

# DEVELOPMENT OF PORT MANAGEMENT IN THE TRANSPORT ECONOMY

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*Abstract:* Transport has been considered as the subsystem of a technologic system that incorporates both production and transports itself thus leading to several important consequences, which may be identified in the steps of a modern port developing. Setting up an effective organization is the essential factor deriving from its managerial capacity in the competitive economy we strive after. This capacity is not only a fundamental attribute but the conditioning parameter and guarantor of organizations sustainability and longevity in an effervescent environment that is continuously changing of the competitive economy. In such a context, the present paper is an important means of emphasizing the management importance in a separate area of the real economy, namely the port economy. The paper presents two major issues brought about by the current and future development of transport industry in port activity, namely those related to port reform and defining elements of port management in order to substantiate a viable program. Like all economic entities in the port sector as well, management is looking for through various objectives, enabling the port management to accomplish the intended goals, to adopt measures and courses of actions and development which comply with the environment in which they evolve.

*Keywords:* port, port companies, shipment, port management, port reform, port activities, port service.

## 1. Aspects of port reform

The constant need for change that the developing countries have been facing is the result of a combination between their domestic situation, unsatisfactory both economically and socially and the continuously changing of the external environment. We mention that without being properly prepared, the developing countries have been subject to the same forces generated by globalization and increasing economic competition with developed countries.

This exposure occurred while opening their domestic markets, which allowed benefits generated by the recent international trade opportunities (i.e. benefits induced by internal market opening and liberalization of foreign trade). Besides the direct benefits resulting from a shift towards an exports-based strategy, the trade liberalization and opening domestic markets has allowed developing countries to acquire the necessary technology, know-how and foreign experience, which together with the increase levels regarding the use of electronic data interchange (EDI - Electronic Data Interchange) will stimulate the economic development process.

In this regard, an export-based strategy requires adjusting the economic, commercial and most often

social characteristics of a country in order to accomplish a business approach from an ethical perspective and of current practices in the international competition game.

Taking into account the rapidly changing environment of technological innovation and of the increasingly sophisticated demand, the economic transition to market-oriented practices is neither easy nor smooth. Moreover, the required time for a gradual assimilation of transition and evolution to economic and social conscience is lacking. On the other hand, it should not be neglected the possible pressure which is not uncommon however, from various interested groups, often even justifiable, which is designed to protect the environment, ethics, traditions, culture and the religious values.

At the same time, the high levels of port development and transport have been frequently argued to slow the developing country exports, which already lack diversification and are dependent on commodity prices on international markets.

For these reasons, these countries have resisted the principle of "comparative advantage" as a cause of worsening the international trade and of generating discrepancies on the balance of payments, that have a negative influence on the other hand on the

economic increase opportunities through diversification.

Another important aspect of the port industry and international cooperation is of multimodal transport systems, made the most of the transshipment hub at the junction of corridors. For this reason, are very important model for cooperation and integration of systems, which are compiled based on development decisions, and operating cash flows. Currently, there are a number of factors consisting of complex development of integrated multimodal transport, logistics and EDI networks, which have a major impact on the optimal conditions for carrying out port, so independent trade houses and multimodal transport, simply by accessing The program can scan markets for products and services, can select routes, methods of transport and transport in such an integrated approach that ensures quality, speed and safety while optimizing transport and generalized costs and cost balancing time.

In this particular environment, governments have been increasingly aware of the impact of the unsatisfactory and at the same time expensive port service offer may have on the development of international trade and national economy. Moreover, unsatisfactory quality port services not only "redirect" the profits away from local producers but remove that country out of international trade market.

In this regard, goods containerization has revolutionized the international transport and also the port industry. This technical solution has had a significant impact on vessels architecture and size, on their design, development, port operation, on the transport requirements and currently on the perceptions related to the development of integrated transport chain. This transport system has several significant advantages over the traditional way based on physical labor. In addition to major progress in terms of safety operation, loss-reducing, litigation, the main quality of the integrated system is the reduction of the physical work, which is expensive and the considerable reduction of the time spent on operating a vessel.

Due to heavy, expensive and inefficient operating procedures encountered before vessels containerization, the general cargo ships were famous for the long periods of time spent in ports, waiting, loading or unloading. For this reason, in many cases the shippers had tried to avoid ports and had chosen other types of transport (rail or road).

