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MORE CONTAINERS THROUGH INVESTMENTS AND NEW TRANSPORT SERVICES – CASE STUDY OF THE PORT OF KOPER

VEĆI PRETOVAR KONTEJNERA KROZ INVESTICIJE I NOVE TRANSPORTNE SERVISE – PRIMJER LUKE KOPAR

SUMMARY

The growth of container traffic in the Port of Koper as well as the beginning of the constructions on the new container terminal has made the reconstruction and extension of the current container terminal an absolute priority. The extension is in line with the estimated growth of traffic as well as with the exploitation of present and future terminal capacities.
The year 2009 was a difficult year for business, especially due to the uncertain international economic situation. The container terminal handled 344,086 TEUs which is 3% less compared to 2008 (358,654 TEUs). In the first nine months of 2010, 16 % more goods were handled in the Port of Koper than in the same period in 2009. The container transport has especially exploded in tons (increase by 45%) as well as in container units (increase by 40%). Within this period they have handled 355,000 TEUs (new record) in the container terminal (214,000 TEUs in the same period on the seventh pier in Trieste).
This paper aims to present and analyse the supply chains of the flow of containerised goods through the Port of Koper, the changes which enable this container boom, current state and strategies to handle even more containers in the future, current and future investments in new capacities.

Key words: *Port of Koper, container terminal, strategies, new transport services, investments*

SAŽETAK

Rast kontejnerskoga prometa u luci Kopar kao i početak nastajanja novoga kontejnerskog terminala je uvjetovalo rekonstrukciju i širenje sadašnjeg terminala.Širenje je u skladu s predviđenim porastom prometa kao i iskorištavanjem sadašnjih i budućih kapaciteta.
Godina 2009. je bila teška godina za poslovanje, posebno s obzirom na nestabilno međunarodno gospodarsko stanje. Kontejnerski terminal je pretovario 344,086 TEUs što je 3% manje u usporedbi s 2008. (358,654 TEUs). U prvih devet mjeseci 2010. godine je bilo pretovareno 16% roba više nego u istom razdoblju 2009. godine. Posebno je porastao kontejnerski transport u tonama (45%) kao i broj kontejnera (40%). U tom razdoblju je pretovareno 366,000 TEUs (novi rekord).
U članku su predstavljeni i analizirani nabavni lanci kontejneriziranoga tereta, promjene koje su uvjetovale kontejnerski bum, sadašnje stanje i strategije kako povećati pretovar kontejnera u budućnosti, sadašnja i buduća ulaganja.

Ključne riječi: *luka Kopar, kontejnerski terminal, strategije, novi servisi, investicije*

1. INTRODUCTION

The Central and Eastern European market play an important role in container trading patterns which are of interest for the Port of Koper. Many manufacturing companies especially major vehicle and also vehicle parts producers, but also many smaller ones as well have 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" is approaching the shape of a boomerang as a result of extensions to central and east Europe and significant investments in the Mediterranean (3).

The global container transport increase amounts to about 8-10% on a yearly basis. According to BRS-Alphaliner (http//www.infomare.it) the entire number of newly constructed container ships should increase by 27%, the number of ships over 7500 TEU by up to 40% between 2005 and 2008. Ships of over 7500 TEU are to have a major influence on container terminals because these terminals will need to adjust their infrastructure and reconstruct their suprastructure. Today, ports should be conceived as logistics and distribution centres that not only optimise the movement of goods and services within the entire transport and logistics chain, but also provide and add value to ultimate customers and users (1).

2. THE PORT OF KOPER – MEMBER OF NAPA (NORTH ADRIATIC PORTS ASSOCIATION)

The five NAPA seaports (ports of Koper, Trieste, Venice, Ravenna and Rijeka) are located at the northern tip of the Adriatic Sea, a natural waterway that penetrates deep into the middle of the European continent, thus providing the cheapest sea route from the Far East via Suez to Europe.

