


Figure 1 - Evolution of port systems

Source: Gul Denktas Sakar et al., 2006

The main reason for this need is that the costs for inland transport are generally higher than maritime transport costs and many delays can occur on the inland side of the chain such as congestion, limited infrastructure, etc. The share of inland costs in the total costs of container shipping would range from 40% to 80% [3].

With the developments taking place in container transport and intermodal transport, land connections of ports and their hinterland have become a differentiation factor. The emergence of inland terminals can be seen as a compromise where both actors – operators and users – find an alternative to their constraints, leading to the setting of *extended gates* and *extended distribution centres* as components of port regionalization strategies.

With the development of inland terminals, a new dimension is being added: logistics players are now making best use of the free time available in seaport terminals and inland terminals, thereby optimizing the terminal buffer function. As result, transport terminals are achieving an additional level of integration within supply chains that goes beyond their conventional transhipment role. Given the increasing levels of vertical integration in the market and an increasing pressure on port capacity, further terminalization of supply chains is likely to occur, which will strengthen the active role of terminals in logistics [4].

2. PORT OF KOPER

The Port of Koper is some 2,000 nautical miles closer to destinations east of Suez than the ports of Northern Europe. From Koper there are regular and reliable shipping container lines to all major world ports. More than thirty container lines use the Port of Koper. Land transport from Koper by road and by railway (*Figure 2*) to the main industrial centres in Central Europe is approximately 500km shorter than from North European ports. Some two thirds of cargo are transported

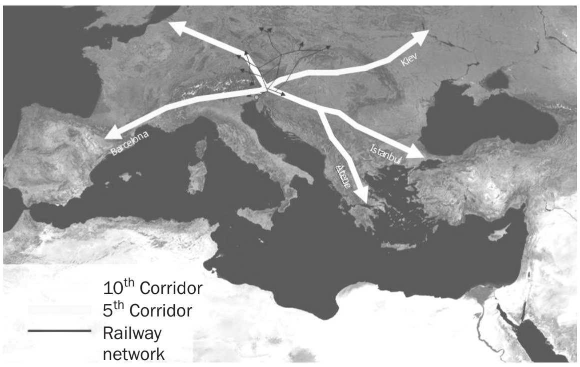


Figure 2 - Maritime connections and main transport corridors important for Slovenia

Source: The Port of Koper

by rail, which means that more than 500 wagons arrive and leave the port on a daily basis.

The Port of Koper is a public limited company and operates as a holding. The strategy of the port company, as well as the changes in functional policies should contribute to building up of higher competitiveness and more efficient operation [6].

The strategy of the Port of Koper is based on the following basic directions:

- the universality of the range of port services offered on the highest quality level;
- the Port of Koper company ('Luka Koper') - a commodity distribution centre;
- an efficient information network and logistical connection with the world;
- stability and profitability of the operation in the long run.

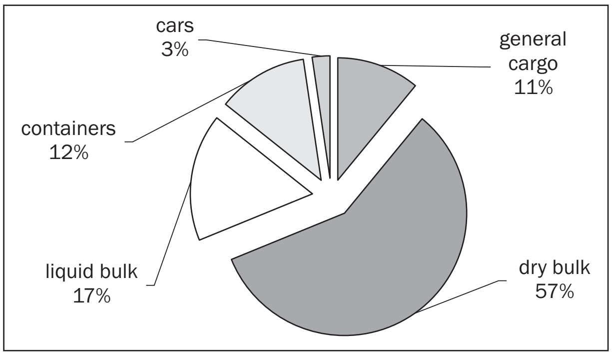
The entire area of the Port of Koper (*Figure 3*) including the development area extends over 1,600 hectares.

