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# Report on Ports and Multimodal Facilities at National and Macro regional Level MONTENEGRO

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Bar (MNE), 19/1/2011

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## Introduction

The project WATERMODE has been set up to promote a better coordination between policy actors and stakeholders to increase the competitiveness of the alternatives to road transport, especially valorising the potentials of the water / ground multimodal logistics cooperation. To do that, project activities have been defined to provide instruments for improving the policy coordination and highlight potentials of water/ground multimodal transport.

The general objective of WATERMODE is to promote the coordination between the private and public actors dealing with logistics and spatial planning, for a better management of the multimodal transport solutions.

WATERMODE has defined a set of general indicators for measuring and recording the services of the multimodal ground / water logistics platforms. The idea is to evaluate ports and the logistics facilities accordingly with their relevant characteristics, as for example position, accessibility, services offered, multimodal connections, or innovations.

This set of indicators will be applied in the 10 partner countries of the project and the data will be collected in a database of the ports and multimodal logistics platforms.

The database will be addressed to policy makers and to public and private logistics operators to evaluate the current situation, orienting the investments for the competitiveness of the infrastructures, increase the attractiveness of the multimodal transport solutions. It shall be conceived as support instrument in the decision making process of policy makers and business operators.

The set of indicators will also be proposed to the EU authorities as contribution to the need expressed by the European commission (COM(2007)607) for common indicators for the evaluation of logistics facilities.

## Scope of the census in Montenegro

### Contacted facilities

In Montenegro two facilities have been contacted. All contacted facilities are sea ports, because in Montenegro there are no inland waterways (no river ports) and establishment of the logistic centres is in the initial phase. There are big difference in size of facilities because The Port of Bar is practically the only commercial cargo port in Montenegro, which carries out more than 95% of maritime transport, has capacities and development potentials (operative coast length, depth of aquatorium, connection with railroad and large area for expansion).

Contact table:

Facility	Contact person	Mail
Port of Kotor	Mr. Nikola Konjevic Mr. Nikola Dragomanovic	konjevic@t-com.me ndmorinj@yahoo.com
Port of Bar	Mr. Deda Djelovic	deda.djelovic@lukabar.me



Figure 1: Map of Montenegro with contacted logistic facilities

## Facilities in detail

### 1. Port of Kotor

The Port of Kotor is located in the Bay of Kotor and its location is in the close vicinity of the Old Town Kotor. It is situated next to the Adriatic trunk road and in this way connected with locations along the coast as well as with towns in the interior part of Montenegro.

The length of the operational quay belonging to the Port of Kotor and located inside the Port itself extends to 665m, out of which 512m is located in the western part and the rest of 153m looks to the river Škurda.

The operational quay can be functionally divided into 5 berths and they are indicated below:

- Riva I, berth app. 150m. long.
- Riva II, 100 m long berth. Along this operational quay there is only a 6-9 m narrow strip which can be used by ships.
- Riva III, covers the south part of the Riva app. 250m. in length.
- Rijeka I is the berth on the north side towards the river Škurda app. 80m. long.
- Rijeka II is a berth 70m. long.

The operational quay Rijeka I and Rijeka II are equipped with 10 bollards. The operational quay is equipped with 61 rubber fenders in total.

On the south side of the quay towards the sea there are service connections for water, telephone and electricity supply that are at disposal to vessels. Sea depth ranges from 12,8 meters on the top of the operational quay up to 3 meters on the end of the section toward the river Škurda and 12,8 meters up to 8,6 meter on the other side of the operational quay earmarked for international seaborne traffic.

