

Marina Stojanović, univ. bacc. ing.
Dr. sc. Tanja Poletan Jugović / Ph. D.
Sveučilište u Rijeci / *University of Rijeka*
Pomorski fakultet u Rijeci /
Faculty of Maritime Studies Rijeka
Studentska 2, 51000 Rijeka
Hrvatska / *Croatia*

Pregledni članak
Review article

UDK / *UDC*:
656.615(262.3:4)
656.61.022.8

Primljeno / *Received*:
24. travnja 2013. / *24th April 2013*
Odobreno / *Accepted*:
25. svibnja 2013. / *25th May 2013*

PERSPEKTIVA VALORIZACIJE SJEVERNOJADRANSKOG PODRUČJA U EUROPSKOM PROMETNOM OKRUŽENJU

PERSPECTIVE OF THE VALORIZATION OF THE NORTH ADRIATIC AREA WITHIN THE EUROPEAN TRAFFIC ENVIRONMENT

SAŽETAK

Porast međunarodne razmjene i sve veća međusobna zavisnost svjetskog i europskog tržišta ističe golomu potrebu unutarnjeg (europskog) prometnog povezivanja. U tome je kontekstu za očekivati izražen europski interes za sjevernojadranskim područjem kao područjem značajnim za integriranje europskog prometnog sustava, a time i za integriranje europskih u svjetske prometne tokove. Vodeći se tom konstatacijom u ovome se radu analizira perspektiva valorizacije sjevernojadranskog područja i pripadajućih sjevernojadranskih luka u europskom prometnom okruženju, ističući: relevantne čimbenike formiranja robnih tokova, glavne značajke intenziteta i dinamike robnih tokova u sjevernojadranskom području i konkurentnom okruženju, te njihovu perspektivu s obzirom na prognoze tržišnog udjela sjevernojadranskog područja na europskom tržištu. Ujedno se navode relevantne okolnosti, mjere i aktivnosti koje bi trebale biti u funkciji valoriziranja ovoga prostora na europskom i širem prometnom tržištu.

Ključne riječi: *sjevernojadransko područje, europsko okruženje, TEN-T, sjevernojadranske luke, projekt NAPA, tržište, robni tokovi*

SUMMARY

The growing interdependence of the world and European markets and increased international trade increasingly emphasizes the need for internal (European) traffic connections. In this context, the increased European interest for the North Adriatic area, as an area of importance for the integration of the European transport system, and thus for the European integration into the global traffic flows, is expected. Considering this statement, this paper aims at analyzing the perspective of the valorization of the North Adriatic area and of the associated North Adriatic ports within the European transport environment, pointing out: relevant factors in forming cargo flows, the main features of the intensity and dynamics of trade flows in the North Adriatic area and its competitive environment, and their prospects due to market share forecasts for the North Adriatic area on the European market. This paper also refers to the relevant circumstances, measures and activities that should be aimed at promoting the valorization of this area within the European and wider transport market as well.

Key words: *North Adriatic area, European environment, TEN-T, North Adriatic ports, NAPA project, global market, cargo flows*

1. UVOD

Integracija Srednje i Istočne Europe u Europsku uniju, uključujući i dinamičan razvoj gospodarstva u tim prostorima, znatno je utjecala na formiranje i intenziviranje robnih tokova prema sjeveru i istoku Europe tako da ta područja postaju centri privlačenja prometnih tokova. U tom smislu, valorizacija sjevernojadranskog područja u perspektivi podrazumijeva ravnopravno i intenzivno prometno integriranje navedenog prostora u transeuropsku prometnu mrežu te europsko prometno okruženje i tržište.

Uz adekvatnu infrastrukturnu politiku, integriranje sjevernojadranskih luka i njihov zajednički nastup na europskom prometnom tržištu, ravnopravniju distribuciju europskih prometnih tokova te podršku Europske unije, sjevernojadransko područje bi u perspektivi trebalo ravnopravnije sudjelovati na europskom tržištu.

Slijedom toga, osnovni problem istraživanja u ovome radu je: analiza perspektive valorizacije sjevernojadranskog područja i pripadajućih sjevernojadranskih luka na europskom prometnom tržištu.

Svrha istraživanja je isticanje svih relevantnih utjecajnih čimbenika i okolnosti koje utječu ili će utjecati na prosperitet sjevernojadranskog područja, kao i geoprometna analiza stanja i prognoze robnih tokova uz objektivne podatke o trenutnom i potencijalnom učešću sjevernojadranskog područja na europskom tržištu.

2. ČIMBENICI FORMIRANJA ROBNIH TOKOVA U SJEVERNOJADRANSKOM PODRUČJU

Formiranje i raspored robnih tokova u određenom području produkt je brojnih prometnih, logističkih, ekonomskih i političkih čimbenika. Stoga se, u ovome dijelu rada analiziraju neki od relevantnih čimbenika koji utječu na trenutni i budući intenzitet, raspored i strukturu robnih tokova u sjevernojadranskom području.

2.1. Pozicioniranost sjevernojadranskih luka u TEN-T mreži

Opći cilj transeuropskih prometnih mreža (*Trans-European Transport Networks*, TEN-T) je zemljopisno i gospodarsko približavanje dijelo-

1 INTRODUCTION

The integration of Central and Eastern Europe into the European Union, including the dynamic economic development in these areas, greatly influenced the formation and intensification of trade flows towards the north and east of Europe. Therefore, these areas have become centres of attracting cargo flows. In this respect, the valorization of the North Adriatic area implies an equal and intense transport integration of this area into the Trans-European network and European traffic market and environment.

With an adequate infrastructure policy, the integration of the North Adriatic ports and their joint appearance on the European transport market, a more equal distribution of the European traffic flows and the support of the European Union, the North Adriatic area should take part on the European market on more equal terms in the future.

Consequently, the basic research problem of this paper is: the perspective analysis of the valorization of the North Adriatic area and the corresponding North Adriatic ports on the European traffic market.

The purpose and objective of this paper is to highlight all relevant influential factors and circumstances that influence and that will affect the prosperity of the North Adriatic area, as well as the geo-transportation analysis and forecasts of cargo flows as objective data on the current and potential involvement of the North Adriatic area on the European market.

2 CARGO FLOWS FORMATION FACTORS IN THE NORTH ADRIATIC AREA

The formation and distribution of cargo flows in a particular area is a result of many transport, logistics, economic and political factors. Therefore, this section of the paper analyzes some of the relevant factors that affect the current and future intensity, allocation and structure of cargo flows in the North Adriatic area.

2.1 Positioning of the North Adriatic Ports in the TEN-T Network

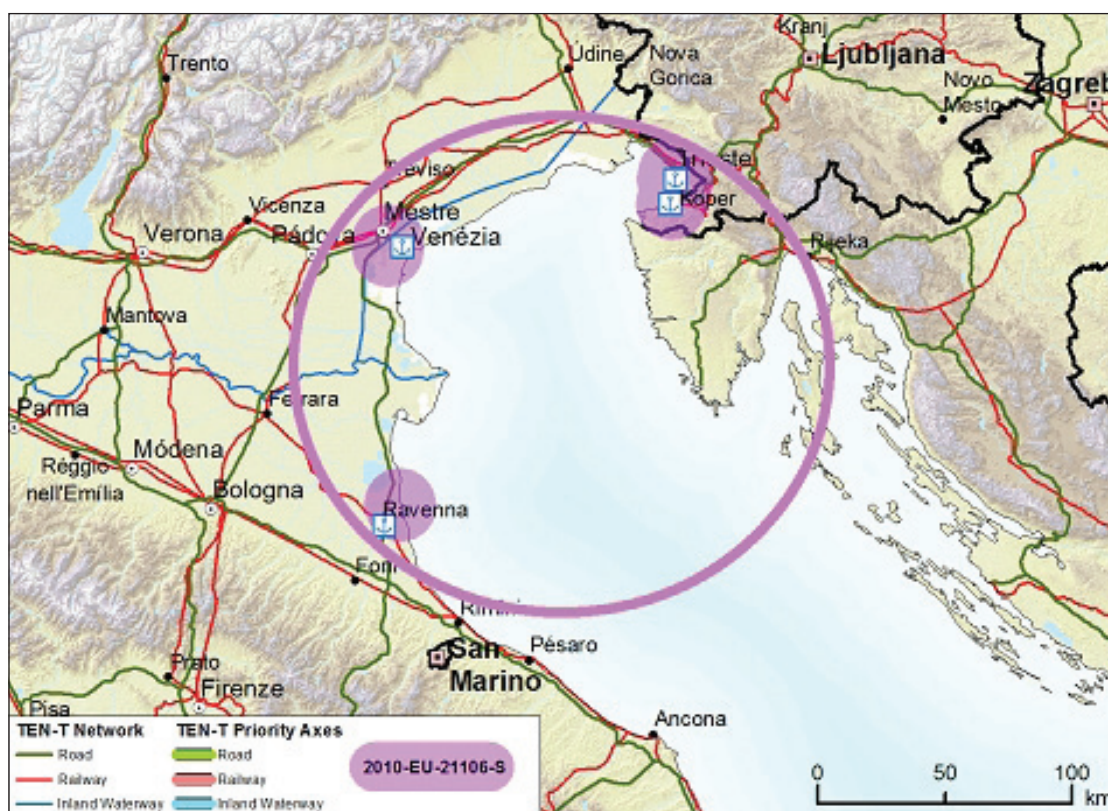
The general aim of the *Trans-European Transport Networks* is to bring the geographical

va Europe kroz razvoj cestovnih i željezničkih prometnica, unutarnjih plovnih putova, zračnih luka, morskih luka, luka na unutarnjim plovnim putovima i sustava upravljanja prometom. Stoga je međusobno povezivanje, interoperabilnost i kontinuitet usluga, naročito na dugim međunarodnim pravicima, pružanjem financijske potpore za realizaciju važnih projekata prometne infrastrukture osnovni cilj Komisijskog programa TEN-T [1].

Sredinom 2012. godine Vijeće Europe se složilo o općem pristupu za nacrt kojim se uspostavlja instrument *Connecting Europe Facility* (CEF), kao budući instrument za financiranje transeuropske prometne mreže u razdoblju od 2014. do 2020. godine. Putem CEF-a se planira alocirati 31,7 milijardi eura, pri čemu je 80 % ovog iznosa namijenjeno za 10 europskih multimodalnih koridora. Kao punopravna članica Europske unije, Republika Hrvatska će od 1. srpnja 2013. godine u okviru CEF programa moći koristiti značajna financijska sredstva za potrebe prometne mreže koja će postati dio transeuropske prometne mreže.

and economic areas of Europe closer by the development of roads, railways, inland waterways, airports, seaports, inland ports and traffic management systems. Therefore, the interconnection, interoperability and continuity of services, especially on long-distance international routes, providing financial support towards the realisation of important transport infrastructure projects is the main goal of the Commission TEN-T programme [1].