Figure 3 - Location of the Port of Koper

Source: The Port of Koper

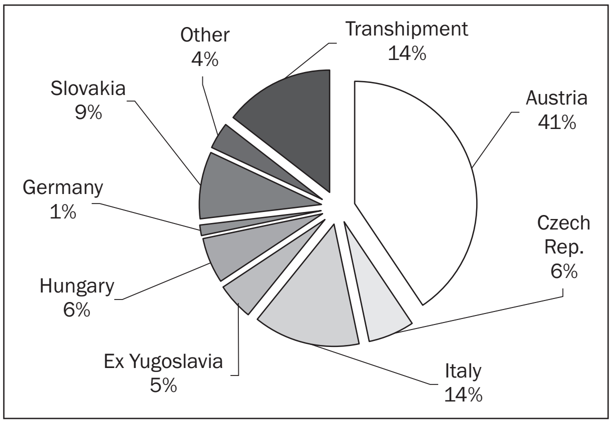
The Port of Koper is designed for the handling of various types of goods (*Graph 1*) such as general cargo (coffee, cacao, metals & non-metals, iron, paper, wooden products, fruits and light-perishable goods, etc.) livestock, containers, cars & Ro-Ro, timber, dry bulks, ores & coal, liquid cargo, alumina, cereals. It performs most of its services for hinterland countries such as Austria, Hungary, the Czech Republic, Slovakia, Poland, southern Germany, Italy, Switzerland, Croatia, Bosnia and Herzegovina, Serbia and also for Ukraine and Russia. Exports and imports through the Port of Koper represent a minor share, whereas the traffic in transit has the major share: this proves that the Port of Koper has predominantly a transit character (*Graph 2*). Significant shares of traffic of the Port of Koper are with Austria and Hungary. In land traffic 70% are transported by rail and 30% by road.

The basic activities are performed by eleven specialised and highly efficient terminals, i.e.: Container and Ro-Ro Terminal, Car Terminal, General Cargo Terminal, Livestock Terminal, Fruit Terminal, Timber Terminal, Terminal for Minerals, Terminal for Cereals and Fodder, European Energy Terminal, Alumina Terminal, Liquid Cargoes Terminal. All terminals are located



Graph 1 - The Port of Koper is a multipurpose port

Source: The Port of Koper



Graph 2 - The Port of Koper is a transit port

Source: The Port of Koper

alongside berths and are equipped with up-to-date loading, transport and storing technology. At each terminal special warehouse facilities are available: silo, shore-tanks, air-conditioned and deep- freezing storage areas. All of them are directly linked with railway.

The entire territory of the Port of Koper has a status of a Free Trade Zone a part of which is used for storage, distribution and processing, remaking of commodities, a part is intended for performance of various industrial, trade and financial activities. The Port of Koper has the certificate for quality for complete port services. ATNET - the information exchange network has been established for support and easier distribution of documents between the Port of Koper authorities, Customs, Shipping and Forwarding Agencies. In the Port of Koper a lot of attention is devoted to the environmental concern. For several years the Port of Koper has been actively collaborating with a competent institution. In April 2000, the Port of Koper acquired the certification of its system according to the ISO 14001 standard, whilst in May 2006 this certification was upgraded to ISO 14001:2004. On the basis of survey results, the management of the company decided to initiate a project for establishing a system of human resources development. A special place in the Port of Koper is dedicated to the development of programmes to further innovation: a substantial rise in innovation can be attributed to that policy. The innovations concerned have contributed to productivity rise, improvement in the quality of services, or savings in material or time, safety at work improvement, or ecological friendliness.

A larger volume of transport and consequently a better exploitation of the Port of Koper and the railway have depended and will in the future depend in the future on increased transit. The Port of Koper envisions its possibility of further development in highway and railway connections in the Ljubljana-Maribor direction with a branch to Austria and Hungary. Taking into consideration all that, the geo-transport position requires a more rapid construction of the highway and railway network, chiefly in the main transit connections through Slovenia – the 5^{th} and 10^{th} Pan European traffic corridors (*Figure 2*) for which also the European Union is interested (and also prepared to provide the funds for the construction).

The Port of Koper is one of the most relevant generators of the development of transport. The economic effects of port activity are multiplicatively reflected in direct surroundings and wider environment. These effects are most visible in the activities of maritime, road and railway carriers, in freight forwarding agencies, and in trade, catering, tourist, financial and other services. Eight additional value units are generated per one unit of generated value in a direct port activity, in the whole Slovenian economy.

3. PRESENT SITUATION, PROJECTS AND POTENTIAL INVESTMENTS OF THE PORT OF KOPER

The year 2009 was a pretentious year for business, especially due to the uncertain international economic situation and the events in the Middle and the Near East. Nevertheless, the Port of Koper achieved the total traffic of up to 13,143,620 tonnes of handled cargo, which is 18% down compared to 2008 (16.05 million tons). The container terminal handled 343,165 TEUs which is 3% less compared to 2008 (353,880 TEUs). In addition to investments in technological modernisation, in connection with further development of container services, the preparations for the construction of a new container terminal (*Figure 3*) on Pier III are accelerated (enabling total transhipment of 1,000,000 TEUs). The biggest drop was registered on the car terminal with a 45% drop compared to 2008. The total traffic amounted to 313,679 units. The expected cargo turnover of the Port of Koper in the year 2020 is ca. 20 million tonnes (*Table 1*).