Moreover, delivery speed increase has imposed due to goods diversification, qualities that have determined the reduction of transit times to increase the shippers' circulation of goods and to diminish the inventories costs. However to the previously mentioned aspects there should be added the use of

advanced principles of logistics and accuracy increasing that have contributed together with punctuality and safety liner that made possible the adaptation of the producing industries to "just-in-time" and "make-to-order" flexible concepts. Among other benefits, these manufacturing technologies have provided the opportunity to integrate into the development strategies, the uncertainties related to seasonal or other cycles of business and trade.

Unit problem must be addressed organizational restructuring and management in shipping and maritime, focusing primarily on areas such as development of models for unconventional indicators (which take into account the characteristics of transport logistics in general) and indicators measuring river and maritime transport competitiveness indicators implemented in the organization of transport scenarios to highlight the impact on the environment, energy and other resources. Scenarios and management procedures based on business models and organization and is based on the fact that the market requires integrated transport systems, aimed at aligning the activities undertaken by different actors in the transport market and organizations. Also developing new concepts of innovative logistics must have these initiatives focusing on new services (for small and medium-range), based on the requirements of shippers and logistics service providers (services at the right time, promptly to request). In conclusion, we can say that developing countries are aware of the importance of effective national port, seen as catalysts for international trade and essential elements in their economic development.

## **2. Port management place and role in transport activities development**

Transport has been considered as the subsystem of a technologic system that incorporates both production and transport itself thus leading to several important consequences, which may be identified in the steps of a modern port developing. Theoretically speaking, the port is an integral part of several transport systems. Thus a port is the geographic location where several production chains are converging. A "section" through these chains shows that these production chains are converging in various stages of completion-perception, allowing the port to play a major role in the integrated logistics chains.

Basically a lot of activities take place in the port terminal, like storage, transport and transshipment activities (trans-shipment).

The conclusion that emerges is that although the transport system is mainly the same, there are the same traditional stages in which a product goes on

its evolution path from origin to final consumer, the technological development leading to interrelated changes on these stages, changes that generate the need to adapt to various "actors" which can be encountered on the value chain.

Transport industry has undergone significant changes over the last three decades. This aspect has had a continuous and fundamental impact on the port operations and management.

The general management principles can be also applied to ports, port management being actually a service system management.

In this context, the port and port management objectives should be designed to meet the commercial and marketing department requirements, considered as important procedures to follow by the port in order to accomplish its goals.

The practice in this particular area indicates that port management objectives should be specific, quantitative and focused on the port services production by port authorities and operators and to be defined so as to facilitate the application of certain necessary actions in order to achieve these objectives that would allow the outcome control and evaluation.

Like any other economic entity, the objectives can be grouped into general objectives and secondary objectives in the port field as well. **General objectives** apply to port community and frequently to port authority. The role played by the port in developing national economy and region should be taken into account in their definition.

From the macro perspective, port defines its objectives by facing the limitations imposed by the political power. It can control the practice of price or port services quality and on the other hand, can take advantage of the assistance from public power, by funding its infrastructure or benefiting of favorable tax provisions.

On the microeconomic level, the port is able to set up freely its management objectives, thus port representatives will establish port exploitation and development objectives, based on the port interests that should meet the social requirements as an economic and commercial enterprise.

Regarding the **secondary objectives**, they must be accurate, applicable to all port operators, port operators and services. Those objectives would be better defined and their development to follow a series of requirements, such as:

- must be applied at all levels and for each management unit in hand;
- must be independent;
- their number is limited;
- each unit of organization (the port authority, operator) must have their own

objectives and their number should be even lower as it descends the steps of command;

- main objective should be coordinated with the work "key" port company.

By every objective, management seeks to enable the port management that will manage forms closest to achieving the aims of his.

Meanwhile, port management has many tools that port managers to operate and manage the organization. The main instruments are the administrative, economic, financial, commercial, technical, operational and human resource development.

**Administrative instruments** specific to ports are company structure and regulations are necessary. The current trend is to have a structure reduced by restricting the number of divisions (and not create additional administrative structures) and in their production units to be created, with financial interests. Port organization structure must be consistent with the functions they must perform. Regulations, intended to inform customers and port users on the measures taken to ensure proper functioning of the organization, these rules are set by the port authority. Laws and regulations should be as small numbers refer to the key issues.