In mid 2012, the Council of the European Union agreed on a general approach on a draft regulation establishing the *Connecting Europe Facility* (CEF), the future funding instrument for the trans-European networks (TEN) in the period between 2014 and 2020. CEF plans to allocate 31.7 billion EUR, within which 80% of this amount is earmarked for ten European multimodal corridors. As a full member of the European Union, Croatia will, from 1st July 2013, through the CEF programme, be able to use significant financial resources for its transport network that will be included in the Trans-European Transport network.



Zemljovid 1. Sjevernojadransko područje TEN-T mreže
Chart 1 The North Adriatic Area as a part of the TEN-T network

Izvor / Source: http://tentea.ec.europa.eu/en/ten_projects (2. 5. 2013. / 2nd May 2013)

Analizirajući pozicioniranost sjevernojadranskih luka Rijeke, Kopra, Trsta, Venecije i Ravenne u TEN-T mreži, značajno je istaknuti akciju nazvanu *ITS Multi-port Adriatic Gateway* koja je unutar TEN-T programa sufinancirana sredstvima Europske unije. Navedena akcija ističe relevantan značaj i potrebu daljnjeg razvitka i afirmacije sjevernojadranskih luka, posebice s obzirom na integraciju sjevernojadranskih luka (Rijeka, Koper, Trst, Venecia, Ravenna) u okviru udruženja NAPA (*North Adriatic Ports Association*).

Glavni ciljevi akcije *ITS Multi-port Adriatic Gateway* odnose se na:

- unaprjeđivanje postojeće mreže sjevernojadranskih luka,
- optimizirano korištenje lučke infrastrukture,
- poboljšanje učinkovitosti i produktivnosti akcija NAPA organizacije,
- poticanje konkurentnosti između različitih oblika prijevoza te ravnomjerniju multimodalnu distribuciju,
- pružanje najsuvremenije i optimalne lučke usluge,
- razvijanje i međusobno uspoređivanje najboljih lučkih praksi unutar sjevernojadranskih luka kao čimbenik međusobne suradnje,
- smanjivanje administrativnih troškova,
- pružanje cjelovite informacije o interoperabilnosti na križanju Koridora V i Koridora I s proširenjem na Baltičko-jadranski koridor,
- maksimiziranje zadovoljstva klijenta pružajući najadekvatniji alat za praćenje i nadzor lučkog poslovanja i kretanja tereta unutar sjevernojadranskih luka.

Gledano iz perspektive TEN-T mreže projekt je relevantan jer je NAPA projekt, kao asocijacija 5 različitih luka unutar 3 države, jedinstven projekt koji podrazumijeva pristup informacijsko-komunikacijskoj tehnologiji luka s jedne ulazne točke kroz povezivanje lučkih komunikacijskih sustava te povezivanje ostalih ključnih aktera kao što su carina i pomorska uprava, a na taj način predstavlja primjer drugim lukama u razvijanju interoperabilnosti već postojećih lučkih sustava.

Analizirajući pomorski promet i pomorske robne tokove Europske unije unutar 6 regija (Sjeverozapadna kontinentalna regija, Mediter-

Analyzing the position of the North Adriatic ports – the port of Rijeka, Koper, Trieste, Venice and Ravenna, as a part of the TEN-T network, it is important to highlight an action called "*ITS Multi-port Adriatic Gateway*" which is implemented into the TEN-T programme and co-financed by the European Union. The action points that further development and affirmation of the North Adriatic ports is to be of relevant importance, especially considering the integration of the North Adriatic ports (Rijeka, Koper, Trieste, Venice, Ravenna) within the NAPA project (*North Adriatic Ports Association*).

The main goals within the "*ITS Multi-port Adriatic Gateway*" action are:

- to improve the existing North Adriatic port community systems,
- to optimize the use of port infrastructures,
- to enhance efficiency and productivity of NAPA ports activities,
- to foster a better inter-modal competitiveness and a more balanced modal distribution,
- to provide a modern and complete port operation application,
- to develop and share "best practices" approach among the North Adriatic ports as a factor of mutual cooperation,
- to reduce administrative costs,
- to provide a complete information on the interoperability in a large region at the crossing of Corridors 1 and 5 and extending to the Adriatic-Baltic corridor,
- to maximize the client's satisfaction offering the most adequate tool for monitoring and tracking "business" within the North Adriatic ports.

Out of the TEN-T network perspective, the project is relevant because the NAPA project, as a cluster of 5 different ports within 3 states, is a unique project, which includes access to the ICT (*Information and Communications Technology*) of ports from a single entry point, linking the port community systems as well as other key actors, such as customs and maritime administration, thus representing an example to other ports in developing the interoperability of the already existing port system.

Analyzing maritime transport and maritime cargo flows within the 6 European Union regions (the North-West Continental region, the Mediterranean Sea region, the Baltic Sea region, the U.K. & Ireland region, the Atlantic Ocean re-

ran, Regija baltičkih zemalja, Velika Britanija i Irska, Regija atlantskih zemalja, Regija crnomorskih zemalja) proizlazi da najveći dio prekomorskog teretnog prometa, čak 31,7 % pripada lukama Sjeverozapadne kontinentalne regije. Mediteranske luke zemalja članica Europske unije, sa značajnim udjelom od 28,2 %, zauzimaju drugo mjesto, dok baltičke luke (izuzev ruskih luka) zauzimaju treće mjesto sa 17,3 % u cjelokupnom prekomorskom teretnom prometu. Prate ih luke Velike Britanije i Irske s udjelom od 15,3 %, luke Atlantskog oceana s udjelom 5,9 % te luke Crnog mora s udjelom od 1,7 %.

U ukupnom prometu svih morskih luka Europske unije, 83 luke/grupa luka koje su uključene u TEN-T mrežu imaju udio od približno 70 %. Najveći broj tih luka, tj. čak 24 luke pripadaju mediteranskoj regiji, a njihov udio u pomorskom prometu svih luka na mediteranskom području iznosi 58,4 % pomorskog prometa. Gotovo polovica tih luka odnosi se na luke smještene na talijanskoj obali, što je i za pretpostaviti s obzirom da promet talijanskih luka čini čak 48,3 % prometa svih luka mediteranske regije.

U tom se kontekstu, pozicioniranost sjevernojadranskog područja i pripadajućih luka unutar TEN-T mreže može smatrati značajnom, ne samo u geoprometnom smislu, već i konkretno s obzirom na postojeću količinu robnih tokova u tom području. Ujedno uzimajući u obzir proširenje TEN-T mreže, nove instrumente ulaganja u prometnu infrastrukturu te navedene akcijske ciljeve NAPA projekta, izvjesna je pozitivna perspektiva formiranja robnih tokova u sjevernojadranskom području.

2.2. Integracija sjevernojadranskih luka – NAPA

Udruženje luka sjevernog Jadrana – NAPA (*North Adriatic Ports Association*) stupilo je na snagu u ožujku 2010. godine s osnovnim ciljem da se spriječi zaostajanje sjevernojadranskih luka u odnosu na sjevernoeuropsku konkurenciju te s ciljem promoviranja sjevernojadranskog prometnog pravca na međunarodnom tržištu, posebice u zemljama Dalekog istoka.

Cilj inicijative je ojačati prometnu infrastrukturu u regiji, odnosno ubrzati gospodarski i socijalni razvoj, dok je realizacija projekta planirana iz proračuna "Sporazuma o stabilnosti" koji je potpisan na sastanku u Kopru, 5. srpnja

gion, the Black Sea region), leads to the conclusion that the largest share in the seaborne freight traffic is held by the North-West Continental region ports, as much as 31.7%. The Mediterranean Sea region (only the EU member states ports) is the second largest region with a share of 28.2%, while the Baltic Sea ports (excluding Russian ports) hold the third place with 17.3% of the total throughput within the EU. They are followed by the U.K. and Irish ports with a share of 15.3%, by ports bordering the Atlantic Ocean coast with a share of 5.9% and by ports along the Black Sea coast with a share of 1.7%.

Within the total turnover of all seaports of the European Union, 83 seaports/group of seaports included into the TEN-T core network handle approximately 70% of the cargo. The greatest number of core seaports, 24 of them, is concentrated within the Mediterranean Sea region with 58.4% of the throughput of all seaports within the EU Mediterranean Sea region. Half of those ports are located along the coastline of Italy, as presumed, if we take into consideration the fact that Italian seaports handle the greatest volume of cargo with a share of about 48.3% of the total seaports turnover in the Mediterranean Sea region.

In this context, the positioning of the North Adriatic area and the corresponding ports within the TEN-T network can be considered as significant one, not only in terms of geo-transportation, but also specifically regarding the existing cargo flows in the area. Taking also into account the extension of the TEN-T network, new investments in the transport infrastructure and action goals of the NAPA project, there is a certain positive perspective for the formation of cargo flows in the North Adriatic area.

2.2 Integration of the North Adriatic Ports – NAPA

The association of the North Adriatic ports - NAPA (*North Adriatic Ports Association*) came into force in March 2010 with its primary aim to prevent the North Adriatic ports lagging behind the North European ports as their competitors and to promote the North-Adriatic traffic route on the international market, especially in the Far East countries..

The goal of the initiative is to strengthen the transport infrastructure in the region and to accelerate the economic and social development, while the implementation of the project is planned to be financed from the budget of the

2010. godine. Kako bi se što hitnije zaustavilo daljnje zaostajanje sjevernojadranskog trgovinskog pravca u odnosu na sjevernoeuropski pravac, izrađen je i Nacrt dokumenta NAPA u kojem su definirani prioritetni projekti na području operativnog i infrastrukturnog povezivanja u obliku zajedničkog nadzornog tijela.

Glavna motivacija sjevernojadranskih luka leži u stvaranju svojevrstog "zajedničkog prozora" koji će proširiti pogled na konkurentske mogućnosti cjelokupne lučke regije razmjenom relevantnih informacija između lučkih upravljačkih sustava te samim time unaprijediti kvalitetu intermodalnih usluga [3]. Ujedno, usuglašavanje i ujednačavanje procedura postupanja u lukama pri dolasku i odlasku brodova u svim lukama jedan je od strateških ciljeva projekta NAPA s obzirom da je svakom brodaru značajno da dolazak u bilo koju od sjevernojadranskih luka bude uređen kao da je riječ o dolasku u jednu jedinu luku.

Motiv za takvom vrstom integracije, svakako polazi od činjenice da kada brod dođe u jednu od sjevernojadranskih luka, koristi od toga imat će i ostale luke. Tako udružene luke mogu privući mnogo više tereta i zajednički ponuditi kvalitetniju i efikasniju uslugu prekrcaja.