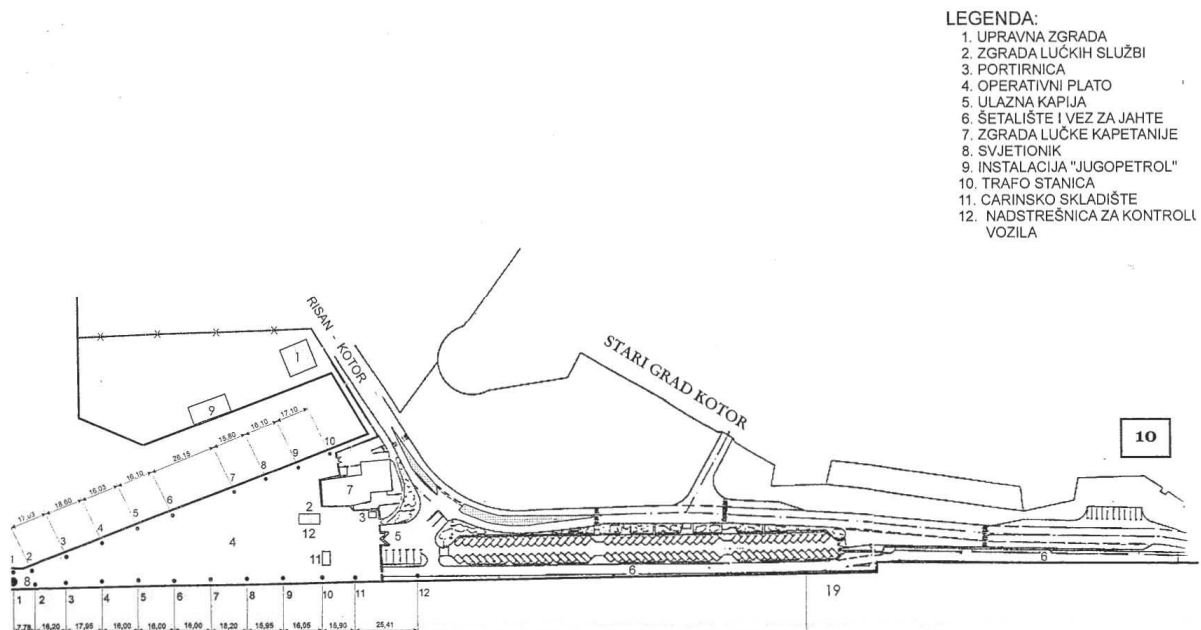


Figure 2: Map of the Port of Kotor

## 2. Port of Bar

The Port of Bar is a Share holding Company where majority of shares (54%) are owned by the Government of Montenegro and 46% by another shareholders (citizens, privatization funds, employees, ...). According to relevant Montenegrin regulations the key management bodies are: Shareholders Assembly, Board of Directors and Executive Director.

Territory of the Port is 130 ha and Port water area covers app. 70 ha. According to Detail Urban Plan, additional 350 ha are purposed for the further development of the port area.

Container terminal - The handling system on the Container terminal consists of 40 t capacity container crane and accompanying mechanical equipment. The Terminal occupies, at this moment an area of 8,5 ha. Additional 10 ha are available for further development of the Container Terminal. The length of the operational quay is 330 m and the depth of the sea basin is 12 m.

Timber terminal - Timber terminal covers the area of 5,86 ha. Capacity of the terminal ranges from 40 000 to 60 000 m<sup>3</sup>/year, depending on type and shape of wood products. The terminal includes 23 400 m<sup>2</sup> of covered space.

Grain terminal - The silo has 30 000 t capacity. 12 t capacity gantry cranes are used for unloading ships, while 300 t/h capacity loading towers are used for loading operations. 250 m long closed transport conveyer band has been installed parallel and directly along the railway lines of the Terminal for bulk cargo and it is designed for reception and dispatch of grain to/from the silo.

Bulk cargo terminal - Bulk cargo terminal is located on the Volujica quay and avails with three gantry cranes with 12 t capacity as well as three railway tracks. Operational quay of the terminal is 550 m with aquatorium depth of 14 m. It is specialized for acceptance and dispatch of all types of ores, concentrates, as well as other types of bulk cargo. The area of the open storage space on concrete base extends to 27 000 m<sup>2</sup>.