For the Port of Koper, Central and Eastern Europe market is very important. Many manufacturing companies, especially major vehicle and also vehicle parts manufacturers, but many smaller ones as well have

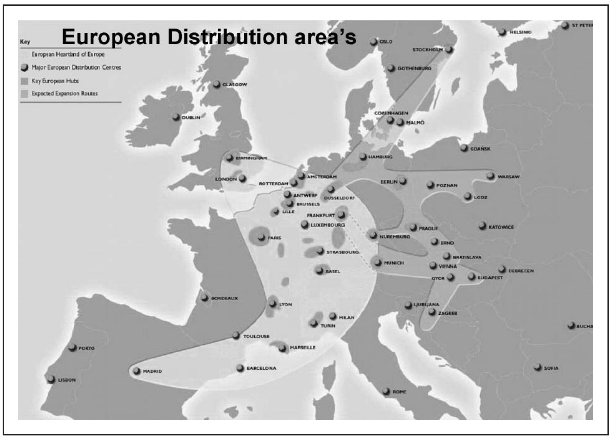


Figure 4 - The 'blue banana' in transition

Source: Cushman & Wakefield, Healey & Baker

invested in the NMS (New Member States of Europe), partly following their main customers but also to take advantage of the qualified and cheap labour force for export production. This development has led to larger bi-directional East-West flow within the European Union of raw materials and consumer products. The traditional 'blue banana' (*Figure 4*) is approaching the shape of a boomerang as result of extensions to Central and Eastern Europe and significant investments in the Mediterranean [8].

In total, 36% of the handled cargo was designated to or coming from the Slovenian market and 64% to or from hinterland countries.

The North Adriatic ports (Port of Koper, Port of Rijeka, Port of Trieste, Port of Monfalcone) are especially interesting for goods flows relating to the exchange of goods on the route East to the West (and vice versa) and bound for the EU, in particular to the gravitational area of the North Adriatic ports.

Considering all this, the Port of Koper must direct its efforts more to the hinterland and to the foreland to initiate and organise various participants. Operational efficiency of the transport-logistics cycle is affecting, by all actors involved: linear companies, port authorities, stevedores, forwarders, agents, hinterland transportation modes as well as inland terminals.

Apart from the aforementioned activities, the Port of Koper wishes to develop new activities among which the focus is on the cooperation of the Port of Koper with the existing inland terminals (logistic centres) and the establishing of new ones positioned between Eastern and Western Europe.

3.1 Adria Terminali

Adria Terminali d.o.o., is the newest affiliated company in the Port of Koper (Luka Koper Group). Its primary objective is to provide customers with quality, safe and reliable services tailored to their needs and requirements. It is a part of the strategically important Sežana Logistics Centre (*Figure 5*) located on the Pan-European Corridor V, adjacent to the Italian frontier with excellent motorway and rail connections.

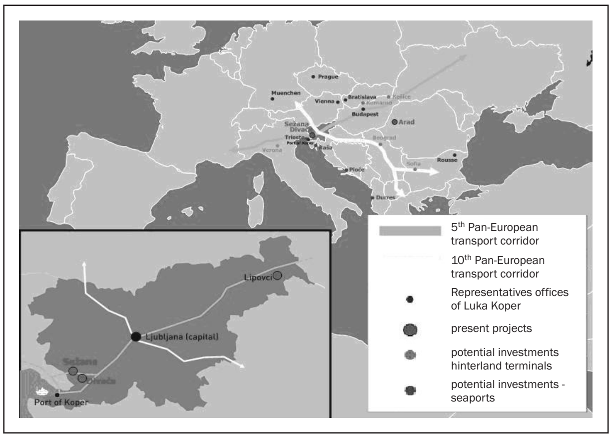


Figure 5 - Location of Adria Terminali (Sežana), regional logistics center "Panonija" (Lipovci) and inland container hub-rail port Arad

Source: The Port of Koper

It has two primary orientations:
- to complement the services provided by Luka Koper at its terminals in the nearby Port of Koper;
- to penetrate and exploit new markets as an inland logistic centre positioned between Eastern and Western Europe at the very head of the Adriatic Sea, the northernmost reach of the Mediterranean.

In Adria Terminali there are great development potentials (*Figure 6*), due to the possibility of expansion of facilities as well as the provision of new services in accordance with the market needs.