Europska unija ocijenila je projekt NAPA izrazito značajnim za potencijal lučkih infrastrukture i usluga na europskom tržištu te su lukama NAPA-e unutar fonda razvojnih projekata TEN-T (*European Transport Network*) na javnom natječaju Europske unije dodijeljena sredstva u iznosu od 1. 442.500 eura [5].

Riječ je o projektu stvaranja jedinstvene informatičke platforme koja će upravljati uslugama posvećenim tržištima Dalekog istoka te Srednje i Istočne Europe, a koji bi svakako trebao pogodovati suradnji i konkurentnosti sjevernojadranskih luka, te jačanju pozicije sjevernojadranskog područja na europskom tržištu. Predviđeno trajanje projekta od 30 mjeseci bliži se kraju, a planirani integrirani sustav sjevernojadranskih luka trebao bi biti implementiran do 30. lipnja 2013. godine kada bi trebao zaživjeti i zajednički informativni portal, gdje bi se dnevno ažurirali podaci o dolasku i odlasku brodova te ostale servisne informacije [4].

Proširenje sustava lučke zajednice odrazit će se i na Lučku upravu Rijeka, članicu koja u ovome projektu sudjeluje kao promatrač dok Republika Hrvatska ne postane članica Europske unije [5].

"*Stability agreement*", which was signed at the meeting in Koper on 5th July 2010. To prevent the further lagging of the North Adriatic trade route as compared to the north European trade route, the Draft of the NAPA document has been prepared in which the priority projects in the area of operational and infrastructure integration are defined in the form of a joint supervisory body.

The main motivation of the North Adriatic ports lies in formulating the "Single window" concept that will expand the view of the complete port region competitive abilities by exchanging relevant information among port management systems and thus improving the quality of intermodal services [3]. At the same time, harmonization and standardization of the procedures on arrival and at departure of ships in all ports is one of the strategic goals of the NAPA project considering that for each shipper, it is very important that the arrival of a ship into any of the North Adriatic ports is arranged in such way as if the ship is arriving into an only one port.

The motive for this kind of integration is certainly based on the fact that when the ship enters one of the North Adriatic ports, all ports benefit from it. The so associated ports can attract more cargo and jointly offer more efficient and high-quality port services.

The European Union evaluated the NAPA project as an extremely significant one for the port infrastructure capability and European market services, granting the NAPA ports the amount of EUR1,442,500 at the European Union public tender for co-financing development projects out of the TEN-T fund (*European Transport Network*) [5].

The project aims to form a unique information platform that would manage services directed towards the Far East and central and eastern European markets that the North Adriatic ports should definitely benefit from in terms of their cooperation and competitiveness against the North European ports, as well as in strengthening their position on the European market. The Project, estimated to last 30 months, is coming to its end, which means that the planned integrated port community system should be implemented by 30th June 2013, when the use of the NAPA information portal should be put in use as well, where the daily updated information on the arrival and departure of ships as well as other useful information should be published [4].

2.3. Tržište, okruženje i alternativni pravci u europskom okruženju

Svaka velika luka ima odliku dobre prometne povezanosti sa zaleđem. Naime, prometnice, odnosno prometna infrastruktura značajno utječe na veličinu gravitacijskog područja, a redovite pomorske linije koje predstavljaju proćelje luke određuju veličinu prekomorske zone utjecaja luke.

Ukoliko na manjem prostoru egzistira više konkurentnih luka koje kalkuliraju s manje-više istim zaleđem, veći dio prometnih tokova bit će usmjeren na onu luku koja ima bolje prometne veze sa zaleđem. Ujedno, razvijeno zaleđe luke implicira i intenzitet pomorskih veza, odnosno, razvijenost proćelja luke i veći broj redovitih brodskih linija smatra se relevantnim indikatorom gospodarske razvijenosti zaleđa luke. Slijedom toga, redovite brodske linije najčešće su najgušće u onim lukama koje u svom zaleđu imaju gospodarski razvijena područja.

U tom smislu, sjevernojadranski prometni pravac predstavlja najkraći i najekonomičniji put kojim je Europa povezana sa Sredozemljem, te plovidbom kroz Sueski kanal i s većinom zemalja Azije, Afrike te s Australijom. Taj pravac spaja dva gospodarski komplementarna svijeta: industrijski razvijene zemlje Zapadne Europe i azijsko-afričke zemlje u razvoju, među kojima se ističu one s golemim gospodarskim potencijalom, u prvom redu Kina, te Južna Koreja i Japan. Premda luke Rijeka, Kopar i Trst djeluju u različitim državama, i svaka pod svojim specifičnim uvjetima, njihova zajednička obilježja proizlaze iz geografskog položaja i zajedničkog gravitacijskog područja.

Sjevernojadranske luke su najbliži izlaz na more za kontinentalne zemlje svoga zaleđa, u prvome redu srednjoeuropske zemlje, Mađarsku, Austriju, Slovačku i Češku Republiku, ali i u odnosu na prekomorsku razmjenu sa spomenutim tržištima istočno od Sueskog kanala, zanimljive su Srbiji, Crnoj Gori, te južnoj Njemačkoj, Švicarskoj, južnoj Poljskoj i zapadnoj Ukrajini. Plovidbom do sjevernog kraja Jadrana koristi se do krajnje točke jeftini morski put, a minimiziraju se relacije skupljeg kopnenog prometa.

U luci Rijeka trenutno 13 brodara/operatora pruža kontejnerski servis, od čega su dva direktni servisi iz luka Dalekog istoka brodovima maticama: zajednički servis brodara *CMA*

The expansion of the port community system will also have an effect on the Rijeka Port Authority, a member taking part in this project as an observer until the Republic of Croatia becomes a European Union member state [5].

2.3 Global Market, Environment and Alternative Routes in the European Environment

Every large port is characterized by a good transport connection with the hinterland. In fact, the road and transport infrastructure significantly affect the size of the gravitational area, while regular shipping lines, representing the port forepart, determine the overseas port area size.

If there are more than one competitive port within a small area, that are sharing more or less the same hinterland, the major part of the traffic flow will be directed towards the port that has better transport connections with the hinterland. At the same time, the size and economic development of the hinterland implies the intensity of maritime connections, meaning that the development of their port forepart and more frequent regular shipping lines are considered as a relevant indicator of the economic development of their gravitational back-up area. Consequently, regular shipping lines usually exist in those ports that have an access to the economically developed gravitational areas.

Therefore, the North Adriatic transport route is the shortest and most economical way of connecting Europe with the Mediterranean, and, via the Suez Canal, with the countries of Asia, Africa, and Australia. This transport route connects two different but complementary economic worlds: the industrialized countries of Western Europe and the developing countries of Asia and Africa, among which are those with a huge economic potential, notably China, South Korea and Japan. Although the ports of Rijeka, Koper and Trieste are operating in different countries, and each under their specific conditions, their common characteristics derive from their geographical location and common gravitational area.

The North Adriatic ports represent the shortest access to the sea for the continental countries of their hinterland, primarily for the Central European countries: Hungary, Austria, Slovakia and the Czech Republic. But, considering their overseas trade with the mentioned markets to the east of the Suez Canal, they are

CGM i *MAERSK* obavlja se post-panamax brodovima kapaciteta 6.200 – 6.500 TEU-a, dok se zajednički servis *HANJIN/HMM/YML/UASC* obavlja brodovima kapaciteta 4.000 – 4.700 TEU-a. Drugi brodari koriste feeder servise iz srednjomediteranskih prekrcajnih (engl. *hub*) luka: Cagliari (*Hapag Lloyd*), Malta (*Delmas, Norasia*), Pireus (*Cosco*), Gioia Tauro (*MSC, Maersk, Safemarine*). Isti linijski servisi posluju u Kopru i u Trstu. Prisutnost velikog broja najvećih svjetskih kontejnerskih brodara, direktnih servisa brodovima maticama i povezanost feeder servisima sa svim srednjomediteranskim prekrcajnim lukama, pokazatelji su osposobljenosti sjevernojadranskih luka za prihvatanje velikih kontejnerskih brodova i distribuciju tereta u zemlje zaleđa.

Veliko tržište južne Poljske, Češke, Slovačke i Mađarske ima na raspolaganju više prometnih koridora i konkurenciju više luka: sjevernojadranskih, sjevernoeuropskih i crnomorskih. S obzirom na mrežu redovitih kontejnerskih vlakova koji prometuju između sjevernojadranskih luka najveća mreža blok-vlakova za odredišta u Srednjoj Europi, kao i koncentracija željezničkih operatera postoji u Kopru (*Adria Kombi, ICF, Metrans, Navismart, ICA, Adria Transport*). Zbog ove činjenice brodari direktnih brodskih servisa biraju luku Koper kao prvu luku ticanja u sjevernom Jadranu, predodređujući na taj način najkraće tranzitno vrijeme prijevoza kontejnera do Kopra, a potom iz Kopra do odredišta u Srednjoj Europi, u odnosu na Trst i Rijeku [15, str. 204.].

Pomanjkanje i neučinkovitost prometne infrastrukture razlogom je ograničenog privlačenje tereta iz navedenih dijelova Europe, što nadalje utječe na učestalost i učinkovitost pomorskih linija na sjevernom Jadranu, pa se velikom broju dnevnih linija iz luka Sjeverne Europe suprotstavljaju pretežno svega tjedne ili dvotjedne linije iz Jadrana [19]. Međutim, u tijeku su brojni projekti koji naglašavaju povoljan položaj sjevernojadranskih luka, a u skladu s tim se obavljaju i pregovori s brodarskim kompanijama o novim linijama što potvrđuje i uvođenje nove kontejnerske linije pod nazivom *UAM Pendulum* između Dalekog istoka i sjevernog Jadrana, koju pokreće tajvanski brodar *Evergreen Line* [7].

O pozicioniranosti NAPA luka na europskom tržištu u odnosu na alternativne pravce i luke, najmjerodavnije je diskutirati s obzirom na objektivne i konkretne podatke o ostvare-

very interesting to Serbia, Montenegro, southern Germany, Switzerland, southern Poland and western Ukraine. Plying up to the northern part of the Adriatic Sea, the cheapest sea trade route is used and the costs of the more expensive road traffic are minimized.