More than 100 million tons of water-borne cargoes are handled in the NAPA seaports every year. The cargo consists mainly of general cargo, containers, cars, ores and minerals, fossil

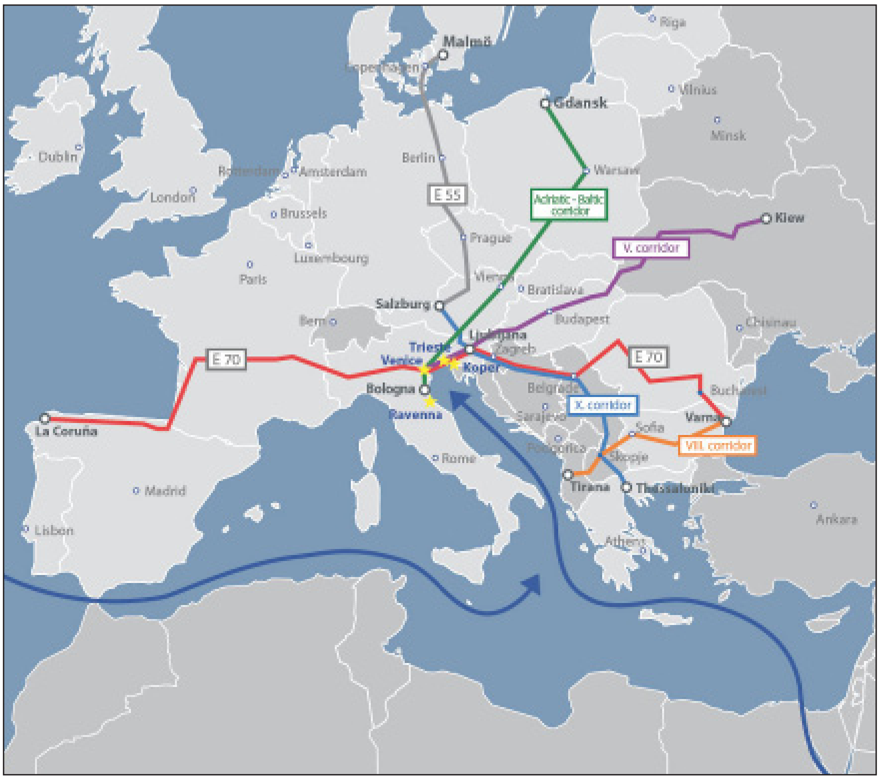

Figure 1 Main transport corridors important for the NAPA seaports
***Slika 1:** Glavni prometni koridori za luke Sjevernog Jadrana (NAPA luke)*

Source / *Izvor:* NAPA (www.portsofnapa.com) / (NAPA = Udruženje luka Sjevernog Jaadrana) fuels, chemicals and others types of cargo. Due to huge variety of logistics services and the extensive traffic network, NAPA forms a perfect multimodal gateway to the key European markets. The near-by fifth Pan-European transport corridor (Fig. 1) provides a quick-link to 500 million European consumers. Large commercial and industrial hubs like Vienna, Munich and Milan are just few hours drive away. The five entities combine their strengths in order to promote the Northern Adriatic route and present themselves as an alternative to the North-European ports. In addition, the association anticipates cooperation in the development of maritime and hinterland connections, visits from cruise lines, environmental protection, safety and information technology (5).

In addition to pursuing the intensive promotion of the southern gateway to the European Continent, the Association is also active in national and European institutions which tailor the European transport policy. Thanks to NAPA's efforts, the Adriatic-Baltic corridor (Fig. 1) was finally included among the nine high-priority corridors encompassed by the EU directive for the development of rail freight.

