ELEN TWRDY, Ph.D.
E-mail: Elen.Twrdy@fpp.uni-lj.si
IGOR TRUPAC, Ph.D.
E-mail: Igor.Trupac@fpp.uni-lj.si
JURIJ KOLENC, Ph.D.
E-mail: Jurij.Kolenc@fpp.uni-lj.si
University of Ljubljana,
Faculty of Maritime Studies and Transport
Pot pomorščakov 6, 6320 Portorož, Slovenia

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CONTAINER BOOM IN THE PORT OF KOPER

ABSTRACT

For the Port of Koper the Central and Eastern European market is very important. The Port of Koper is especially interesting for goods flows relating to the exchange of goods on the East – West route (and vice versa) and bound for the EU, in particular to the catchment area of the North Adriatic ports.

The year 2009 was a difficult year for business, especially due to the uncertain international economic situation. 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 especially exploded in tons (45% increase) as well as in container units (40% increase). Within this period they handled 355,000 TEUs (new record) in the container terminal (214,000 TEUs in the same period on the seventh pier in Trieste).

The growth of container transport in the Port of Koper as well as the beginning of construction on the new container terminal have 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.

This paper aims to present and analyse: (I) supply chains of the flow of containerised goods through the Port of Koper to/from the countries of Central and Eastern Europe; (II) the changes which enable this boom, current state and strategies to handle even more containers in the future; (iii) market potential, current and future investments in new capacities.

KEY WORDS

Port of Koper, Nord Adriatic Ports Association (NAPA), container terminal, strategies, new investments

1. INTRODUCTION

The global container transport increase amounts to about 8-10% on a yearly basis. Considering the number of orders for new container ships, the entire number of newly constructed container ships should increase by 27% by the year 2008. According to BRS-Alphaliner (http//www.infomare.it) the number of ships over 7,500 TEU should rise dramatically - by up to 40% between 2005 and 2008. By the end of 2004 there were 49 ships of over 7,500 TEU in use, and within three years this figure should rise to 197. Similarly, there should be a substantial rise in the number of ships between 5,000 and 7,499 TEU, which means that there should be as many as 378 such ships by the year 2008 (Tb. 1). Ships of over 7,500 TEU are to have major influence on the container terminals because

Table 1 - Number of new ordered container ships from 2005 to 2008

TEU	Year 2005	Year 2006	Year 2007	Year 2008	Difference (%)
	Number of ships	Number of ships	Number of ships	Number of ships	2005/2008
>7,500	49	83	143	197	402.0%
5,000/7,499	265	306	334	378	42.6%
4,000/4,999	268	301	349	396	47.8%
3,000/3,999	265	273	288	316	19.2%
2,000/2,999	549	604	666	722	31.5%
1,001/1,999	943	1,013	1,133	1,135	20.1%
<1,000	1,023	1,092	1,120	1,127	10.1%
Total	3,362	3,672	3,973	4,271	27.0%

Source: http://www.infomare.it

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 (Bichou 2009).

2. THE 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 to the main industrial centres in Central Europe is approximately 500km shorter than from North European ports. Some two-thirds of cargo is transported by rail, which means that more than 500 wagons arrive and leave the port on a daily basis.

The entire area of the Port of Koper (*Figure 2*) including the development area extends over 1,600 hectares.

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

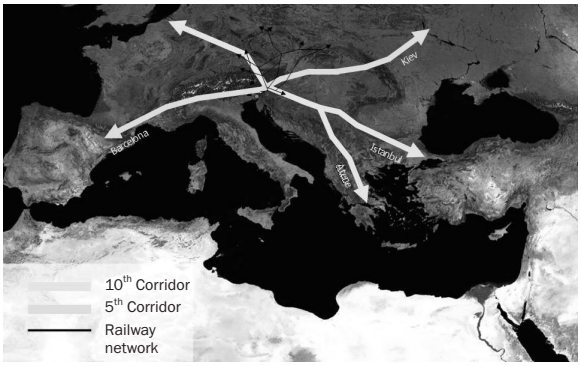


Figure 1 - Maritime connections and main transport corridors important for Slovenia

Source: The Port of Koper

Figure 2 - Location of the Port of Koper

Source: The Port of Koper

should contribute to build up higher competitiveness and more efficient operation.