Up to 13 operators provide container services in the Port of Rijeka, of which two are direct services from the ports of the Far East by mother-ships: the joint services of *CMA CGM* and *MAERSK* are carried out by Post-panamax ships of the capacity of 6,200 – 6,500 TEU, while the joint service of *HANJIN/HMM/YML/UASC* operates with ships of the capacity of 4,000 – 4,700 TEU. Other operators use feeder services from Central Mediterranean hub ports: Cagliari (*Hapag Lloyd*), Malta (*Delmas, Norasia*), Pireaus (*Cosco*) and Gioia Tauro (*MSC, Maersk, Safemarine*). The same liner services are operating in the Ports of Koper and Trieste. The presence of a number of the world's largest container operators, direct services with mother ships and the connection of feeder services with all Central Mediterranean hub ports indicate that the North Adriatic ports are capable of receiving large container ships and of distributing cargo to the hinterland countries.

Large markets of South Poland, the Czech Republic, the Republic of Slovakia and Hungary have at their disposal several traffic corridors and the competition among a certain number of ports - the North Adriatic, North European and Black Sea ports. Considering the regular container trains operating between the North Adriatic ports and the hinterland countries, it is obvious that the largest network of block trains for Central European destinations, as well as the rail operators' concentration, resides in the Port of Koper (*Adria Kombi, ICF, Metrans, Navismart, ICA, Adria Transport*). That is why direct service shippers/operators have chosen this port as the first port of call in the North Adriatic, thus predetermining the shortest container transport transit time to the Port of Koper, and then from the Port of Koper to the final destinations in Central Europe, in relation to the Ports of Trieste and Rijeka [15, page 204].

Inefficiency and lack of the transport infrastructure is the reason for a limited attraction of cargo from these parts of Europe, which then affects the frequency and efficiency of the shipping lines in the North Adriatic. That means that weekly or fortnightly shipping lines from the Adriatic Sea are confronted with a large number of daily connections from the ports of North Eu-

Tablica 1. Top 10 europskih luka u 2011. godini (u mil. tona)
Table 1 "Top Ten" European Ports in 2011 (in million tons)

Red. br. No.	LUKA PORTS	PROMET (mil.tona) Throughput (million tons)	Red. br. No.	LUKA PORTS	Kontejnerski promet (u mil. TEU) Container traffic (million TEU-s)
1.	Rotterdam	434,6	1.	Rotterdam	11,8
2.	Antwerp	187,2	2.	Hamburg	9,0
3.	Hamburg	132,2	3.	Antwerp	8,6
4.	NAPA – luke NAPA – ports	124,2	4.	Bremen	5,9
5.	Novorossiysk	116,2	5.	Valencia	4,3
6.	Amsterdam	92,9	6.	Algeciras	3,6
7.	Marseille	88,1	7.	NAPA – luke NAPA – ports	1,8
8.	Bremen	80,6	8.	Barcelona	2,0
9.	Algeciras	76,9	9.	Marseille	0,9
10.	Primorsk	75,1	10.	London	0,8
11.	Le Havre	67,5	11.	Gothenburg	0,8

Izvor: Prema www.portsofnapa.com (1. 8.2012.) / Source: Based on www.portsofnapa.com (1st August 2012)

nom prometu. Stoga su u sljedećoj tablici usporedno prikazani podaci o ukupnom prometu i kontejnerskom prometu vodećih 10 europskih luka.

Naime, podaci u tablici 1. govore o tome da su sjevernojadranske luke Kopar, Rijeka, Trst, Ravenna i Venecija ostvarile 2011. godine ukupan promet od 124 milijuna tona, što ih pozicionira na četvrto mjesto u odnosu na Top 10 europskih luka. U kontejnerskom prometu realizirale su 1,8 milijuna TEU-a, što ih smješta na sedmo mjesto ljestvice među 10 vodećih kontejnerskih europskih luka. Pri tome treba istaknuti da je njihov dugoročni cilj dostizanje razine od 6 milijuna TEU-a godišnjeg prometa do 2030. godine, što predstavlja vrlo ambiciozan plan NAPA luka, koje očigledno u perspektivi od partnerstva i međusobne suradnje u komercijalnom smislu očekuju privlačenje brodarka u Jadran, istovremeno konkurirajući alternativnim prometnim pravcima i lukama na europskom tržištu.

3. GEOPROMETNA ANALIZA I OCJENA ROBNIH TOKOVA U SJEVERNOJADRANSKOM PODRUČJU

Uvažavajući sve prethodno elaborirane čimbenike koji utječu na formiranje robnih tokova

rope [19]. However, many of the numerous ongoing projects emphasize the favourable position of the North Adriatic ports and, therefore, many negotiations are carried out with shipping companies in terms of new shipping lines which confirms the introduction of a new container line called *UAM Pendulum* between the Far East and the North Adriatic, which is operated by the Taiwanese shipowner *Evergreen Line* [7].

The most competent discussion about the positioning of the NAPA ports on the European market, in relation to alternative routes and ports, is by taking into consideration the objective and specific data on the ports turnover. Therefore, the following table outlines the total throughput and overall container traffic of the ten leading European ports.

Namely, the data in Table 1 show that the North Adriatic ports of Koper, Rijeka, Trieste, Ravenna and Venice achieved a total of 124 million tons of goods handled in 2011 which means they rank fourth among the "Top Ten" European ports. The container traffic reaches a total of 1,8 million TEU-s, which places them in the seventh place among the leading European ports. It should be noted that their long-term goal is reaching the level of 6 million TEU-s of the annual turnover by 2030, which represents a very ambitious plan of the NAPA ports which have foreseen, considering their partnership and mutual cooperation in commercial terms, to attract shippers in the Adriatic

u sjevernojadranskom području, geoprometna analiza i prognoza robnih tokova relevantan je pokazatelj trenutne konkurentnosti kao i perspektive valorizacije sjevernojadranskog područja u europskom okruženju. Stoga je u ovoj dijelu rada, provedena komparativna analiza robnih tokova sjevernojadranskih luka (luke Rijeka, Kopar i Trst), uzimajući u obzir prisutno konkurentno okruženje, tj. luke atlantskog sjevernomorskog prometnog pravca.

3.1. Analiza i ocjena intenziteta i dinamike robnih tokova

Najveća koncentracija lučkog prometa na europskom kopnu prisutna je u lukama Sjevernog mora, na koje su usmjereni glavni tokovi europske pomorske trgovine. Njihova visoka tehnička opremljenost, primjena najnovijih transportnih i informacijskih tehnologija, odlična organizacija i povezanost sa sustavom kopnenog transporta trenutno su nedostižne prednosti.

Ukoliko se podaci o ukupnom i kontejnerskom prometu vodećih europskih luka (Tablica 1.) usporede s podacima o pojedinačnom prometu sjevernojadranskih luka Rijeka, Kopar i Trst (Tablica 2.), logično je priliku za prosperitet sjevernojadranskih luka tražiti u njihovom udruživanju i zajedničkom nastupu na tržištu, nezavisno od činjenice koja luka više ili manje participira u ukupnom prometu. Bitno je istaknuti da ukupni promet triju najvažnijih luka na sjevernojadranskom prometnom pravcu bi-

ic sea, at the same time competing with alternative routes and ports on the European market.

3 GEO-TRANSPORT ANALYSIS AND EVALUATION OF CARGO FLOWS WITHIN THE NORTH ADRIATIC AREA

Taking into account all previously elaborated factors that affect the formation of cargo flows in the North Adriatic area, the geo-transport analysis and the cargo flows forecast are relevant indicators of the current competitiveness and the perspective of the valorization of the North Adriatic area within the European environment. Therefore, this section of the paper deals with the comparative analysis of the cargo flows in the North Adriatic ports (the ports of Rijeka, Koper and Trieste), taking into account the already competitive environment, i.e. ports bordering on the Atlantic-North Sea traffic route.

3.1 Analysis and Evaluation of the Cargo Flows Intensity and Dynamics

The greatest concentration of port traffic on the European continent is present in the North Sea ports, where the main European seaborne trade flows are directed to. Their high level of technical equipment, application of the latest transport and information technologies, excellent organization and connection with the land transport system represent their currently unachievable benefits.

Tablica 2. Ukupan promet luke Rijeka, Kopar i Trst u razdoblju od 2000. do 2011. godine (u tonama)
Table 2 The Total Throughput of the Ports of Rijeka, Koper and Trieste from 2000 to 2011 (in tons)

Godina <i>Year</i>	Rijeka <i>Rijeka</i>	Kopar <i>Koper</i>	Trst <i>Trieste</i>	Ukupan promet <i>Total cargo traffic</i>
2000.	6.849.493	9.321.832.	47.611.888	63.785.213
2001.	7.901.465	9.353.991	49.138.575	66.394.031
2002.	7.970.192	9.431.497	47.173.860	64.577.551
2003.	9.816.206	11.036.457	45.997.640	66.852.306
2004.	11.571.661	12.402.607	46.905.835	70.882.107
2005.	11.863.770	13.066.102	47.718.331	72.650.208
2006.	10.887.048	14.030.732	48.167.718	73.087.504
2007.	13.212.464	15.362.979	46.116.075	74.693.525
2008.	12.391.591	15.050.448	48.279.107	75.723.154
2009.	11.238.154	13.143.620	44.393.322	68.777.105
2010.	10.183.304	15.372.043	47.634.188	73.191.545
2011.	9.390.380	17.051.314	48.237.977	74.681.682

Izvor: Prema www.portauthority.hr; <http://www.porto.trieste.it/>; <http://www.luka-kp.si> (11. 8. 2012.)

Source: Based on www.portauthority.hr; <http://www.porto.trieste.it/>; <http://www.luka-kp.si> (11th August 2012)

lježi dinamiku rasta, s obzirom da je u promatranom razdoblju od 2000. do 2011. godine promet ovih triju luka porastao za 10,8 milijuna tona.

Najveći udio u ukupnom prometu sjeverno-jadranskih luka svakako zauzima luka Trst koja u promatranom razdoblju održava približno istu količinu prometa, ponajprije zahvaljujući prilično ujednačenom tranzitnom prometu nafte. Luka Trst bilježi uzlazni trend rasta prometa već treću godinu zaredom te je 2011. godine taj promet iznosio 48.237.977 milijuna tona, što je 64,6 % ukupnog prometa triju sjevernojadranskih luka.

Udio prometa koparske luke posljednje 3 godine bilježi rast te je 2011. godine dosegnuo svoj maksimum od 17 milijuna tona tereta što je u promatranom razdoblju rast od čak 22,8 %.

U analiziranom razdoblju luka Rijeka u prometu triju sjevernojadranskih luka participira s udjelom od oko 10 % do 17 % u 2007. godini kada je ostvaren rekordni promet u novijoj povijesti od 13,2 milijuna tona. Stoga su neki mišljenja da bi luka Rijeka kao luka koja trenutno najmanje participira u prometu triju najvažnijih sjevernojadranskih luka, uvjetno rečeno, trebala najviše prosperirati od spomenutog integriranja.