3. RECENT DEVELOPMENT OF THE CONTAINER TERMINAL

The container transport increase was by 400% in the years from 2000 to 2008. In 2008, there were 358,654 TEUs transported. Since a further increase in the orders of ships of 7500 TEUs and over was expected (http//www.infomare.it, p.1), an extension of 146 m of the first pier began to be built so that the entire length of the coast amounts today to 596 m (Fig. 2). In 2009, the port gained two transtainers and four post – panamax cranes (Fig. 2) for the transport by ships of 7500 TEUs capacity.

The annual transport capacity increased to 600,000 TEUs with the purchase of new storing bridge cranes with a stacking capacity of 4 or 5 containers in height, the repositioning of empty containers to new locations and acquiring new areas for full containers by doing so and with

Table 1 Container transport of the North Adriatic Ports in the years 2007 – 2009 in TEUs
Tablica 1: *Prijevoz kontejnera u TEU kroz sjevernojadranske luke u periodu od 2007. do 2009.*

	2007	2008	2009
KOPER	305,648	353,880	343,165
TRIESTE	265,863	335,943	277,245
RIJEKA	145,040	168,761	130,740
VENEZIA	329,512	379,072	369,403
RAVENNA	206,580	214,324	185,022

Source / ***Izvor:*** NAPA (www.portsofnapa.com)

Table 2 Comparison of Container Traffic in TEUs, 2009.
Tablica 2: *Usporedba kontejnerskog prometa u TEU, 2009.*

ROTTERDAM	9,743,290
ANTWERP	7,309,640
HAMBURG	7,007,704
NAPA PORTS	1,174,618
MARSEILLE	876,757

Source / ***Izvor:*** NAPA (www.portsofnapa.com)

Container terminal 2002
Kontejnerski terminal 2002.

Container terminal 2010
Kontejnerski terminal 2010.

Figure 2 Container terminal in the year 2002 and 2010
Slika 2: *Kontejnerski terminal 2002. i 2010.*

Source / ***Izvor:*** Port of Koper / Luka Koper

faster working of containers from the ship to the terminal and vice versa.

3.1. Trading connections of the container terminal

The terminal is connected with the Far East weekly with regular direct lines and through feeder service with important HUB ports in the Mediterranean (Malta, Piraeus, Gioia Tauro, Haifa), from where regular connections lead to all the continents of the world. As the maritime connection of the port is important so is also the so called land connection. In this way the Port of Koper is connected to important trade centres of the middle and east Europe by regular railway connections and the highway cross. The railway transport of containers out and into the container terminal of the Port of Koper is performed by six different transport companies. Today, 7 block trains are daily dispatched from the Port of Koper to various destinations such as: Ljubljana, Budapest, Žilina, Graz. The execution of road freight transport is left to the local transport companies.

The transport of containers in the year 2008 was 358654 TEUs, in the year 2009, 344,086 TEUs, and in the year 2010, 476,731 TEUs (Table.3). Despite the global recession, the decline in container transport in the year 2009 was minimal. A great increase in transport followed in the year 2010 which was also a consequence of the introduction of the direct line between Asia and the north Adriatic.

Beside the great increase in transport, the portion of container import and export states is changing too. The Slovenian portion in the entire transport is steadily decreasing, partly also because of the crisis in the Slovenian economy. The transport in transit is increasing, especially with Austria, Slovakia and the Czech Republic. The transport with Italy and Germany has not reached the desired growth. A lot of unexploited possibilities are still in the transport of goods with Germany or Bavaria and Austria because they perform the major part of their container transport through the north European ports.

3.2. Container services – direct services out/in Koper

The terminal connectedness is one of the key information for business partners. Regarding maritime routes, the container terminal is connected with other ports and regions on the basis of 14 so called services.