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.

For the Port of Koper the Central and Eastern European market is very important. Many manufacturing companies, especially major vehicle and also vehicle part 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 of raw materials and consumer products within the European Union. 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 (Notteboom 2009).

The port of Koper is designed for the handling of various types of goods 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. Significant shares of traffic of the port of Koper are with Austria and Hungary. Seventy percent of land traffic is transported by railway and thirty percent 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 alongside the 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 the railway.

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. Per one unit of generated value in a direct port activity, eight additional value units are generated in the whole Slovenian economy.

3. THE PORT OF KOPER - MEMBER OF NAPA (NORD 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 centre of the European continent, thus providing the cheapest naval route from the Far East via Suez to Europe.

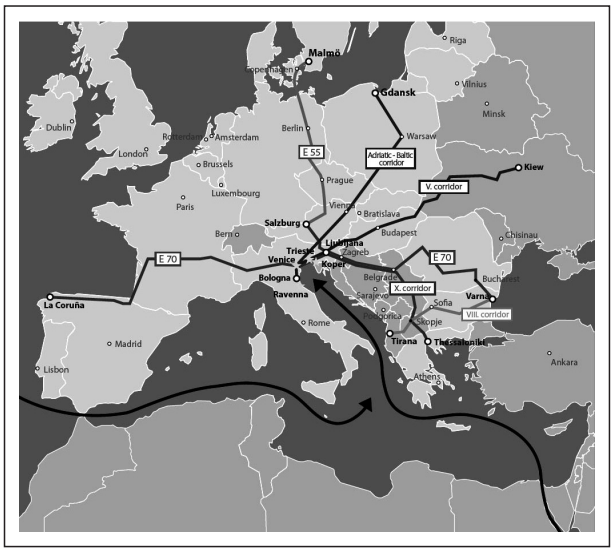


Figure 3 - Main transport corridors important for the NAPA seaports

Source: NAPA (www.portsofnapa.com)

More than 100 million tonnes of water-borne cargo are handled in the NAPA seaports every year. The cargo consists mainly of general cargo, containers, cars, ores and minerals, fossil fuels, chemicals and others types of cargo. Due to huge variety of logistic 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 (*Figure 3*) 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 (www.portsofnapa.com).

Table 2 - Container transport of the North Adriatic Ports in the years 2007 – 2009 in TEUs

	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: NAPA (www.portsofnapa.com)

Table 3 - Comparison of Container Traffic in TEUs, 2009

Rotterdam	9,743,290
Antwerp	7,309,640
Hamburg	7,007,704
Napa Ports	1,174,618
Marseille	876,757

Source: www.portsofnapa.com

In addition to pursuing 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 was finally included among the nine high-priority corridors encompassed by the EU directive for the development of railfreight.

4. RECENT DEVELOPMENT OF THE CONTAINER TERMINAL

The container transport increase was of 400% in the years from 2000 to 2008. Because a further increase in orders of ships of 7,500 TEUs and over was expected (Tb. 1: Number of new ordered container ships from 2005 to 2008, p.2) an extension of 146m of the first pier began to be built so that the entire length of the coast amounts today to 596m (*Figure 4*). In 2009 the port gained two transtainers and four post-panamax cranes (*Figure 4*, *Figure 5*) for transport by ships of 7,500 TEUs capacity.

The annual transport capacity increased to 600,000 TEUs with the purchase of new storing bridge cranes with 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 faster working of containers from the ship to the terminal and vice versa.