Uz već spomenute prednosti sjevernoeuropskih luka, priliku za sjevernojadranske luke, uz aktivnosti unutar projekta NAPA, predstavlja feeder servis glavnih mediteranskih "hub" luka koje bilježe oko 13 puta veći kontejnerski promet od sjevernojadranskih luka [18]. Ujedno, s obzirom na neki način prisutnu "zasićenost robnih tokova" u sjevernoeuropskim lukama i prometnim pravcima, odgovarajućom europskom prometnom politikom, koja sve više prepoznaje i priznaje važnost sjevernojadranskog pravca, moguće je očekivati preraspodjelu robnih tokova u korist navedenog prometnog pravca. Doduše, potrebno je odgovarajućom prometnom infrastrukturom, logistikom, tehnologijom i kvalitetom usluge odgovoriti svim izazovima konkurentnog tržišta, što je izvjesnije u novim predstojećim uvjetima kada se i zbog ulaska Republike Hrvatske u Europsku uniju, može očekivati puno bolja investicijska klima.

Insofar as the data on the total and container throughput of the leading European ports (Table 1) are compared with the data on individual cargo turnover of the North Adriatic ports of Rijeka, Koper and Trieste (Table 2), it is logical to seek the opportunity for the prosperity of the North Adriatic ports in their association and joint approach on the market, aside from that how much each port is participating in their overall turnover. It is important to highlight that the total cargo turnover of the three most important ports in the North Adriatic area is facing a positive trend, given that their maritime throughput is increased by 10,8 million tons from 2000 to 2011.

The largest share in the total North Adriatic ports throughput is certainly occupied by the port of Trieste, which maintained approximately the same amount of cargo traffic in the observed period, primarily due to a fairly equal oil transport in transit. The port of Trieste is facing a positive trend of traffic flows for the third year in a row, and in 2011 it increased to 48,237,977 million tons, which is a share of 64.6% of the total cargo turnover of the three North Adriatic ports.

The share of the port of Koper in the total cargo turnover in the last three years is growing, and in 2011 reached its maximum of 17 million tons of cargo which represents the growth of 22.8%.

In the analyzed period of time, the port of Rijeka participated with a share of about 10% to 17% in the total cargo turnover. The share of 17% was reached in 2007 when Rijeka achieved its record high cargo turnover in the recent history of 13.2 million tons. Therefore, some believe that the port of Rijeka, as a port that currently takes the least part in the total cargo throughput of the three most important North Adriatic ports, should, so to speak, prosper most out of the above mentioned integration.

In addition to the already mentioned benefits of the North European ports, an opportunity for the North Adriatic ports, along with the activities within the NAPA project, lies in the feeder service of the main Mediterranean hub ports, which are characterized by 13 times better container traffic than the North Adriatic ports [18]. At the same time, considering the current "cargo flows saturation" in the North European ports and on the associated transport routes, with the corresponding European trans-

3.2. Komparativna analiza i ocjena robnih tokova u konkurentnom okruženju

Današnji razvojni trend sjevernojadranskih luka rezultat je povoljnog geoprometnog položaja i različitih političkih i institucionalnih mogućnosti i ograničenja pod kojima su djelovale i djeluju. U današnjim uvjetima te luke nastupaju kao međusobno konkurentne luke na istom prometnom pravcu, a s druge strane kao jedinstveni lučki sustav u odnosu na konkurentne prometne pravce. Prema europskim i svjetskim mjerilima te se luke ubrajaju u kategoriju manjih i srednjih luka.

Baltičke i mediteranske luke su relativno slabo korištene od strane srednjoeuropskih zemalja zbog svoje udaljenosti. Korištenje usluga sjevernomorskih luka usprkos većoj udaljenosti u odnosu na sjevernojadranski pravac u konstantnom je porastu, zahvaljujući tehnologiji i logistici koju sjevernoeuropske luke nude u usporedbi s drugim "bližim" lukama.

Dosadašnje osnovne prednosti poput zemljopisnog položaja i duboke uvučenosti u europsko kopno te tradicija u poslovanju, nisu dovoljne da se te luke nametnu kao velike luke europske prometne scene. Novi uvjeti prometnoga tržišta temeljeni na logističkim načelima pred luke postavljaju nove zahtjeve. Velike plovne jedinice, okrupnjavanje prijevoznog supstrata, prioritet primjene multimodalnog transporta u kombinaciji kopno-more, luke sjevernog Jadrana dovele su u minoran položaj poglavito u odnosu na luke Zapadne i Sjeverne

port policy, which has increasingly recognized the importance of the North Adriatic route, it is possible to expect a redistribution of cargo flows in favour of the North Adriatic Gateway. However, it is necessary, with the appropriate transport infrastructure, logistics, technology and high-quality port services, to respond to all the challenges of a competitive market, which is more certain in the upcoming new conditions when, and due to the access of the Republic of Croatia into the European Union, a much better investment climate can be expected.

3.2 Comparative Analysis and Evaluation of the Cargo Flows in a Competitive Environment

The current development trend of the North Adriatic ports is the result of their favourable geo-transport location and different political and institutional opportunities and constraints under which they have operated and are still operating. In today's terms, these ports act as mutually competitive ports on the same transport route and, on the other hand, as a unique port system in relation to the competitive routes. According to European and international standards, these ports are included in the category of small and medium-size ports.

The Baltic and Mediterranean ports are relatively underutilized by the Central European countries because of their distance. The use of the services offered by the North Sea ports, despite of a greater distance as compared to the North Adriatic route, is constantly on the rise,

Tablica 3. Kretanje ukupnog prometa preko luka atlantskog sjevernomorskog prometnog pravca te preko luka Rijeka, Kopar i Trst (u mil. tona)

Table 3 Movement of the Total Traffic Turnover through the Ports of the North Sea Traffic Route Bordering on the Atlantic and through the Ports of Rijeka, Koper and Trieste (in million tons)

God. / Year	2006	2007	2008	2009	2010	2011
Luke / Ports						
Hamburg	134.8	140.4	140.4	110.4	121.2	132.2
Bremen	65.1	69.2	74.6	63.0	68.7	80.6
Amsterdam	84.4	87.6	94.8	86.9	90.8	92.9
Rotterdam	381.8	409.1	421.1	387.0	430.2	434.6
Antwerpen	167.4	182.9	189.4	157.8	178.2	187.2
Ukupno	833.5	889.2	924.8	805.1	889.1	927.5
Rijeka, Kopar, Trst	73.1	74.7	75.7	68.8	73.1	74.7

Izvor: Prema www.portauthority.hr; <http://www.porto.trieste.it/>; <http://www.luka-kp.si> (11. 8. 2012.); www.portofrotterdam.com (19. 8. 2012.)

Source: Based on www.portauthority.hr; <http://www.porto.trieste.it/>; <http://www.luka-kp.si> (11th August 2012); www.portofrotterdam.com (19th August 2012)

Tablica 4. Kretanje kontejnerskog prometa preko luka atlantskog sjevernomorskog prometnog pravca i preko luka Rijeka, Koper i Trst (u 000 TEU)*Table 4* Movement of the Container Traffic through the Ports of the North Sea Traffic Route Bordering on the Atlantic and through the Ports of Rijeka, Koper and Trieste (in 000 TEU)

God. / Year	2006	2007	2008	2009	2010	2011
Luke / Ports						
Hamburg	8.862	9.890	9.737	7.008	7.896	9.014
Bremen	4.444	4.892	5.448	4.565	4.888	5.916
Rotterdam	9.654	10.791	10.784	9.743	11.148	11.877
Antwerpen	7.018	8.176	8.663	7.310	8.468	8.664
Ukupno	29.978	33.749	34.632	28.626	32.400	35.471
Rijeka, Koper, Trst	533	716	858	750	895	1.133

Izvor: Prema www.portauthority.hr; <http://www.porto.trieste.it/>; <http://www.luka-kp.si> (11. 8. 2012.); www.portofrotterdam.com (19. 8. 2012.)

Source: Based on: www.portauthority.hr; <http://www.porto.trieste.it/>; <http://www.luka-kp.si> (11th August 2012); www.portofrotterdam.com (19th August 2012)

Europe [14, str. 95]. Unatoč izvrsnom geoprometnom položaju u najdublje uvučenom zaljevu Sredozemnog mora, sjevernojadranske se luke nedostavno koriste blizinom razvijenih zemalja u Srednjoj Europi o čemu svjedoče i podaci u tablici 3. gdje je prikazan ukupan promet sjevernojadranskih luka u usporedbi s lukama atlantskog sjevernomorskog prometnog pravca.

Analizirajući kretanje prometa u promatranom razdoblju, prema podacima u tablici 3., se uočava da ukupni promet navedenih sjevernojadranskih luka raste neusporedivo manjom dinamikom u usporedbi s lukama atlantskog sjevernomorskog prometnog pravca. Od 2000. do 2011. godine promet luka Rijeka, Koper i Trsta porastao je za 2,2 %, dok je zajednički promet ostalih luka porastao za 11,28 %. Najveći rast od 13,8 % i 11,8 % ostvarile su luke Rotterdam i Antwerpen.

Navedeni trendovi ukazuju na slabije poslovne i razvojne tendencije luka sjevernog Jadrana koje sve više dolaze do izražaja u podacima o ukupnom prekrcanom teretu. Relativna stagnacija lučkoga prometa preko sjevernojadranskoga prometnoga pravca realno predstavlja opadanje uloge sjevernojadranskih luka u kretanju europskih robnih tokova i naglašava njihov zapostavljeni položaj na europskom tržištu koji se jednako osjeti i u kontejnerskom prometu (Tablica 4.).

U kontejnerskom prometu sjevernojadranski lučki kompleks 2011. godine ostvario je 1,1 milijuna TEU jedinica što je za 26,6 % više u od-

thanks to the technology and logistics that North European ports offer in comparison to other "closer" ports.

The former major advantages, such as the geographical location, being indented deeply into the European mainland as well as the tradition in business dealings, are not sufficient to impose these ports as the major ports of the European transport scene. New conditions of the transport market, based on the principles of port logistics, are setting new requirements in front of these ports. Large floating units, consolidation of the transport substrata, the priority in applying the multimodal transport by combining land and sea, the North Adriatic ports have led themselves to a minor position especially in relation to the ports in West and North Europe [14, page 95]. Despite the excellent geographic position in the most deeply indented bay of the Mediterranean Sea, the North Adriatic ports are insufficiently using the close vicinity of the developed Central European countries, in witness of which are the data in Table 3, which show the total throughput of the North Adriatic ports as compared to the ports of the North Sea traffic route bordering on the Atlantic.