**Economic instruments: the main tools of economic management port are:**

- The system for collecting and transmitting data and port statistics - data, information necessary for this system may be provided by the specialized press, the general studies conducted outside the port community, financial and statistical documents issued or made by nationally competitive services port.
- Scoreboard - is an economic instrument, which provides a periodic collection of all the economic parameters that determine the development activities of the port. This allows monitoring of port activity and is an important tool for economic decision.
- Pricing port - is another major economic tool for both the port authority and operator.
- Port Planning - is aimed at preparing an economic tool for the future port. Port development planning must be done systematically according to most parameters of the port system development. A major holds strategic planning, which aims to minimize the costs of developing the port, it shall adopt, by rule, under conditions of uncertainty of achieving its goals.

**Financial instruments** - the main financial instruments are:

- general accounts - is a way for port managers to manage monetary and financial flows.
- analytical accounts or cost - allowing the progress of expenditure and revenue income and expenditure on facilities, and serve as a basic

financial education, economic, tariff and provides tools for logical decisions.

**Commercial instruments** - trade is the main tool to collect and analyze business information, followed by research and development structures to promote the port to the port community. Basically, the port of commercial activity is limited to market research, its evolution, the level of demand and competition. Depending on their results, "convince" the need to release the port company funds to purchase necessary equipment or infrastructure improvements, will establish regulations for the operation of port facilities to enable their use in optimal conditions and will oversee the quality of services all links in the chain of transmission to function normally under a strong competitive environment.

**Technical and operational instruments** - because the current period, characterized by profound structural changes and business practices and international freight, each port must be adapted to technological changes that are intrinsic to modern technologies. After knowledge of technological change in port, and traffic forecasting results, the next step is to examine how the port will be used respectively to define the operational or operational systems of the port. Operational systems play a role in choosing equipment in development plans or development of infrastructure, and human resources development plan. Moreover, maintenance of equipment has become one of the major internal functions, authorities and port operators, a key factor in the functioning of operational and cost reduction.

**Human resource development** - most important tool available to port managers is the port staff, which is the hardest instrument to master and used as the port area outside their particular people management, difficulties arise and tradition, historical conditions, which can sometimes be incompatible with the principles of modern management. Personnel qualifications required are more complex (education, skills, mobility) for staff to be able to assume the responsibilities necessary. Staff quality assessment refers to the degree of achievement of objectives that have been fixed, innovation capacity, behavior with colleagues, customers and to the organization.

### 3. The necessity of a sustainable port management implementation

All European maritime or river ports are facing complex problems: a demand for transport that is constantly fluctuating, significant technological changes (containerized transportation, telecommunications, computerization), environmental constraints, including intermodal

transport management that encourage the port's role, the need of communication between all port activities as well as the compliance with community rules and regulations on competition and transparency. Moreover the European transport integration of a problem of integration of large dynamic systems based on the adaptation of national systems to the European ones, on infrastructure networks harmonization, the harmonization of the existing standards and regulations. At the same time, the strategies that should be adopted involve the risk avoidance so that less developed transport systems to orbit around the developed ones, providing solutions to the authority issues and that of logistics power in integrated system.

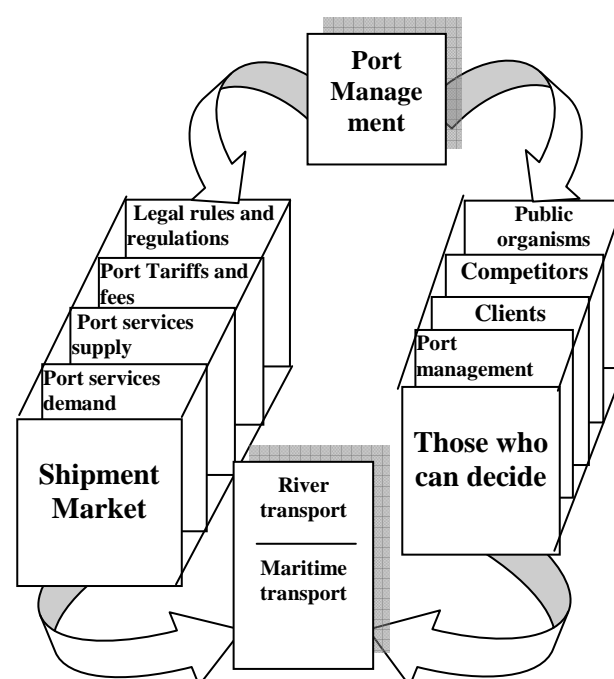


Fig. 1: Port management place and role in the economy dynamics

The port system is involved in a network of relationships with all active entities in nature and society, relationships that are carried by the movement of goods, services, information, money, rights and obligations, by people's behavior, attitude and activity that are involved in each of these activities. In an attempt to emphasize the importance of achieving sustainable management throughout the port industry we have developed a descriptive model, a model that shows the place and role of port management in a highly complex and dynamic environment in which both transport river and sea transport have a major contribution to the environment, geographic, economic, social, technological, political, legal, information configuration as well as to its dynamics.