Table 3 Container transport in the Port of Koper in the years 2001 – 2010 in TEUs
Tablica 3: *Prijevoz kontejnera u TEU u luci Koper u periodu od 2001. do 2010.*

YEAR	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TEUs	93187	114863	126237	176458	212025	256265	303524	358654	344086	476731

Source / ***Izvor:*** Port of Koper / Luka Koper

We can separate the maritime connectedness into two categories, namely, to direct services from/to the Far East (such are two) and the rest of 12 services of which the ports are located in the Mediterranean. These services are also called "feeder" services because they also visit, among others, important Mediterranean HUB ports like Gioia Tauro, Malta, Piraeus, Haifa, Taranto, etc. from which maritime routes lead to all the continents of the world.

On Figure 3, a newly implemented service (from June 2010 on) with the Far East is shown, which has been established together by four shipping companies, namely, Hanjin Shipping, Hyundai Merchant Marine, United Arab Shipping Company and Yang Ming Marine Transport Corporation. This is a very important service for the container terminal because it flourished in the crisis or post crisis period. In the aforementioned service eight different ships sail – two per each shipping company, which weekly visit the Port of Koper.

The other direct service (Figure 4) is performed by the shipping companies MAERSK LINE and CMA CGM. The container line between Asia and the north Adriatic is supplying markets in Slovenia, Slovakia, the Czech Republic, Austria, south Germany, Serbia, Bosnia and Herzegovina, Hungary and Croatia. The entire route takes 63 days. The ships' capacities are from 6200 to 7000 TEUs.

The weekly service is maintained with 9 ships between 16 ports – Shanghai, Pusan, Hong Kong, Chiwan, Tanjug Pelepas, Port Kelang, Port Said, Trieste, Koper, Rijeka, Trieste, Damietta, Port Said, Suez Canal, Jeddah, Port Kelang, Singapore in Shanghai.

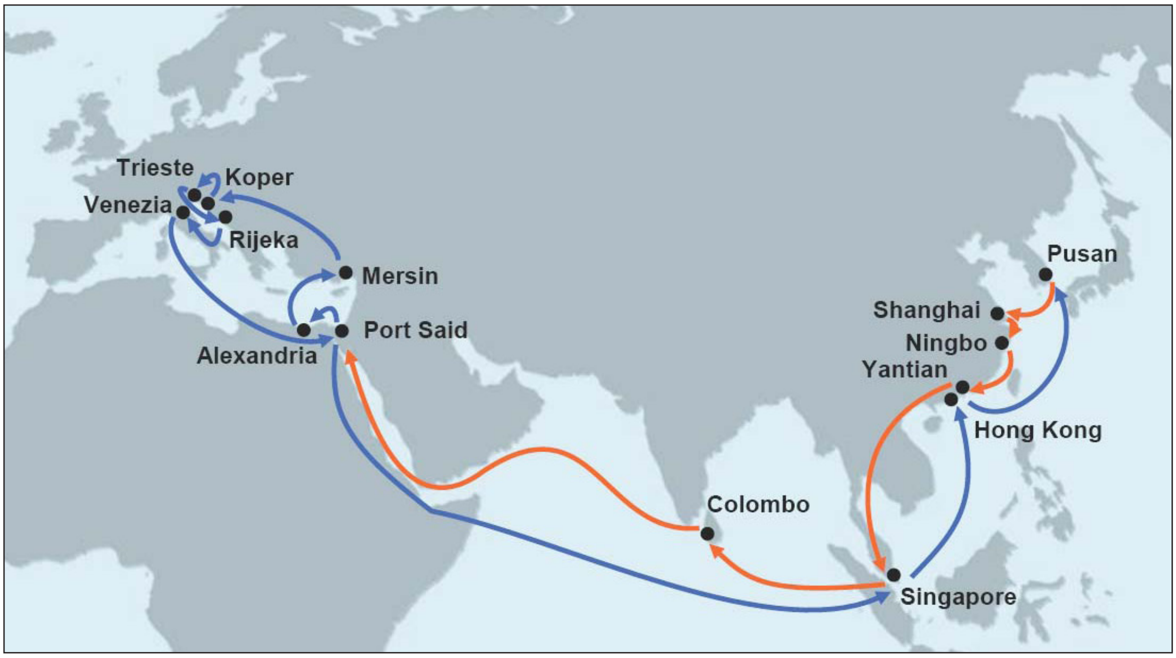

Figure 3 New implemented direct service with the Far East
Slika 3: *Novo otvorena linija s Dalekim Istokom*