All the works in the container terminal are supported by the specialized information system COSMOS that is connected with the principal informational sys-

Container terminal 2002

Container terminal 2010

Figure 4 - Container terminal in the years 2002 and 2010

Source: Port of Koper

tem of the port – TINO. The entire machine mechanization except the costal cranes is equipped with mobile computer terminals that are connected with the principal computer system by wireless. The controllers have a mobile terminal in which they input data of the ship, container, wagon or outside truck. Because the work in the terminal is intensive with different simultaneous functions, the participants in the work process are interconnected. Mobile radio stations that function on six different frequencies or channels are placed in the entire machine mechanization. The dispatcher, manager, controller and head of the workers on the ship also have a mobile radio station. Different frequencies or channels are available so that there are no disturbances between different work groups.

Figure 5 - New four Post-panamax cranes in the Port of Koper

Source: Port of Koper

4.1 Connections of the container terminal

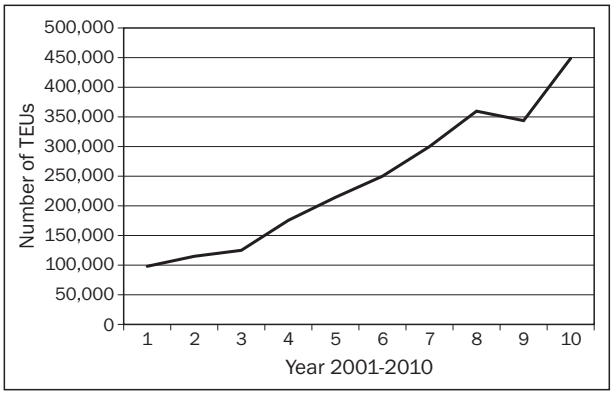
The terminal is connected with the Far East weekly by regular direct lines and through feeder service with important HUB ports in the Mediterranean (Malta, Piraeus, Gioia Tauro, Haifa) from where regular connections lead to all the continents of the world. As the maritime connection of the port is important so is also the so called land connection. In this way the Port of Koper is connected to important trade centres of the Central 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, seven block trains are daily executed from the Port of Koper to various destinations like: 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 358,654 TEUs, in the year 2009 – 344,086 TEUs and in the year 2010 – 476,731 TEUs (Tb.4, *Graph 1*). 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 also the portion of container import and export states is changing. 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 is not reaching 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 North European ports.

Table 4 - Container transport in the Port of Koper in the years 2001 – 2010 in TEUs

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TEUs	93,187	114,863	126,237	176,458	212,025	256,265	303,524	358,654	344,086	476,731



Graph 1 - Container transport in the Port of Koper in the years 2001 – 2010 in TEUs

Source: Port of Koper

4.2 Container services – direct services out/into 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.

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 visit among others also important Mediterranean HUB ports like Gioia Tauro, Malta, Piraeus, Haifa, Taranto, etc. from which maritime routes lead to all the continents of the world.

Figure 6 shows a newly implemented service (since June 2010) with the Far East, 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, visiting weekly the Port of Koper.

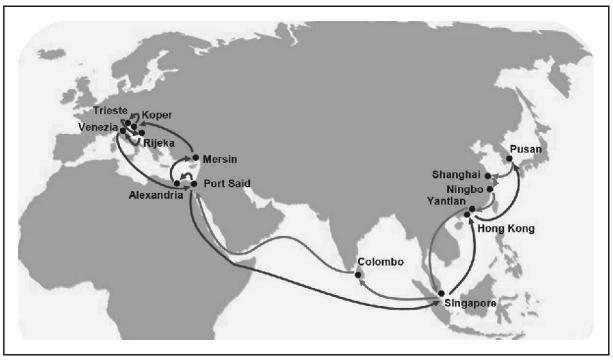


Figure 6 - Newly implemented direct service with the Far East

The other direct service (*Figure 7*) is performed by the shipping companies MAERSK LINE and CMA CGM. The container line between Asia and 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 6,200 to 7,000 TEUs.

The weekly service is maintained with nine 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.