Moreover the success in the real economy, the company's performance and competitiveness depend on a great extent on the quality of management. The dynamic economic environment and qualitative changes that are involved by the conduct of economic activity create a proper foundation for the marketing employment and extend the scale of application of its methods and techniques. Thus in the current economic context it is necessary to design a sustainable port management program, whose components are focused on operating items, maintenance or development of port activities in the view of achieving the efficiency parameters. The **basic components** of such a program can be structured as follows:

- **Financial resources management** – despite decentralization and the high degree of financial autonomy, port sector funding witnesses in the EU Member States different levels of financial autonomy and granted public funding, but also the lack of transparency in the pricing of port services. In this regard, there should be established instruments related to income yield and means of development of these budgets as well as financial instruments between the government and port authorities. Also in this direction is necessary to establish fair and transparent conditions for investors, port operators and users, aimed, in particular the role of port authorities, public financing, leasing ports, water services, technical services, goods handling, port charges and competition with other countries.

- **Land Management** – many ports face hindrances due to capacity connections or organization. Thus, ports expansion and constant changes of naval and maritime traffic have not kept up with the requirements of port facilities (a shortage manifested in port installation, difficulties in achieving terminals modernization, improper location of facilities). Therefore the insurance of proper conditions regarding the access to port land and services is crucial in managing integrated port system. It must also review and improve regulations on land use, upgrading information systems and creating databases on ports, waterways and preliminary data traffic, new security and telecommunications systems, automated acquisition of new port equipment, but European surveillance systems interoperability, an important role in simplifying transport and encourage market development and maritime shipping in the internal market.

- **Infrastructure** – requires standards, processes, equipment for the proper performance of all port activity, using various legal and institutional systems as tools for management regarding infrastructure. Another important aspect

that should be taken into consideration is the port terminal concession on certain periods of time (the example of many EU member states) since it offers many advantages, the most important being the following: more rapid handling of goods, reducing the vessels turn times and of the waiting time for goods, reducing operating costs, more transparent purchasing procedures, lower charges for handling of goods but also investments increase with a positive economic impact.

- **Environment Management** – environmental laws ensure sustainable port operation. In this respect progress has been recorded in environmental management, while the constraints in terms of environmental protection applied in the port sector projects have led to the emergence of some complex procedures. In addition, costs of compliance with environmental standards are primarily the level of their performance and port dimensions. In this respect, many EU member states have raised uncertainty of environmental legislation and its implementation in different national laws, proposing the development of guidelines for their interpretation to allow for better environmental management. Important is the creation of adequate waste treatment facilities, proper management of water bodies and sediments, and climate change and air pollution. Increasing standards of environmental management in ports and achieving a balance between environmental protection and growth process involving the use of economic resources following: legal and institutional framework as a means of regulating the implementation of management strategies, prices and taxes as a means to control the allocation resources and services, and coordination of environmental issues and strategies to improve the activities related to waste management, pollution abatement, water quality improvement.

- **Human resource management and other social aspects** – professional training is significantly important for a secure and efficient operation of ports. However currently there are no specific community rules on the professional training of port workers. In this regard, one regulatory option might be considered. But there are general EU rules on health and safety of workers and compliance with those standards is extremely important and should be carefully monitored. It is also necessary to provide more flexible employment and social dialogue can and not least to improve the public image of ports.

#### 4. Development strategy in shipping

Shipping development strategy covers the following components:

- Using the competitive advantage of the Danube (European corridor VII) in terms of EU integration that led to cross the Romanian Danube from its inland about half (1100 km) with both the Black Sea via the Danube maritime ports, and by Port of Constanta.

- Developing operating and storage capacity at ports along the Danube to acquire goods traffic in products is an export market of Romania (cereals, fertilizers, finished products). These goods will be taken from areas south of the country and transported by river vessels both Central Europe and to the port of Constanta.

- Development and increased traffic of goods in transit by sea and river-sea ports as a gateway for European trade in Central and Western Europe countries.

- Development of cruise tourism on the Danube.

- Modernization and development of river cargo and passenger fleet.