Source / ***Izvor:*** Port of Koper / Luka Koper

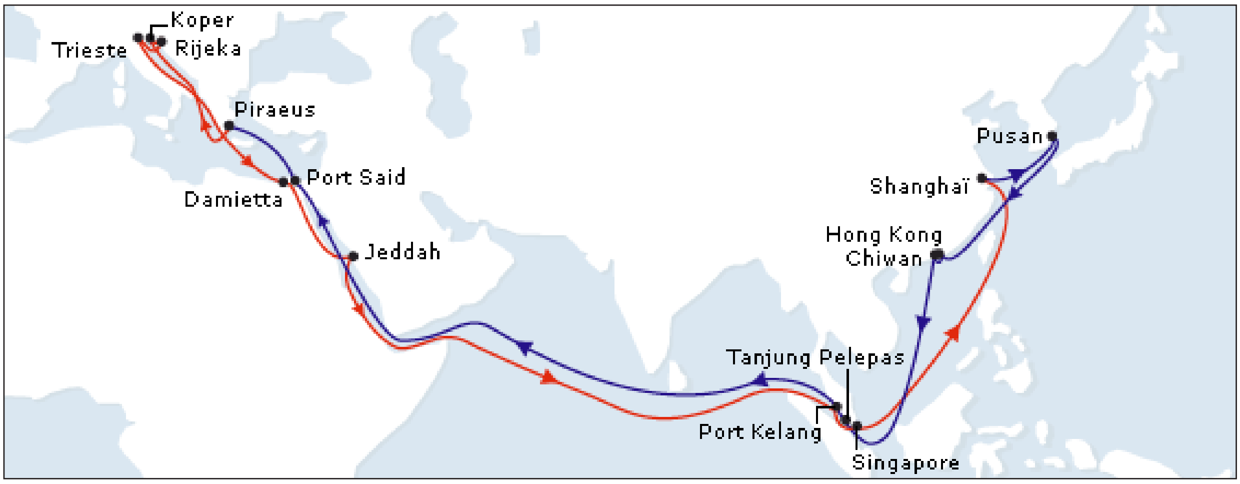

Figure 4 Newly implemented direct service with the Far East intended for the automobile industry
Slika 4: *Novo otvorena direktna linija za Daleki Istok namijenjena industriji automobila*

Source / ***Izvor:*** http://www.cma-cgm.com/eBusiness/Schedules/LineServices/ServiceSheet.aspx?ServiceCode=BEX2

What is typical for the business on this container line, intended for the automobile industry (JUST IN TIME), is that:

- Cargo comes from South Korea
- Freight presents automobile parts destined to the "Kia" and "Hyundai" factory
- It is approx. 140,000 TEUs on an annual level (approx. 1,250,000 tons of cargo)
- It is a two ship services (2x a week)
- Containers have priority when unloading from the ship's holds

Once the containers are discharged from a ship, a typical transportation delay of shipments from port to the hinterland is only few hours – in certain cases it is squeezed to only 30 minutes !!!