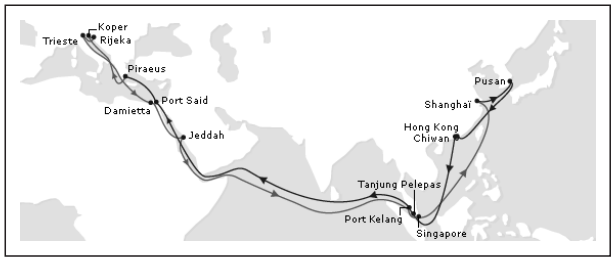


Figure 7 - Newly implemented direct service with the Far East intended for automotive industry

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

For the container business on this line that is intended for the automotive industry (JUST-IN-TIME) it is typical that:

- freight comes from South Korea;
- freight presents automobile parts destined to "Kia" and "Hyundai" factories;
- it is approx. 140,000 TEUs on an annual level (approx. 1,250,000 tons of cargo);
- it is 2 ship services (2x a week);
- containers have priority when unloading from ships holds;

Table 4 - Container transport at the container terminal of the Port of Koper performed by the shipping companies (%)

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: Port of Koper

- freight "starts" from port in a few hours after unloading from the ship – certain containers even in 30 minutes!!!
- the quantity increases from year to year and similar strategy is introduced also in other freights – electronics.

5. CONDITION TO HANDLE EVEN MORE CONTAINERS IN THE FUTURE

In the future development possibilities are seen in the construction of the new third pier (*Figure 8*) to be able to receive the latest container ships which are at the moment not able to dock on the 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 shore area capable of carrying »post-panamax« cranes.

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

1. 700m of the quay area in length enabling transhipment of 800,000 TEUs,
2. 350m in length (total 1,050 m) enabling total transhipment of 1,000,000 TEUs.

The cargo area of the future terminal foresees positions for full containers only. The container terminal is going to consist of six storehouse blocks. Furthermore, to ensure smooth functioning each storehouse block will have to have at least two transtainers, totalling 12 transtainers altogether.

The terminal is to be linked to the railway system by four railway tracks 650 metres long. Railway cars are to be manipulated by two bridge cranes powered by electricity which would enable container manipulation over all four railway tracks.

Empty containers are to be stored outside pier III next to the terminal entrance. In addition, six shore container cranes are to be in operation on shore, at least three of which are post-panamax. Purchasing new, faster and more capable shore cranes will enable the Port to reach the necessary loading standards and at the same time shorten the time container ships stay in the port.

Today, entire supply chains are competing, not just ports among themselves. Ports are important elements in the logistics chain and their level of integration with inland transport is very important. The main reasons for this need are that costs for 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% (Notteboom 2004).

Moreover, there are some important development reserves as far as the effectiveness of railway transport is concerned. These should be brought about by the privatisation and by the restructuring 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 containers the number of »blocks trains« should increase. In the near future modernisation of the Koper-Divača railway connection will increase cargo flow by 30%. The construction of the second railway track has a net worth of 700 million euro 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.

Beside 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 (logistic centres) and establishing of new ones positioned between eastern and western Europe stand out. The Adria Terminali (Sežana), regional