- Encouraging private initiative in creating a maritime fleet under Romanian flag adapted to the national economy in connection with providing facilities for both the return of the flag of Romania into the international shipping and to use special conditions to which our country has to prepare seafarers and marine training.

Policies pursued to achieve this strategy are:

- Ensuring conditions for continuous navigation on the Danube to a minimum draft of 2.5 m through the critical points of hydro facilities operate;

- Taking part in road traffic (polluting and high risk of accidents) in river traffic through the provision of facilities to transport goods through the ports of transit on the Danube river (eg to grant tax incentives for use of road and rail routes to ports on the Danube infrastructure charges against the long journey to seaports);

- Operating and storage capacity of commodities including cereals and in particular their conditioning river and river-sea ports;

- Reducing taxes on the Sulina canal and the Danube-Black Sea to boost freight traffic to and from seaports of the Danube and Black Sea;

- Creation through economic levers of a system of balancing the costs between the port and sea ports on the Danube port of Constanta to attract streams of goods from Moldova and ex-Soviet;

Ensuring and guaranteeing free access to rail and road infrastructure in ports with several operators and users of transport to stimulate competition offers port services;

- Stimulating private owners in developing and modernizing Romanian river vessels and shipbuilding loans partly propelled by state-subsidized European fleets to compete with the technical conditions imposed by the European Community;

- Stimulating the Romanian owners to build vessels adapted to the requirements and trade opportunities offered by Romania's economy in light of European integration as the flag facilities and secured loans and partially covered by state;

- Development and modernization of sea and river ports with full retention of profits made at their port administrations;

- Construction and development pontoons class hotel facilities in Delta passenger vessels correlated with low capacity and high speed travel;

- Protection of river vessels flagged Romanian flag vessels competing with Europe for a specified period required by the technical modernization of the European river ships;

- Ensure free movement on the Danube river channel by removing parking times for inspection and maintenance of border crossings in riparian countries;

- European fundraising work for hydro development execution of difficult sectors of the Danube from the perspective of freight traffic growth in Europe transit corridor VII;

- Going into full port infrastructure by port operators by establishing a system of checks and verification of the use and maintenance of port infrastructure through government;

- Development of 'Crewing' to use a qualified workforce in specific forms of education and training of seafarers river and guarantee social protection to them;

- Development of container traffic in transit on the Danube and internal circuit in conjunction with the transportation in the areas within the country through effective use of inland ports;

- Ensuring the river ports and river-sea bunkering down technical requirements for river and sea vessels.

Organizational and administrative measures to achieve shipping policies are:

- Improving maritime pilotage in the port of Constanta and the Danube port and sea to minimize administrative costs of ships operating in ports;

- Crossing Romanian Naval Authority funding under the budget and establish a tax system that would develop maritime and river traffic and increase safety of navigation;

- moving the seaports and river in the administration of the the local authorities with the condition to establish a tariff policy and development unit established by the Ministry of Transport;

- ensure a system of supervision and control of river traffic and a single state authority currently removing duplication from the three authorities with similar tasks (Romanian Naval Authority, Transport Police, Coast Guard);

- developing a Romanian flag law as to create incentives for owners of Romanian, as well as to attract significant amounts of foreign ship owners who receive this flag;
- development and improvement of professional education to ensure a qualified workforce as social offer for those who want to embrace the sea or inland waterway craft browser;
- ensure free competition between private operators and fleet free access to their ports by naval and terrestrial facilities to seaports and river-sea;
- the protection of marine environment and river by creating the necessary infrastructure for taking over control of oil residues from ships;
- providing incentives for increased use of combined traffic using Danube and ports on the Danube as the final part of this transport;
- ensuring free passage through agreements border areas of countries bordering the Danube in connection with creating an effective system of control and freight traffic and navigation.

#### **Waste management for inland navigation on the Danube**

The project WANDA "Waste Management Inland Danube" is towards developing a system to manage waste from ships coordinated transnational Danube riparian countries.