By analyzing the movement of traffic in the observed period, according to the data presented in Table 3, it can be seen that the total turnover of the North Adriatic ports is increasing at an incomparably slower rate as compared to the ports of the North Sea traffic route bordering on the Atlantic. From the year 2000 to the 2011 one, the throughput of the ports of Rijeka, Koper and Trieste increased by 2.2%, while the joint through-

nosu na prethodnu godinu. Navedene luke atlantskog sjevernomorskog prometnog pravca su u 2011. godini ostvarile kontejnerski promet od 35,5 milijuna TEU jedinica, od kojih je najveći udio imala luka Rotterdam kao vodeća kontejnerska luka u Europi s prometom od 11,9 milijuna TEU jedinica u 2011. godini.

Činjenica da u tranzitnom prometu srednjoeuropskih država postoji tendencija rasta udjela sjevernoeuropskih luka (Hamburg, Rotterdam...) u usporedbi sa sjevernojadranskim lukama vrlo je zabrinjavajuća. Zbog toga je potrebno definirati odgovarajuću strategiju razvoja koja će, koordiniranim pristupom svih subjekata proizvodnje prometne usluge na sjevernojadranskom prometnom pravcu, učiniti taj pravac konkurentnim. Dovršetak izgradnje i osuvremenjivanje kopnenih prometnica (cestovnih i željezničkih), osuvremenjivanje tehničke opremljenosti sjevernojadranskih luka i prekrajne mehanizacije te uvođenje najnovijih informatičkih tehnologija u rad luka, potaknut će daljnji rast ukupnog prometa i povećati njihovu konkurentnost [11].

4. PERSPEKTIVA FORMIRANJA ROBNIH TOKOVA U SJEVERNOJADRANSKOM PODRUČJU

S namjerom isticanja najvažnijih čimbenika koji će u perspektivi utjecati na formiranje robnih tokova u sjevernojadranskom području u ovome se dijelu ističe pripadnost sjevernojadranskog područja TEN-T mreži, unutar koje se u sklopu razvojnih projekata mogu realizirati politički, prometni i financijski preduvjeti za postizanje prognoziranog prometa, odnosno tržišnog udjela NAPA luka u usporedbi s ostalim grupacijama luka u Europi.

4.1. Perspektiva sjevernojadranskog područja u TEN-T mreži

Sagledavanje perspektive sjevernojadranskog područja u TEN-T mreži neminovno kreće od uzimanja u obzir nekoliko relevantnih činjenica:

- kontejnerski promet kroz Sueski kanal sve više raste u usporedbi s kretanjem istog transatlantskim pravcem,
- unutarnja distribucija kontejnerskog prometa u Europi sve se više koncentrira na jug i istok,

put of other ports increased by 11.28%. The largest increase of 13.8% and 11.8% was achieved by the port of Rotterdam and Antwerpen.

These trends point to weaker business and development tendencies of the North Adriatic ports, which are increasingly becoming prominent in the data on the total reloaded cargo. A relative stagnation in the port traffic through the North Adriatic route in fact represents the decline of the role of the North Adriatic ports in the movement of the European cargo flows and highlights their neglected position in the European market, which is also equally felt in the container traffic (Table 4).

In 2011, the container traffic in the North Adriatic port complex reached 1,1 million TEU-s, which is 26.6% more than in the previous year. In 2011, the ports of the North Sea traffic route bordering on the Atlantic, in terms of container traffic, reached 35,5 million TEU-s, of which the port of Rotterdam, as the leading container port in Europe, represents the largest share with the turnover of 11,9 million TEU-s in 2011.

The fact that the transit traffic of the Central European countries is increasingly carried by the North European ports (Hamburg, Rotterdam ...) as compared to the North Adriatic ports is the cause of considerable concern. Therefore, it is necessary to define an appropriate development strategy which, with a coordinated approach of all entities engaged in offering services on the North Adriatic transport route, will make it a more competitive one. Upon finishing with the construction and modernization of mainland lines of communication (roads and railways), the modernization of all technical and cargo handling equipments of the North Adriatic ports and the introduction of the latest information technologies in port operations, will encourage their further growth of the overall traffic and increase their competitiveness [11].

4 PERSPECTIVE IN FORMING CARGO FLOWS WITHIN THE NORTH ADRIATIC AREA

Aimed at pointing out the most important factors that will affect the forming of cargo flows within the North Adriatic area, this section of the paper emphasizes the affiliation of the North Adriatic area into the TEN-T network, within which, as a part of on-going devel-

- blizina sjevernojadranskih luka Sueskom kanalu koji im omogućuje kraći prijevozni put za zemlje Sredozemlja kao i do Dalekog istoka [15],
- 700 milijuna tona tereta godišnje prođe kroz Sueski kanal brodovima od čega samo 10 % tereta tiče sjevernojadranske luke, iako prijevoz kroz iste smanjuje vrijeme transporta za 5 – 7 dana u odnosu na sjevernoeuropske luke [13].

Razlozi zbog kojih je trenutno ograničeno korištenje sjevernojadranskih luka u usporedbi sa sjevernoeuropskim lukama mogu se svesti na nekoliko ograničenja:

- prosječna (srednja) veličina luka posebice kontejnerskih terminala sjevernojadranskih luka,
- veliki broj dnevnih pomorskih linija iz luka Sjeverne Europe za razliku od tjednih ili dvo-tjednih linija sjevernojadranskih luka što utječe na slab interes brodara,
- slabije razvijena lučka infrastruktura sjevernojadranskih luka,
- slabije razvijena ekonomija razmjera koja bi smanjila jedinični trošak (nemogućnost uplovljavanja većih brodova) [10].

Međutim, navedene prepreke mogu se odstraniti u doglednoj budućnosti, a tome u prilog idu i razvojni planovi sjevernojadranskih luka među kojima se najviše ističe NAPA projekt. Europska unija procijenila je NAPA projekt izuzetno važnim za razvoj sjevernojadranskog područja pogotovo radi sve veće potrebe za ulaganjem u razvoj lučke infrastrukture i prekrcajne kapacitete lučkih sustava na tom području, a u cilju dugotrajne realizacije strateške ekonomije i nacionalnih interesa pojedine zemlje članice kao i zadovoljenja ciljeva Europske unije u sklopu razvojnih projekata unutar TEN-T mreže.

4.2. Prognoza robnih tokova u sjevernojadranskom području

Rezultati istraživanja tržišta provedeni od strane *MDS Transmodal* [16] pokazuju da će uvođenje brodova kapaciteta od 8.000 TEU do 2020. godine i 11.000 TEU do 2030. godine na područje sjevernog Jadrana uvelike utjecati na povećanje potražnje za uslugama sjevernojadranskih luka kao i na povećanje njihovog tržiš-

opment projects, there is an opportunity to fulfill many political, traffic and financial preconditions for achieving the projected cargo flows and the projected market share of the NAPA ports as compared to other port clusters in Europe.

4.1 Perspective of the North Adriatic Area in the TEN-T Network

The overview of the perspective of the North Adriatic area in the TEN-T network inevitably moves from taking into account several relevant facts:

- the container traffic through the Suez Canal is getting increasingly important as compared to the transatlantic trade route,
- the centre of gravity of the inland distribution of the container trade in Europe is switching to the South and East ,
- NAPA ports are closer to the Suez Canal so they are able to provide a shorter transport route to the countries bordering on the Mediterranean or to the Far East as well [15],
- out of the 700 million tons of cargo, that passes annually through the Suez Canal by ships, only 10% calls at the North Adriatic ports, although this transport corridor reduces the time of transport by five to seven days as compared to the North European ports [13].

The reasons for the current limited use of the North Adriatic ports as compared to the North European ports can be reduced to a few limitations:

- the average (medium) size of ports and container terminals of the North Adriatic ports,
- daily connections from the ports of North Europe as opposed to weekly or fortnightly shipping lines from the Adriatic Sea thus affecting the low interest of shippers,
- less-developed transport infrastructures in the North Adriatic ports,
- scale economics that would reduce unit costs (larger ships unable to enter the port) less developed [10].

However, these obstacles can be removed in the foreseeable future which is supported by the ongoing development plans of the North Adriatic ports, among which the NAPA project stands out the most. The European Union has

Tablica 5. Prognoza kontejnerskog prometa NAPA luka u usporedbi s ostalim grupacijama luka u Europi (u mil. TEU)**Table 5** The Forecast of the Container Traffic Flows of the NAPA Ports as Compared to other Port Clusters in Europe (in million TEU-s)

Grupacija luka / Port Groupings	2010	2015	2020	2030	% promjena 2010. – 2030. / % increase 2010-2030
	Kontejnerski promet u mil. TEU / Container Traffic (in million TEU-s)				
NAPA luke / NAPA Ports	1,3	1,7	4,0	6,0	+348
Sjeverna Europa / North Europe	20,4	24,9	25,7	31,5	+52
Tirensko more / Tyrrhenian Sea	3,6	4,2	4,9	6,0	+68
Crno more / Black Sea	0,3	0,4	0,5	0,7	+112
Ostalo / Other	5,3	6,5	7,7	9,5	+81
UKUPNO / TOTAL	31,0	37,6	42,8	53,5	+73

Izvor / Source: <http://www.its-napa.eu> (2. 5. 2013. / 2nd May 2013)**Tablica 6.** Prognoza tržišnog udjela NAPA luka u ukupnom kontejnerskom prometu Europe u usporedbi s ostalim grupacijama luka (u %)**Table 6** The Forecast of the Container Traffic Market Shares for the NAPA Ports as Compared to other Port Groupings in Europe (in %)

Grupacija luka / Port Groupings	2010	2015	2020	2030	% promjena 2010. – 2030. / % increase 2010-2030
NAPA luke / NAPA Ports	4,3	4,4	9,4	11,3	+6,9
Sjeverna Europa / North Europe	66,0	66,1	60,0	58,3	-7,7
Tirensko more / Tyrrhenian Sea	11,6	11,2	11,4	11,3	-0,3
Crno more / Black Sea	1,1	1,1	1,2	1,3	+0,2
Ostalo / Other	17,0	17,2	18,0	17,8	+0,8
UKUPNO / TOTAL	100,0	100,0	100,0	100,0	

Izvor / Source: <http://www.its-napa.eu> (2. 5. 2013. / 2nd May 2013)

nog udjela na europskom tržištu lučkih usluga. U 2030. godini predviđa se još veći utjecaj (važnost) blizine morske udaljenosti sjevernojadrijskih luka do sredozemnih zemalja kao i zemalja Dalekog istoka, što će uvelike povećati konkurentnost NAPA luka u odnosu na sjevernoeuropske luke.

