

Defining of port gravitational areas as a function of port development

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Introduction

The business operations and development of a port are directly effected by the existence of port gravitational areas, since a port is, for the greatest part a result and reflection of its hinterland which is limited by the range of its gravitational area. A clear analysis of a port gravitational area is a prerequisite for proper functioning and organizing of port systems, for bringing the right business and port policy decisions, as well as being the basic point of departure for making any plan of development, since such an analysis renders insight into whether the port has utilized all its possibilities for attracting cargo, or whether unexploited reserves still exist. To determine and define the gravitational area of a

port means to establish the dimension and limits of a port's hinterland, for whose production of goods intended for overseas exports or for maritime importation of goods to be consumed on that area, the port represents a most suitable point between land and sea transport. In view of this definition, the hinterland that gravitates to a certain port, or respectively, that prefers a specific direction of transport - can be separated into three zones:

- the immediate hinterland adjacent to the coast
- areas that gravitate towards two or more ports within a single country (national market)
- areas abroad which have possibilities to use ports of two or more countries (transit market).

Every port, through adequate measures, strives to strengthen the position of the port in relation to its hinterland, but also to expand the limits of the gravitational areas as much as possible. From the port's viewpoint, the immediate hinterland of a port is the safest and most qualitative gravitational area, since the competition of other ports in relation to the area is least, thus cargoes from and to the area may be counted on and planned with the utmost security. The competitive potentialities of other ports grows with the increase of distance

between the port and business partners in the hinterland, while the positions of the port in relation to more remote hinterland regions declines, therefore necessitating greater effort and caution in business operations and planning in these areas. The national market is a relatively safe area for export and import of commodities via domestic ports, and insight into the state of affairs and development of the national economy is accessible, making it possible to take into account and plan the domestic foreign trade traffic with a relatively high percentage of reliability. But, as far as port traffic is concerned, the domestic substrate is frequently inadequate to employ the installed facilities and create a base for any more significant development of the port.

The transit market is the most flexible, most insecure, but also the most valuable gravitational area of a port system, since transit traffic represents non-commodity exports and produces foreign exchange earnings, on top of attracting considerable quantities of cargo, as a base for further strong development of the port and employment of its capacities. However, in light of the fact that transit partners have, as a rule, possibilities to choose between several directions of transport for the destination of their cargoes, the ports - in view of these gravitational areas - should exert their greatest effort and business efficiency in preserving acquired positions, and respectively, in expanding the activities on the transit market.

1. FACTORS OF RELEVANCE FOR DETERMINING THE DIMENSION OF THE GRAVITATIONAL AREA

The port gravitational area is a changeable dimension that functions through a series of factors which determine the attractiveness of a port to compel the interest of commodity flows, and it is necessary to determine it for each type of commodity separately¹. Here it is important to point out that the limits of a gravitational area are not a single fixed direction on a geographical map, but actually, the limits of a gravitational area are a con-