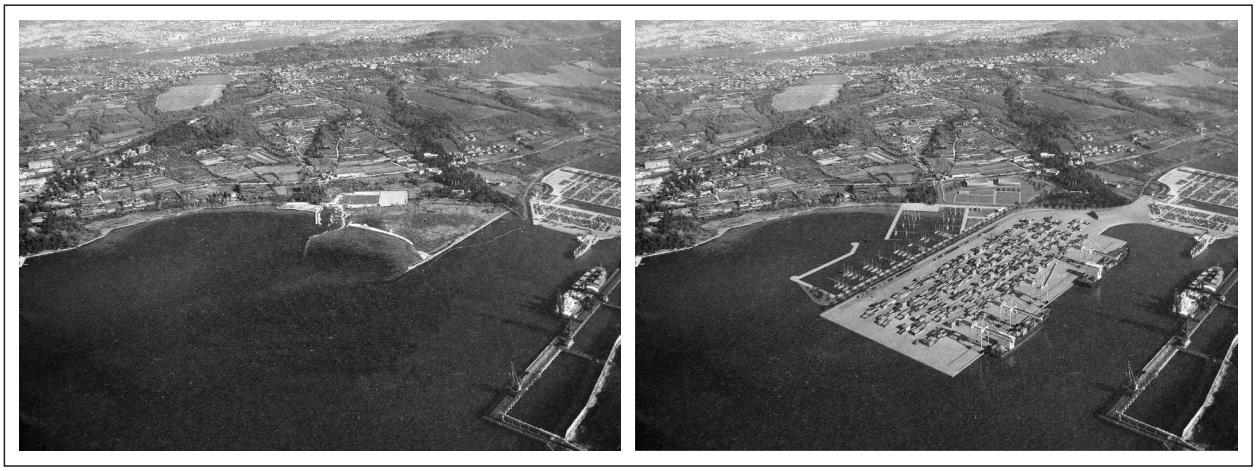


Figure 8 - Present and future Pier III

Source: Port of Koper

logistics centre "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 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 (Jean-Paul Rodrigue & Theo Notteboom, 2008).

6. 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 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 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 7,500 TEUs, which in turn means a larger margin for ship-owners 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 have resulted in the big increase in transport in the year 2010. Despite the global crisis the increase of transport was approx. 40%. The quantity of transported containers is reaching enviable numbers but the future growth is threatened. That is why construction of the third pier with 1 mill. TEUs capacity, a second railway track from Koper to Divača and the upgrade of the rest of the railway tracks in Slovenia are necessary.

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

Dr. **ELEN TWRDY**
E-mail: Elen.Twrdy@fpp.uni-lj.si
Dr. **IGOR TRUPAC**
E-mail: Igor.Trupac@fpp.uni-lj.si
Dr. **JURIJ KOLENC**
E-mail: Jurij.Kolenc@fpp.uni-lj.si
Univerza v Ljubljani, Fakulteta za pomorstvo in promet
Pot pomorščakov 6, 6320 Portorož, Slovenija

POVZETEK

KONTEJNERSKI BUM V LUKI KOPER

Za Luko Koper sta centralni in vzhodnoevropski trg zelo pomembna. Luka Koper je zlasti zainteresirana za blagovne tokove, ki se nanašajo na izmenjavo blaga na relaciji Vzhod-Zahod (in obratno) ter so namenjeni predvsem gravitacijski coni severnojadranskih luk.

Leto 2009 je bilo težko leto za poslovanje, zlasti glede na nestabilno mednarodno gospodarsko stanje. Kontejnerski terminal je pretovoril 344,086 TEUs kar pomeni 3% manj glede na leto 2008 (358,654 TEUs). V prvih devetih mesecih leta 2010 je bilo pretovorjenega za 16 % več blaga kot v istem obdobju leta 2009. Še posebej je narastel kontejnerski transport v tonah (45%) kot tudi število kontejnerjev (40%). V istem obdobju je pretovorjeno 366,000 TEUs (novi rekord).

Rast kontejnerskega prometa v Luki Koper kot tudi začetek nastajanja novega kontejnerskega terminala sta pogojevala rekonstrukcijo in širjenje sedanjega terminala. Širjenje je v skladu s predvidenim porastom prometa kot tudi z izkoriščanjem sedanjih in bodočih kapacitet.

V članku so predstavljene in analizirane nabavne verige kontejneriziranega blaga, spremembe, ki so povzročile kontejnerski bum, sedanje stanje in strategije kako povečati pretovor kontejnerjev v prihodnje ter sedanja in bodoča vlaganja.

KLJUČNE BESEDE

Luka Koper, NAPA, kontejnerski terminal, strategije, novi servisi, vlaganja

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