Prognoza tržišnog potencijala NAPA luka na kontejnerskom tržištu 2030. godine prikazana u tablici 5., čini se i više nego ambicioznom i optimističnom prognozom kontejnerskih tokova u sjevernojadranskom području. Naime, predviđa se da će NAPA luke 2030. godine ostvariti kontejnerski promet od 6 milijuna TEU jedinica i tako ostvariti udio od 11,3 % u ukupnom lučkom kontejnerskom prometu Europe, što bi u odnosu na 2010. godinu, predstavljalo rast od 348 % (Tablica 6.). Većina luka ostalih grupacija će prema ovome modelu također beneficirati u količini prometa, izuzev luka Tirenskog mora

evaluated the NAPA project as an extremely significant one for the development of the North Adriatic area, considering the growing needs for investing in the port infrastructures and transshipment capacities of the port system within that area, aimed at realizing the strategic economy and the national interests of a particular country on a long-term basis as well as meeting the interests of the European Union as part of the development projects within the TEN-T network.

4.2 The Forecast of Cargo Flows in the North Adriatic Area

The results of the market research conducted by the *MDS Transmodal* [16] has shown that the introduction of ships with a capacity of 8,000 TEU-s by 2020 and of ships with a capacity of 11,000 TEU-s by 2030 in the North Adriatic, will

koje će, prema prognozi, izgubiti dio tržnog udjela u 2030. godini u odnosu na 2010. godinu kao i luka Sjevernog mora za koje se predviđa gubitak od -7,7 % udjela u razdoblju od 2010. godine do 2030. godine (iako će količina tereta porasti za 11,1 milijun TEU-a).

Navedeni model prognoze potvrđuje hipotezu da će uvođenje i održavanje redovitih kontejnerskih linija koje tiču sjevernojadranske luke zajedno s razvijenom željezničkom povezanošću do zemalja u zaleđu uvelike pozitivno utjecati na konkurentnost i veličinu gravitacijskog područja NAPA luka, a time i količinu njihova vrijednog tranzitnog prometa za potrebe zemalja u srednjoeuropskom zaleđu.

Slijedom toga predviđa se i povećanje učesća, tj. tržišnog udjela NAPA luka u kontejnerskom prometu na srednjoeuropskom području na način da se predviđaju značajne promjene u strukturi tranzitnog tržišta prema zemljama tranzitnih partnera do 2030. godine. Tako je, podacima u tablici 7., razvidno da se očekuje značajno proširenje šireg gravitacijskog područja u smislu rasta kontejnerskog prometa NAPA luka na tržištima: Srednje Italije (do +20 %), Južne Njemačke (do +40 %), Švicarske (do +20 %), Srbije (do +20 %), Austrije (do +40 %), Češke (do +60 %), Slovačke (do +60 %) i Mađarske (do +20 %).

greatly affect the increase in the demands for port services in the North Adriatic ports as well as the increase in their market share on the European market of port services. In 2030, the shorter navigation between the North Adriatic ports and the Mediterranean countries as well as to the Far East countries, will gain an even greater impact (importance) which will greatly increase the competitiveness of the NAPA ports as compared to the North European ports.

As presented in Table 5, the market potential forecast of the NAPA ports on the container market for 2030 is considered as an ambitious and optimistic forecast of the container flows in the North Adriatic area. Namely, it is anticipated that the NAPA ports will achieve a turnover of 6 million TEU-s of the container traffic and realize a share of 11.3% of the total port container traffic in Europe, which, compared to the year 2010, represents a growth of 348% (Table 6). According to this model, most ports of other port clusters will also benefit in the amount of their traffic, except the Tyrrhenian Sea ports that will, according to this forecast, lose part of their market share in 2030, as compared to the year 2010, and the North Sea ports as well will lose - 7.7% off the market share in the period between 2010 and 2030 (although the amount of cargo transported will increase by 11.1 million TEU-s).

Tablica 7. Prognoza tržišnog udjela NAPA luka u ukupnom kontejnerskom prometu analiziranih europskih grupacija luka prema europskim državama (u %)

Table 7 The Forecast of the NAPA Ports Market Share in the whole Container Traffic of the Analyzed European Port Groupings as against the European Countries (in %)

Države / Countries	Udio NAPA luka NAPA Ports Market Share	
	2010	2030
Republika Hrvatska / Republic of Croatia	> 91 %	> 91 %
Slovenija / Slovenia	> 91 %	> 91 %
Sjeveroistočna Italija / Northeast Italy	71 % – 90 %	71 % – 90 %
Srednja Italija / Central Italy	< 10 %	11 % – 30 %
Južna Njemačka / South Germany	< 10 %	31 % – 50 %
Švicarska / Switzerland	<10%	11 % – 30 %
Bosna i Hercegovina / Bosnia and Herzegovina	51 % – 70 %	51 % – 70 %
Srbija / Serbia	11 % – 30 %	31 % – 50 %
Austrija / Austria	11 % – 30 %	51 % – 70 %
Češka / Czech Republic	< 10 %	51 % – 70 %
Slovačka / Slovakia	11 % – 30 %	> 91 %
Mađarska / Hungary	51 % – 70 %	> 91 %

Izvor: Sastavile autorice prema: *Market study on the potential cargo capacity of the North Adriatic ports system in the container sector; draft report by MDS Transmodal Limited, December, 2011, str. 36 – 39.*

Source: Made by the authors according to “*Market Study on the Potential Cargo Capacity of the North Adriatic Ports System in the Container Sector*”; draft report by MDS Transmodal Limited, December, 2011, pages 36-39.

Treba istaknuti da se navedene prognoze o potencijalnom kontejnerskom prometu i tržištu NAPA luka prikazane u tablicama 5., 6. i 7. temelje na relevantnim ekonomskim indikatorima koji utječu na relativan trošak prijevoza “od vrata do vrata” unutar transportnog lanca između europskog kontinentalnog područja i ostatka svijeta, koristeći sjevernojadranske luke kao i sve ostale europske lučke grupacije. Konkretno, kao pretpostavke prognoziranja tržišnog udjela u obzir su uzete sljedeće pretpostavke: kretanje cijena nafte, subvencije prijevoza tereta željeznicom kroz alpsko područje Švicarske, kontinuirana liberalizacija željeznica, kapacitet teretnih vlakova koji pristižu iz luka, veličina brodova, ekonomija razmjera te internalizacija vanjskih troškova za sve modele prijevoza uključujući globalni kontejnerski prijevoz [16, str. 34].

4.3. Mjere i aktivnosti u funkciji valorizacije sjevernojadranskog područja

Radi stvaranja pretpostavki za učinkoviti razvitak sjevernojadranskog prometnog pravca neophodno je sudjelovanje različitih struktura, kao što su: lučke uprave, poduzeća za obavljanje lučkih djelatnosti, željeznica, cestovni prijevoznici, lokalne i regionalne vlasti, državna uprava, regionalne gospodarske komore, (...).

Na buduću razvoj sjevernojadranskog prometnog pravca znatno će utjecati političke i gospodarske promjene na području Europske unije. Nakon obustavljanja kontrole graničnih prijelaza između država članica Europske unije, potaknut je kvalitetniji razvitak prometa koji je postao brži, slobodniji i jeftiniji. Europska unija prepoznala je značenje pomorskog prometa kojemu posvećuje osobitu važnost i gospodarsku valorizaciju.

Razvojnu strategiju i poslovnu politiku sjevernojadranskih luka, kada je riječ o privlačenju tokova tereta, potrebno je razvijati na način da se [14, str. 97]:

- iskoristi prirodni pomorski prometni put na relaciji sjeverni Jadran – istočni Mediteran – Bliski istok,
- uključenje u feeder servis prema vodećim kontejnerskim lukama na Mediteranu – Gioia Tauro i Malta.

Među glavnim mjerama razvojne politike koje je potrebno ispuniti da bi se povećalo zna-

The above-mentioned model confirms the hypothesis that a combination of regular calls by large deep sea container ships at the North Adriatic ports and efficient rail freight services connecting the hinterland of the NAPA ports should be highly competitive with the container movement and will have a great impact on the size of the catchment area, and thus on the amount of their valuable transit traffic for the needs of the Central European hinterland.

Consequently, an increased participation of the NAPA ports market share is projected in terms of container traffic in the Central European area, so that significant changes in the structure of the transit market to the transit partners' countries are foreseen by the year 2030. Thus, the data in Table 7 show the expected significant expansion of the wider catchment area in terms of the growth in the container traffic of the NAPA ports on the markets of: Central Italy (up to +20%), South Germany (up to +40%), Switzerland (up to +20%), Serbia (up to +20%), Austria (up to +40%), the Czech Republic (up to +60%), Slovakia (up to +60%) and Hungary (up to +20%).

It should be noted that these forecasts on the potential container traffic and market shares of the NAPA ports shown in Tables 5, 6 and 7 are based on relevant economic indicators that affect the relative cost of the door-to-door transport chain between the European continental mainland and the rest of the world via the North Adriatic ports and all other European port groupings. The following assumptions have been taken into consideration in the market share forecast: trends in the oil price, rail freight grants for the trans-alpine flows through Switzerland, on-going rail freight liberalisation, capacity of freight trains coming from ports, ship dimension, economy of scale, internalization of external costs for all transport types, including global container shipping. [16, page 34].

4.3 Measures and Activities Aimed at Evaluating the North Adriatic area

In order to create conditions for an efficient development of the North Adriatic route, the participation of different structures is required, such as: port authorities, companies that provide port services, railways, road carriers, local and regional authorities, the government administration, the regional Chamber of Commerce, etc.

čenje luka Rijeka, Kopar i Trst, odnosno da bi se u punoj mjeri potaknuo njihov razvitak, ističu se sljedeće [20]:

- afirmirati i poticati, koliko je to moguće, međusobnu suradnju triju luka, što uključuje postavljanje zajedničkih razvojnih i poslovnih ciljeva, kao i uspostavljanje zajedničke strategije razvitka triju luka;
- pretpostaviti principe lojalne i pozitivne konkurencije nelojalnim gospodarskim instrumentima i mjerama;
- izgraditi kopnene prometne infrastrukture kao i osuvremenjivati postojeće prometne mreže;
- poticati aktivnosti u cilju povećanja specijalizacije u lukama i povećanje konkurentnih logističkih prednosti prema sjevernim i zapadnim europskim lukama;
- osuvremenjivati tehničke opremljenosti lučkih terminala i lučke mehanizacije te uvođenje suvremenih logističkih tehnologija prijevoza;
- konstantno unaprjeđivati informacijskih tehnologija u radu luka kao i u sklopu cjelokupnog sjevernojadranskog prometnog sustava;
- unaprjeđivati efikasno i učinkovito upravljanje u lukama; neprekidno provoditi mjere racionalizacije troškova u sklopu lučkog poslovanja; osmisliti kvalitetne programe za obuku kadrova za poslove u luci;
- konstantno i detaljno istraživati postojeća i moguća potencijalna tržišta lučkih usluga, u suradnji s gospodarskim komorama i znanstvenim institucijama.