The overall objective of the project is the concerted development and pilot implementation of environmental preventive measures to ensure a common approach in the management of waste streams from ships. Therefore, inland - as sustainable means of transport - will be developed, while reducing potential risks to river ecosystems. WANDA project is funded by Transnational Cooperation Programme South East Europe (SEE) in the Priority Axis. 2 "Protection and improvement of environmental quality, and was approved in June 2009. Wanda, which will run over three years, brings together nine partners in seven countries (Austria, Romania, Slovakia, Hungary, Bulgaria, Croatia and Serbia). All partners are operating in the field of shipping, infrastructure services, or research. The consortium is coordinated by Via Donau - Austria Naval Railway Company, the leading partner. European partners are: "Water Research Institute in Bratislava - Slovakia" KTI Institute for Transport Sciences Non-profit Ltd. in Budapest, Hungary, the National Association of Radio-Signalling and Infocommunications distress, Budapest, Hungary, "the Executive Agency for Maintenance of the Danube River in Ruse, Bulgaria, "Port Authority Vukovar - Public Institution for Management and Development of the Ports and Piers on Danube River and Danube - Sava Canal, Croatia," Directorate for Inland Waterways Plovput, Belgrade – Serbia.

Partners in Romania are: "Fluvial Danube Ports Administration National Company SA Giurgiu, "National Company for Maritime Danube Ports Administration SA Galati.

Organizations supporting the project are: Expert Group Counseling WANDA (Observers), ie the ICPDR, the Danube Commission, CCNR, WSD-South, the Sava Commission. WANDA total project budget is € 1,906,660, partners from Romania's budget is € 670,000, the EU-ERDF funds (85%) representing € 569.500, national co-financing (15%) of which: contribution NCAPDF S.A. Giurgiu and C.N. APDM S.A. Galati: € 13,000, budget allocation is € 87.500.

To carry out its objectives, WANDA project includes a wide range of activities. The project will be developed waste management plans harmonized from ships. On this basis, it will prepare pilot actions of the waste collection and treatment of accidental or other types of waste. Furthermore, it will implement the polluter pays principle ", by implementing a model of international finance, taxation services system. Aligning the project will be done by different coordination mechanisms such as expert networks, feedback or workshops, stakeholder input and observers: the Danube Commission and the Central Commission for Navigation on the Rhine (CCNR).

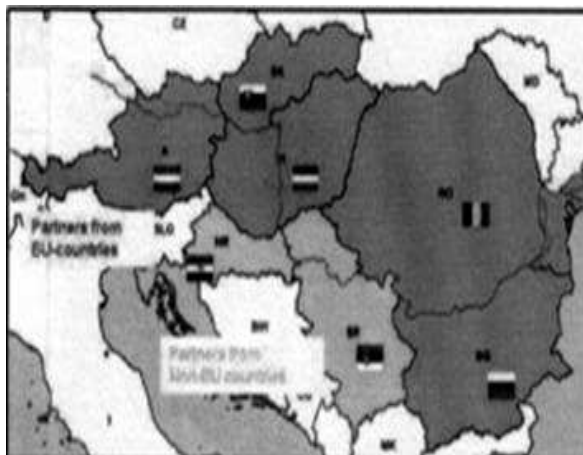
Meeting of the project home WANDA held during August 25 to 26, 2009. More than 20 participants of the Danube riparian countries met in Vienna to devise strategies for their future collaboration. Official website of the project WANDA ([www.wandaproject.eu](http://www.wandaproject.eu)) and the first edition of the brochure project will be available soon.

WANDA project aims to create a concept of waste generated by ships along the Danube, to adopt a coordinated transnational approach, viable in terms of environment, including developing and implementing appropriate measures to protect this source of water and its complex ecosystems. WANDA project activities and benefits include the following:

- One partner from each country participating in the project (TA, SK, HU, HR, RS, BG, RO) will develop and propose national laws, based on a concept common framework for waste management.
- Pilot Actions - practical solutions for the collection of hazardous waste (such as hydrocarbons) and other types of waste - will be implemented on the Upper Danube sector (AT, SK, HU) and that of the Lower Danube (EN). Activities will include clarification of requirements, implementation of pilot actions and results analysis.
- The Upper Danube sector (AT, SK, HU) will be developed a financing model for waste

management of hydrocarbons. Activities aimed at clarifying the basic local parameters, developing a model that includes procedures for tax collection and a concept implementation.

- It will create a transnational coordination of all project partners and a permanent exchange of information with the International Commission for Protection of Danube River (ICPDR), the Danube Commission, the Central Commission for Navigation on the Rhine (CCNR), Sava Commission and other stakeholders but development of concepts relevant to waste management, pilot actions and financial model.



From the perspective of developing a joint action plan to protect the Danube - a major transport corridor of Europe - National Company "Fluvial Danube Ports Administration SA Giurgiu study will involve both the national legislative framework for managing waste from ships, a concept of joint management of this waste, but the pilot actions that will have the opportunity to test and implement various methods to prevent pollution of the Danube waste from ships.