The quantity increases from year to year and similar strategy is also introduced in other freights – electronics

4. PLANS TO HANDLE EVEN MORE CONTAINERS IN THE FUTURE

In the future plans, possibilities are seen in the construction of the new third pier (Fig. 5) to be able to receive the latest container ships

Table 4 Container transport on the container terminal of the Port of Koper performed by the shipping companies (%)
Tablica 4: *Prijevoz kontejnera na kontejnerskom terminalu luke Koper od strane brodara* (%)

CMA CGM	28,55
MAERSK	27,58
MSC	19,01
ZIM	7,41
HANJIN SHIPP.	4,71
HYUNDAI	3,40
EVERGREEN	2,32
HAPAG LLOYD	1,46
HDS LINES	1,40
COSCO	1,33
OTHER	2,83
TOTAL	100,00

Source / ***Izvor:*** Port of Koper / Luka Koper

Figure 5 Present and the future Pier III
Slika 5: *Sadašnji i budući izgled Gata III*

Source / ***Izvor:*** Port of Koper / Luka Koper

which are not presently able to dock on pier one due to its shallowness. From the point of view of infrastructure, the minimal standards to be met are 350 metres of shore, 14, 5 metres of sea depth as well as a shore area capable of carrying "post-panamax" cranes.

The construction of the third pier is planned to be carried out in two phases:

1. 700 m of the quay area in length enabling a transhipment of 800,000 TEU.
2. 350 m in length (total 1050 m) enabling a total transhipment of 1,000,000 TEU.

Today, whole supply chains are competing, not just ports among themselves. Ports are important elements in the logistics chain and their level of integration with the inland transport is very important. The main reason for this need is that the costs of inland transport are generally higher than maritime transport costs and many delays can occur in the inland side of the chain such as congestion, limited infrastructure etc. The portion of inland costs, in the total costs of container shipping, would range from 40% to 80% (2).

Moreover, there are some important developmental reserves as far as the effectiveness of railway transport is concerned. These should be brought about by the privatisation and by the restructuralisation of the sector itself, which can mostly be seen in the Central and Eastern European countries. For one thing, organising the so called "block trains" in the Adriatic basin is a strategy that has not been exploited to the fullest. In this respect the northern ports have the upper hand. In order for the Port of Koper to be able to load more container number of "block trains" should increase. In the near future, the modernisation of the Koper-Divača railway connection will increase the cargo flow by 30%. The construction of the second railway track has a net worth of EUR 700 million and forms a part of the Fifth Corridor from Lyon to Kiev, which puts it on the priority list of projects co-funded by the European Union.

In addition to the aforementioned activities, the Port of Koper wishes to develop new activities from which the cooperation of the Port of Koper with the existing inland terminals (logistics centres) and the establishing of new ones positioned between eastern and western Europe stand out. The Adria Terminali (Sežana), regional logistics center "Panonija" (Lipovci), inland container hub-rail port Arad as well as Adria transport d.o.o. will give a strong support to the terminal activities in the Port of Koper, providing efficient logistics solutions for the south transport route (Fig. 6).

Terminals are the main regulators of cargo flows and as such considerably influence the setting and operation of supply chains in terms of location, capacity and reliability (4).

5. CONCLUSION

Today, the countries of Central and Eastern Europe (CEE) have developed into a fast growing and promising part of Europe.