Liquid cargo terminal - Installed storing facilities for liquid cargo are:

23 reservoirs for oil derivatives on the Volujica hill with total capacity of 116.600 m<sup>3</sup> owned by Hellenic Petroleum – Greece,

- 2 reservoirs for leach, total capacity of 10.000 m<sup>3</sup> (owned by KAP – Podgorica, Montenegro);
- 1 reservoir for oil, capacity 1.400 m<sup>3</sup> (owned by the Port of Bar);
- specialized discharging point for acetic acid, 600 t/h capacity (owned by the MSK Kikinda, Serbia);

Ro-Ro terminal - Ro–Ro terminal is designed for acceptance, storage and dispatch of Ro–Ro cargo units (complete road vehicles or parts of vehicles-trailers and semitrailers). The terminal is located on the Pier 3. Handling operation is carried out through operational quay which is 270 m long and aquatorium depth amounts to 10 m.

**Passenger terminal** - The Port of Bar possesses specialized terminal with modern facility for rendering services to passengers and five berths for passenger ships and ferryboats. Directly beside the terminal there is extensive space for road vehicles that carry out Ro-Ro traffic through this terminal. The Port of Bar has passenger service lines on regular or temporary basis with ports such as Bari, Ancona, etc.

**General cargo terminal** - General cargo terminal is located on Piers 1 and 2 that are, in terms of space and technically, qualified and equipped for acceptance and dispatch of all types of general cargo. General cargo terminal includes closed and open storage systems, handling-operational and traffic surfaces. On the terminal there are complete horizontal and vertical mechanical equipment with 15 portal cranes with carrying capacity ranging between 3÷20 t and quay that is 1 370 m long with average depth of sea up to 10 m. Within the Terminal there is a cold-storage facility with app. 7.800 m<sup>2</sup> net area.