"National Action Plan for Environmental Protection" is an instrument of policy implementation in the field, by promoting, supporting and monitoring the completion of major projects with significant environmental impact, the application and enforcement of internal rules and directives of the European Union. It includes a special chapter dedicated treatment system and waste collection from ships and pollution prevention Romanian sector of Danube.

Fluvial Danube Ports Administration National Company SA Giurgiu study conducted feasibility "reception and processing system wastes from ships and intervention in case Danube river pollution sector, including the National Action Plan for Protection Environment.

"National Strategy for Sustainable Development of Romania (2008) is a national document that

complies with EU sustainable development strategy. The overall aim is continuous improvement of quality of life, creating sustainable communities able to manage and use resources effectively and to build environmental and social innovation potential of the economy, ensuring prosperity, environmental protection and social cohesion. WANDA project is consistent with this strategy as it seeks to protect the environment through measures allowing decoupling economic growth from negative environmental impacts caused by port activities and shipping.

'Sustainable Transport Strategy for 2007-2013 and 2020-2030' contains a special chapter dedicated to maritime and inland waterway. The main objectives aimed at promoting maritime and inland waterway transport, providing solutions for environmental protection. WANDA supports these goals by identifying the best methods of treatment, collection and disposal of waste from ships on the Danube.

'Sectoral Operational Programme Transport' (SOP-T 2007-2013) is Priority Axis 3 - "Modernization of transport sector to improve environmental protection, human health and passenger safety." WANDA supports the objectives specified in the SOP-T Key Area of Intervention no. 3 - 'Minimize adverse effects of transport on the environment'.

#### **Project DANUBE 2009**

Two years ago, in Brussels, the evaluation Committee TEN-T financial aid, the European Commission accepted the grant under the Annual Programme 2007 - Facilities Financing of TEN-T project by the National Port Administration Company Danube River SA Giurgiu 'DANUBE - Network access to the Danube - Unlocking movement in Europe in Romania by developing an infrastructure for the TEN-T ports for high-quality optimal economic conditions - phase study fezabilitate'-2007-EN-92 301 - It trans-European networks (TEN-T).

The approved budget is 400,000 euros to 200,000 euros from the European Commission is funding the difference being made up of national contribution. The project, which was completed in July 2009, aims to generally promote in Romania of a well developed transportation system with permanent access port networks, while increasing safety and facilitating the transport of goods and passengers at close to the European . This project is based on a feasibility study aimed at improving port infrastructure by optimizing, expanding and ensuring maximum utilization rate of the ports on Priority no. 18 TEN-T.

D.A.N.U.B.E project was developed by a feasibility study as a first step in finding the best technical solutions and economic modernization of port infrastructure in the TEN-T ports in Moldova



Veche, Drobeta Turnu Severin, Calafat, Giurgiu, Oltenita, Calarasi and Cernavoda, the Romanian sector of Danube river in the activity of the National Company APDF SA Giurgiu. In the Romanian shipping network, which includes both seaports, inland ports and waterways, Constanta is the main seaport and the largest Black Sea, bound by the Danube Canal Rhine - Main port of Rotterdam located in the United North. Note that the Romanian sector of the Danube lies between Bazias and Sulina, a total length of 1075 km, our country is currently holding 32 ports, inland waterways, ports 13 as part of the TEN-T and 7 of them being placed under the authority of the National Company APDF SA Giurgiu. Should know that the National Company APDF SA Giurgiu is one of the two port authorities in the Ministry of Transport and Infrastructure, which means that the most important river port facilities under its responsibility.

Improving port infrastructure, improving safety and service development will facilitate increased investment in ports, needed to develop their business, so some ports to become true poles of development. Feasibility study allows access to European funds allocated to Romania through the Sectoral Operational Programme for Transport but also those directly allocated by the European Commission through the TEN-T. The overall objective of the Sectoral Programme is to promote Romania as a well-developed transport system, which will increase safety and to facilitate transport of passengers and goods, both domestically and internationally, a modern transport, efficient as close to European standards. From this point of view the feasibility study also proposes to modernize the port infrastructure and port services by making investments whose value exceeds 140 million, a figure that speaks for itself about the size and importance of this objective, first of its kind funded by European Commission, but also the huge effort of the National Company to make this project operational in deadlines.

This operation will promote intermodal transport and implement projects to facilitate speed, safety and comfort of people and goods transshipment from one mode of transport to another through the creation of logistics centers and intermodal connections: rail / road, rail / sea, rail / maritime, rail / Air, road / water, road / sea and road / air.