5. ZAKLJUČAK

Ograničavanje tokova roba koji prirodno gravitiraju sjevernojadranskim lukama i kopnenim pravcima do luka, destimulira jačanje sjevernojadranskih luka, kopnenih veza, razvitak i ustaljivanje pomorskih linija u Jadranu te onemogućava uspostavljanje odgovarajuće prometne logistike. Navedene su konstatacije vrijedni argumenti za realizaciju i podržavanje osnovne ideje projekta NAPA, kao projekta u funkciji promoviranja sjevernojadranskog prometnog pravca i pripadajućih luka te njegove valorizacije na europskom prometnom tržištu.

The future development of the North Adriatic route greatly depends on the political and economic changes in the European Union. After the suspension of the border controls between the European Union member states, the development of trade is enhanced and has become faster, safer and cheaper. The European Union has recognized the importance of maritime transport to which it pays a special importance and economic evaluation.

The development strategy and business policy of the North Adriatic ports, when it is the case of attracting cargo flows, need to be pursued taking into consideration the following proposals [14, page 97]:

- use the natural sea traffic route between the North Adriatic – Eastern Mediterranean – Near East,
- join the feeder service towards the leading container ports in the Mediterranean: Gioia Tauro and Malta.

Among the main measures of the development policy that must be accomplished in order to increase the importance of the ports of Rijeka, Koper and Trieste, and to fully stimulate their development, the following ones are emphasized [20]:

- affirm and stimulate, as much as possible, the mutual cooperation of the three ports, including the setting up of joint development and business goals, as well as the establishment of a common strategy for the development of all three ports;
- put the principles of fair and positive competition ahead of unfair economic instruments and measures;
- build land transport infrastructures (roads) and modernize the existing transport networks;
- promote activities aimed at increasing specialized ports as well as at increasing competitive logistic advantages as regards North and West European ports;
- modernize technical equipments and port handling gears at port terminals and introduce modern transport technology logistics;
- improve permanently the information technology in port operations as well as within the whole North Adriatic transport system;
- improve the efficient and effective port management system all the time; implement cost reduction measures in port business operations; organize top-quality port operation training programmes;

Drugim riječima, suradnja sjevernojadranskih luka nije samo opravdana, već i nužna kako bi se osigurala prisutnost sjevernojadranskih luka na srednjoeuropskom tranzitnom tržištu, u odnosu na prisutnu konkurenciju sjevernoeuropskih luka, odnosno kako bi se u srednjoročnom razdoblju počela ispravljati opisana neravnoteža te kako bi sjevernojadranski prostor uživao onaj status koji mu sukladno geoprometnom značenju za uži i širi europski prostor pripada.

Uvođenje suvremenih transportnih tehnologija u lučko poslovanje, izrazit razvoj zapadnoeuropskoga lučkog sustava, prometna kretanja i struktura europskih robnih tokova razlog je opadanju važnosti i mogućnosti razvoja sjevernojadranskog prometnog pravca i luka Rijeke, Kopra i Trsta kao njegovih početno-završnih točaka. Uslijed takvih uvjeta na europskoj prometnoj sceni izražena je potreba za međusobnom suradnjom luka sjevernojadranskoga lučkoga sustava u nastupanju na zajedničkom gravitacijskom području uz golemu europsku podršku.

Među mnogobrojnim znanstvenim i stručnim raspravama koje podržavaju navedenu suradnju je i konkretan projekt Udruženja sjevernojadranskih luka – NAPA. Riječ je o međunarodnoj organizaciji čija je temeljna ideja intenziviranje gospodarske suradnje i reafirmacije sjevernojadranskog prometnog pravca te udruživanje snaga sjevernojadranskih luka radi veće konkurentnosti u odnosu na sjevernoeuropske luke.

U ovome radu su analizirane i obrazložene optimistične prognoze o potencijalnom intenziviranju kontejnerskih tokova u sjevernojadranskom području te prognoze o strukturi tranzitnog tržišta i očekivanom značajnijem tržišnom učešću sjevernojadranskog područja na europskom prometnom tržištu. Pritom su objektivno istaknute sve one pretpostavke osiguranja infrastrukturnih i prometno-logističkih preduvjeta suradnje sjevernojadranskih luka, s obzirom da u perspektivi konkurentnosti prometnih usluga i ravnoteže na europskom tržištu, i sama Europska unija priznaje i podržava značaj sjevernojadranskog područja, konkretno financirajući unutar fonda razvojnih projekata TEN-T važan projekt NAPA.

Sve to na tragu je misije prometne politike Europske unije koja u svojem važnom doku-

- carry out permanent and detailed researches into the existing and possible potential port services markets together with the Chambers of Commerce and scientific institutions.

5 CONCLUSION

Restricting the flow of goods, which, by their nature, gravitate to the North Adriatic ports and to the roads leading to these ports, is not only stimulating the growth of the North Adriatic ports as well as the roads connecting these ports, the further development of new and regular shipping lines along the Adriatic, but is also preventing the establishment of appropriate transport logistics. The above conclusions represent worthy arguments for the implementation and support of the basic idea of the NAPA project as a project designed to promote the North Adriatic traffic route and the associated ports as well as its evaluation on the European transport market.

In other words, the cooperation among the North Adriatic ports is not only justified, but it is also indispensable if the presence of the North Adriatic ports on the Central European transit market is to be ensured, as compared to the existing competition of the North European ports, or, in other words, to start correcting the described unbalance in the medium-term period so that the North Adriatic area may enjoy the status that it deserves pursuant to its geo-transport importance for the narrower and broader European region.

The introduction of modern transport technologies in port operations, the outstanding development of the West European port system, the traffic movement and the structure of the European cargo flows resulted in declining the importance and the possibilities of development of the North Adriatic transport route and of the ports of Rijeka, Koper and Trieste as their starting and ending points. Due to such conditions on the European transport scene, there is a need for a mutual cooperation of the North Adriatic ports in their appearance on the joint catchment area, as well as for the European support.

Among the numerous scientific and technical discussions that have supported such cooperation, is the specific North Adriatic Ports Association project - NAPA. It is an international organization basically aimed at intensifying the economic cooperation and at reaffirming the

mentu *Bijela knjiga (Transport White Paper)* ističe da: "...europska infrastrukturna politika treba podržati povezivanje luka duž cijele obale Europske unije s kopnenim prometnim sustavom, kako bi omogućila ravnopravniju distribuciju ulaznih i izlaznih tokova u europski prometni sustav".

North Adriatic traffic route as well as at joining forces among the North Adriatic ports in order to obtain a greater competitiveness as against the North European ports.

This paper analyzes and explains the optimistic forecasts of the potential intensification of the container flows in the North Adriatic area, of the structure of the transit market as well as of the expected significant market share of the North Adriatic area in the European transport market. In this connection, all those assumptions for ensuring infrastructural and transport-logistical requirements for a cooperation among the North Adriatic ports were objectively pointed out, considering that in the further competitiveness of the transport services and balanced European market, the European Union itself recognizes and supports the importance of the North Adriatic area by financing, within the TEN-T development project fund, the very important NAPA project.

All this is in line with the European Union transport policy mission which in its important document entitled "*Transport White Paper*" states that: "... the European infrastructure policy should ensure the availability of ports to be well connected with the land transport system along the entire EU coastline thus allowing a more balanced distribution of entry and exit flows into the European transport system."

LITERATURA / REFERENCES

- [1] <http://www.delhrv.ec.europa.eu/?lang=hr&content=4424> (2. 5. 2013.)
- [2] http://tentea.ec.europa.eu/en/ten-t_projects/ten-t_projects_by_country/ (2. 5. 2013.)
- [3] http://www.portauthority.hr/razvoj_i_promocija/kutak_za_medije (1. 8. 2012.)
- [4] <http://www.portsofnapa.com/about-napa> (4. 8. 2012.)
- [5] http://www.portauthority.hr/razvojni_projekti/EU_projekti (1. 8. 2012.)
- [6] <http://www.portsofnapa.com> (1. 8. 2012.)
- [7] <http://www.luka-kp.si/eng/> (2. 8. 2012.)
- [8] <http://www.porto.trieste.it/> (19. 8. 2012.)
- [9] <http://www.its-napa.eu> (02.05.2013.)
- [10] <http://www.adriaticseanetwork.it/upload/file/Opuscolo%20NAPA%20BRU.PDF> (23. 5. 2013.)
- [11] <http://www.mirah.hr/wp-content/uploads/2012/05/I.Kegalj-M.Cukrov-Influence-of-the-Adriatic-Transport-Corridor.pdf> (23. 5. 2013.)
- [12] Jugović, A., D. Žgaljić, T. Poletan Jugović, *Model of Enhancing the Development of Intermodal Transport in Adriatic Region*, Pomorstvo – Journal of Maritime Studies, 26 (2010), 1, str. 129-146.
- [13] Karlić Mujo, H., *Kontejnerski promet na Sredozemlju s posebnim osvrtom na sjevernojadranske luke*, Naše more, 56 (2009), 1-2, str. 16-25.
- [14] Kesić, B., L. Jakomin, A. Jugović, *Razvojne mogućnosti sjevernojadranskih luka Rijeka, Kopar i Trst*, Acta geographica Croatica, 37 (2005-2009.), str. 93-102.
- [15] Kos, S., D. Brčić, J. Karmelić, *Strukturna analiza kontejnerizacije hrvatskih luka*, Pomorstvo, 24 (2010), 2, str. 189-209.
- [16] *Market Study on the Potential Cargo Capacity of the North Adriatic Ports System in the Container Sector*, Draft Report by MDS Transmodal Limited, December, 2011
- [17] Poletan Jugović, T., *Pogodnost i značenje riječkoga prometnoga pravca u europskom sustavu kombiniranog prometa*, Zbornik radova/Proceedings – KoREMA'06, 8 – 11. November, Split-Croatia, 2006., str. 1-4.
- [18] Tomašević, M., N. Jadrijević, Č. Dundović, *Analiza kretanja kontejnerskog prometa luke Rijeka u usporedbi s lukom Kopar*, Pomorstvo 25 (2011), 2, str. 470.
- [19] Trupac, I., J. Kolenc, *The Northern Adriatic Ports – Joint Approach to the European Ransport Market*, Faculty of Maritime Studies and Transport, University of Ljubljana, Slovenia, 2002., str. 6.
- [20] Vilke, S., *Koncepcija razvitka sjevernojadranskih luka Rijeke, Kopra i Trsta*, Pomorski zbornik 43 (2005), str.104.