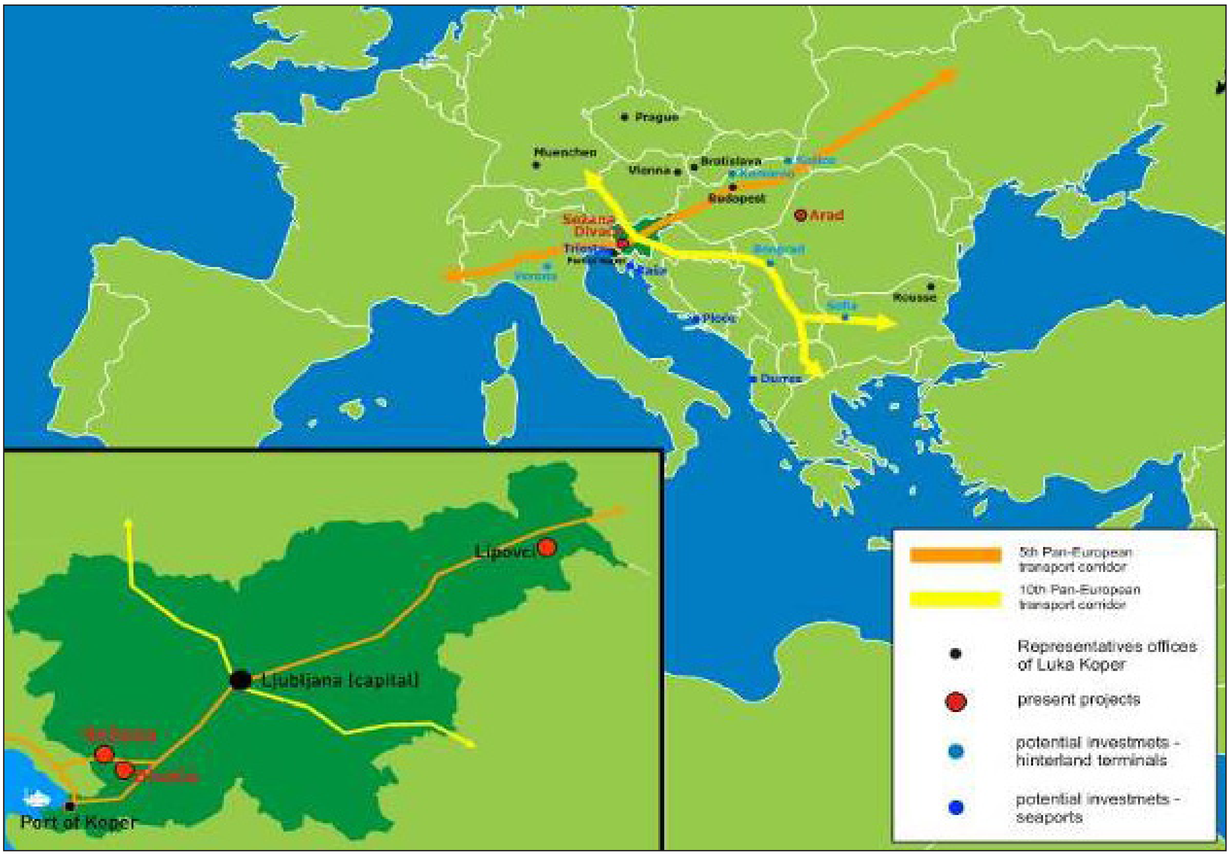

Figure 6 Location of the Adria Terminali (Sežana), regional logistics center "Panonija" (Lipovci) and inland container hub-rail port Arad

Slika 6: *Lokacija Adria Terminala (Sežana), regionalnog logističkog centra "Panonija (Lipovci) i glavni željeznički kontejnerski terminal Arad na kopnu*

Source / *Izvor:* Port of Koper / Luka Koper

The vision of the NAPA seaports is to form a European logistics platform with regard to servicing these markets as well as the markets of the Far East. To obtain better service the ports of NAPA are going to invest efforts into the coordinated planning of road, rail and maritime infrastructure, as well as into the harmonisation of regulations and procedures in the field of port service provision.

What is noticeable today is the obvious increase in orders of ships of over 7500 TEUs, which in turn means a larger margin for shipowners sending their ships to transport containers on the main East-West, Asia-Europe, and Asia-North America routes. That is why the business orientation of the Port of Koper to develop principal infrastructure and acquire new business partners in the container transport area has proved to be correct. Great financial investments in the extension of the container shore, expansion of storing space and purchasing of specialized transport equipment has proved in the large increase in transport in the year 2010. Despite the global crisis the increase of transport was approx. 40%. The quantity of the transported containers is reaching enviable numbers but the future growth is threatened. That is why the construction of the third pier with 1 million TEUs capacity, a second railway track from Koper to Divača and the upgrade of the rest of the railway tracks in Slovenia is necessary.

New projects and investments are important steps within the development of the Port of Koper enhancing its performance and increasing the market share.

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