Initiatives will include new platform for multi-modal international cargo airports, will also be initiatives to promote Constanta Port to become a major transport hub linking effective July TEN-T and TEN-T-22 with Black Sea branch The coastal highway of South-Eastern of TEN-T-21. Emphasis will be placed on intermodal projects that will

improve accessibility and spring tourist areas or areas with tourism potential.

Initiatives will include upgrading, expansion and development of urban transport systems with rail. Is expected in Bucharest, this initiative will increase traffic from 350,000 passengers per day currently to 700,000 in 2013 and to assist in establishing effective links between the collection points for passengers and improving accessibility to the TEN-T in particular population areas adjacent to the capital.

Recipients of financial funds for this operation will be the owners of transport infrastructure and METROREX.

### **Improving traffic safety on all modes of transport.**

This operation aims at ensuring the implementation of European standards of safety and security on all modes of transport and intermodality. Will be controlled by transport authorities subordinated MTCT. In this operation will be implemented a number of initiatives, including:

- **Safer Roads:**

- Implementing NIMS Maps (INMH) at national level (departments and districts of Roads);
- The introduction of modern technology for the use of processes and materials to bring the thickness of the layers of road construction and increase their life, thereby increase user safety and confort;
- Improving the level crossings and construction of new crossings over bumpy roads and railways - horizontal and vertical signaling system - complex programs such as PMS (Management System of the streets), BMS (System Management Bridges) and BCTDR (Central Bank Road Technical Data) to prioritize work - indicators of traffic information and guidance - training staff regarding implementation of new requirements to ensure that it meets European standards;
- Implementation transport information systems in order to improve traffic safety but also to reduce travel time and fuel consumption - Implementation of telematic services, satellite navigation system - Improve and develop physical infrastructure by adopting preventive measures (traffic signal, linear settlements, press campaigns etc.).

- **Safer Railway:**

- Sectoral Operational Programme Transport POST;
- introduction of additional initiatives to monitor and control traffic (video cameras, signs and pedestrian crossing protection, producing bands of noise for warning);
- Removing the dangerous crossing roads and railways and subways introduction / overground by improving cooperation with local authorities;

- Introducing new technologies for building and maintaining road infrastructure and implementation of specialized network communication information ICT in order to increase safety and security of passengers and goods transport.

- **Safer naval transport:**

- Introduce and / or improve traffic Management Information System Naval (VTMIS);

- Implementation of automatic identification system (AIS) in national waters navigable by extension services and use of computerized electronic map river transport and a modern signal measurements and the Romanian sector of Danube. Will receive financial funding for this operation owners and operators of transport infrastructure and statutory authorities operating within the transport services and providing public services.

- **Reducing the adverse effects of work and transport activities on the environment:**

- This involves developing effective infrastructures and clean / "environmentally friendly" by European standards on transport services, including intermodal and the Kyoto Agreement;

- This may include construction of noise barriers along the populated areas adjacent to transport infrastructure, reducing congestion will reduce pollution in key locations. Will benefit from financial funds allocated to this operation of transport infrastructure owners.

- **Making safe transport infrastructure in natural disasters**

Recent climatic changes at regional and national levels have produced a series of damage to transport infrastructure. This measure aims to strengthen security and those sectors in areas of potential natural hazard. Initiatives aimed at rehabilitation of transport infrastructure and the surrounding area by flood control and disposal of hazardous items (rock falls and landslides), addressing issues of reforestation, and ensure that the extraction of gravel from rivers and their management does not generate destructive to infrastructure problems transportation. Such initiatives will be complemented by the highway code and the implementation of speed restrictions. Recipients of financial funds for this are the owners of transport infrastructure.

## 5. Conclusions

Essential changes that have occurred within the transport industry over time, and have had continuous and fundamental impact in terms of port activities and port management.

General principles apply and port management, port management is, in fact, a system management services.

In this context, the objectives of port and harbor management must be geared to meet the commercial and marketing department, considered major pathways followed by the port facilities to achieve.

We can say that developing countries are aware of the importance of effective national port, seen as catalysts for international trade and essential elements in their economic development.

In conclusion, the entire port system should focus on overall management of the available resources and at the same time should develop the capacity to tackle service related issues, costs and markets in a much more critical manner than ever. Moreover it is important to adopt concise policies and strategies that can be applied on a long term and which should lead Romanian shipping industry on an upward trend.

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