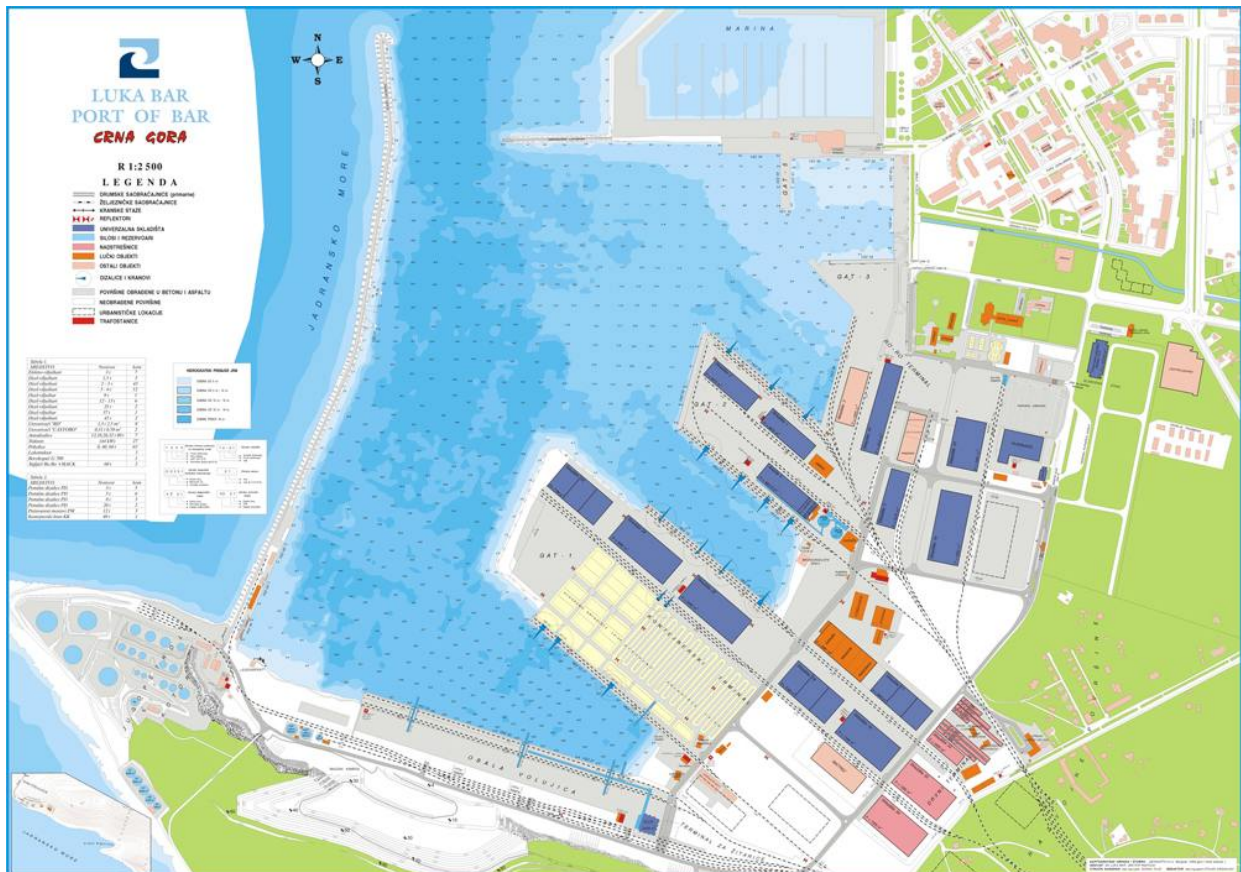


Figure 3: Map of the Port of Bar

## Method of census

In Montenegro logistic network is not yet developed up to the required level and there are no so many logistic centres important for this research, and the method used for the census was implemented in two phases:

1. Initial contact and data collection phase

Initial contact with Port of Kotor (Port of Bar is partner in WATERMODE project) started with short description of the WATERMODE project and Questionnaire for the census has been presented. After that, Questionnaires were filled by representative of the ports and send to the Port of Bar.

2. Completion of the questionnaire

All answers are reviewed and additional contact has been made for additional explanation of few questions.

## Issues encountered

The main problem of the census was the low number of operational logistic facilities in Montenegro. There were no difficulty in order to made contact with person in charge for giving information for our Questionnaire.

## Innovations / Plans for the Future

In general, investments planned in future are in port infrastructure and superstructure, whose realization is supposed to complete optimization of utilization degree of current facilities of the ports, development of new facilities in accordance with requirements of service users, optimization of relation Port-service users (optimization of port services quality level,...), development of environmental protection system and so on.

In the Port of Kotor main investments are:

- Extension of the operational quay by installing bollards on appropriate distance what will provide reception of the largest cruisers of newest generation ;
- Construction of modern border crossing area ;
- Construction of Administrative building with the area of app. 450 m<sup>2</sup> ;
- Technical- technological furnishing of the port and marina ;
- Preparation of the conceptual design for the most optimum port for ferryboat;

In the Port of Bar main investments are:

- Purchase of mechanical units – general objectives of the investment relate to reduction of efficiency limitations in business operations that are associated with insufficient reliability of available mechanical units, insufficient capacity of available mechanical units, high maintenance costs, insufficient number of units compared to demands of service users and technologies for realization of such demands and similar;
- Modernization of gantry cranes – general objectives of the investment relate to elimination of problems associated with low level of reliability of gantry cranes in operation, to increasing daily handling rates, to reduce high maintenance costs and so on. The investment comprises modernization of the steering system on gantry cranes or more specifically shift to frequency motor steering on cargo lifting, trolley travelling- and lifting boom drives.
- Reconstruction of Cold storage plant – general objectives relate to elimination of problems associated with insufficient available space for storing goods in the so called „minus regime“, etc.
- Building silos for bulk cement – general objectives of the investment are connected with increasing handling and storing capacities for bulk cement in accordance with customers demands.
- Development of environmental protection system - development of systems for reception of waste waters, construction of waste water treatment system on the location planned by Detailed urban development plan of the first phase of economy zone Bar.