Table 1 - Expected cargo turnover growth of the Port of Koper in 2010 and 2020 in thousand tons

Year	2005	2010		2020	
		min	max	min	max
Dry bulk	7,702	8,665	9,050	10,591	11,746
General cargo	2,850	3,206	3,349	3,919	4,346
Liquid Fuel	2,031	2,284	2,386	2,792	3,097
Vehicles	483	544	568	665	737
Total	13,066	14,700	15,352	17,965	19,926

Source: The Port of Koper

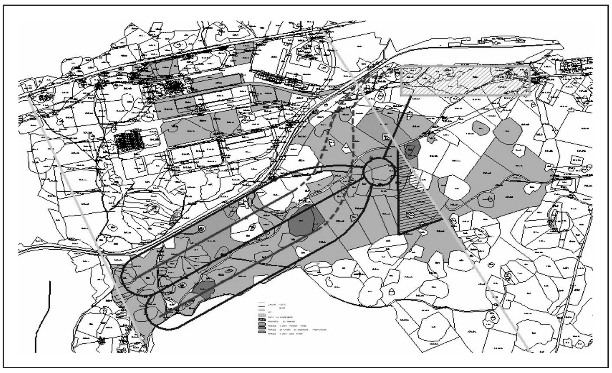


Figure 6 - Development of European Distribution Centre

Source: The Port of Koper

- 120,376 sqm area,
- 55,600 sqm storage area,
- 16,600 sqm enclosed storage,
- 37,800 sqm open storage,
- 3 x 2,700m railway tracks,
- a greater number of cranes and forklifts,
- 98 employees,
- fruit and vegetables packing facility.

3.2 Regional logistic centre "Panonija"

The rise of transport, the needs of the market and the need to lower logistical expenses are one of the main reasons and pointers which urge the establishment of the regional logistic centre "Panonija" – Lipovci (*Figure 5*). The transport of goods through the Port of Koper for Austria and Hungary has greatly increased, especially the transport with Hungary (1,304,584 tons in the year 2007). Most of the transport for the Hungarian market is with containers and with grain cargo (wheat, corn). The most important groups of goods for the Austrian market are containers, wood and grain cargo (soy, minerals, ore).

It is clear from the table that the SWOT analysis (*Table 2*) includes more advantages and opportunities than disadvantages and risks.

Taking into account that the quantities of goods for the clients are continually rising and demands for punctual logistic services are continuously being pointed out (ex. the delivery of smaller (non-container) consignments through the just-in-time system) it is a logical consequence that companies are considering concentrating the needed goods in the vicinity of markets in the western part of Hungary and eastern Austria.

The regional logistic centre "Panonija" – Lipovci is at a location on the Slovenian territory that is closest to the target markets and the requested micro locations. From here it is assured that the physical distribution will be carried out in the same time frame in all the desired industrial centres (ex.: we need almost the same time frame for the physical distribution in Gyor in the north, in Szekesfehervar in the centre or in Pecs in the south of Hungary or Graz in Austria).

3.3 Inland container hub – rail port Arad (Romania)

The Romanian Arad (*Figure 7*) is interesting for the Port of Koper because it is located on the axis of the fourth European corridor. It connects Germany, the Czech Republic, Slovakia and Hungary but right in the western Romania it splits into branches to the Black Sea and the Aegean Sea. The Port of Koper and also the ports emerging European logistic centre in Sežana will be connected with the terminal in Arad by block trains. The land container terminal in Arad is otherwise part of a greater terminal centre there, which measures altogether 55 hectares. It is managed by the Slovak multinational Trade Trans Terminal

Table 2 - SWOT logistic centre establishment analysis

Strengths	Weaknesses
– economic development in the region, – railroad – no need for locomotive and crew change on the port – logistic centre relation – because of the goods proximity to the final consumers the risk of accidents and failed delivery on time is reduced	– the proximity of the existent logistic centres in the vicinity (ex.: Gyor, Pecs, Graz ...)
Opportunities	**Threats**
– the overload of existent logistic centres in the vicinity and the incapability to accept new goods (ex.: Graz) – increase of supplementary activities (ex.: carriers, haulers, checkpoints, insurance companies ...) – increase in work posts – foreign manufacturers and merchants are already interested in hiring services and capacities of the logistical centre through the Port of Koper (also mainly to supply the Hungarian market)	– expansion of capacities in existent logistical centres in the vicinity – construction of a new logistical centre "Oreh" near Maribor

Source: authors

Distance comparison

Distances to major cities:

Budapest	274 km
Beograd	211 km
Sofia	597 km
Skopje	641 km
Sarajevo	513 km
Kiev	1,288 km
Bratislava	468 km
Ljubljana	744 km
Milano	1,242 km
Wien	511 km
Chisinau	815 km

Distances to ports:

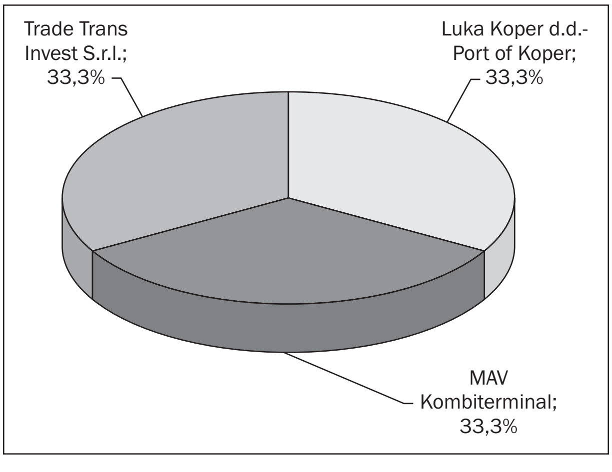
Port of Koper	845 km
Constantza port	770 km
Burgas	884 km
Varna	803 km
Rotterdam	1,682 km
Hamburg	1,444 km
Antverpen	1,620 km
Thessaloniki	905 km

Figure 7 - Location and distance comparison of the inland container hub – railport Arad (Romania)

Source: The Port of Koper

in which the Port of Koper has entered with a 26 per cent share, which assures control over the management of the entire logistic centre. The Port of Koper and the Slovak logistics also connect crosswise. The Port of Koper has recently sold a 49 per cent share in the Adria Terminals company, which manages the European logistic centre in Sežana, to the Trade Trans Terminal Company.

The Port of Koper has become the third owner (*Graph 3*) of the company Rail Port Arad, which will construct a land container terminal. The other two partners are the Hungarian MAV Cargo and the Slovak Trade Trans Invest. The new terminal will cost 1.5 million euros. It will spread over ten hectares and there it will be possible to move 60,000 TEUs a year, which will result in an increase of transport of containers in the Port of Koper.



Graph 3 - Ownership and strategic partnership

Source: The Port of Koper

3.4 Adria transport d.o.o. – the first private railway operator in Slovenia

Adria transport d.o.o. is the first private railway operator in Slovenia whose objective is to give a strong support to the terminal activities in the Port of Koper. It was found in the year 2005 with the ownership and strategic partnership of: 50% Port of Koper and 50% GKB (Graz Köflacher Bahn und Bustrieb - Austria). It has a safety certificate (via GKB licence) for railway operations on the Slovenian territory, enabling fast delivery of goods to/from the Port of Koper, offering efficient block-train connections between the Port of Koper and inland terminals (Sežana, Lipovci, Arad ...)

The firm has until now invested in transport equipment, mainly wagons which are not easy provided by other operators:

- 3 locomotives Siemens Taurus,
- 25 Rgs wagons for transportation of containers, additional 40 ordered,
- 40 Laekks wagons ordered for transportation of cars.

4. CONCLUSION

Today, the countries of Central and Eastern Europe (CEE) have developed into a fast growing and promising part of Europe. The vision of the management of the Port of Koper is to become the most important logistic centre for these countries. The Adria Terminali (Sežana), regional logistics center "Panonija" (Lipovci), the inland container hub-rail port Arad as well as Adria transport d.o.o. will give strong support to the terminal activities in the Port of Koper providing efficient logistic solutions for the south transport route. Terminals are the main regulators of freight flows and as such considerably influence the setting and operation of supply chains in terms of location, capacity and reliability. That is why the present projects and potential investments are important steps within the development of the Port of Koper enhancing its performance and increasing the market share.

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POVZETEK

VEČ KONKURENČNOSTI ZA LUKO KOPER SKOZI INTEGRACIJO DOBAVNE VERIGE

S širjenjem EU na vzhod in ustanavljanjem pomembnih proizvodnih kapacitet v državah centralne in vzhodne

Evrope zaledni potencial Luke Koper narašča v vse večji meri. Strateški cilj Luke Koper je postati ena najboljših luk v južni Evropi in se razviti v pomemben distribucijski center. Prodiranje in iskoriščanje teh tržišč zahteva integracijo z obstoječimi terminali (logističnimi centri) v notranjosti in ustanavljanje novih, umeščenih med Vzhodno in Zahodno Evropo.

V članku so predstavljene in analizirane dobavne verige skozi Luko Koper, stanje in strategije za optimizacijo blagovnih tokov, ter tržni potencial, investicije v nove terminale in kapacitete.

KLJUČNE BESEDE

Luka Koper, strategije, cilji, dobavne verige, integracija, novi terminali, tržni potencial, vlaganja

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