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Inland water transport in Poland

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Abstract

Water transport is also the most energy effective means of transportation. Diesel consumption by inland waterway for every 100 tonne-kilometres is lower than for other modes of transport – rail or road.
It can be assumed that the main driver of demand for container transport on inland waterways in Poland will be cross-docking in seaports with Polish supporting facilities (including in western European ports). Based on available forecasts it is assumed that level of cross-docking at maritime container terminals in Gdansk and Szczecin – Świnoujście port complex accessible to inland waterway transport will develop by 2027 at 2.57 million TEU per year. Inland waterways could potentially participate in handling the transport of these cargoes to business support facilities (competing with road and rail transport).

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1. Is inland waterway transport innovative?

Innovation is any change that improves something, giving it a new quality, or allowing the creation of a new product or service. Joseph A.Schumpeter in his definition of innovation focuses on new combinations of production factors. In his view, innovation is the introduction of new products and new methods of production, the opening of

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a new market, the acquisition of new sources of raw materials, and finally the implementation of a new means of organising business processes.

Inland water transport developed in ancient times, when in the 25th century BC the Nile was used to transport building materials for the construction of the pyramids at Giza. It was also used in Poland many centuries later. During the early middle-ages, the Vistula was used as a waterway to transport mainly salt, both upstream, imported from Gdańsk, and downstream, from the mines in Bochnia and Wieliczka and from Ruthenia. Later on, copper was transported down the Vistula on boats from mines located in present-day Slovakia. In turn, the end of 19th and beginning of 20th centuries saw the rapid development of the Oder Waterway. It was then that the stretch from Koźle to the mouth of the Nysa Kłodzka was canalised and 12 barrages were constructed with locks. In the years 1907–1922, as part of the second stage, a further 10 barrages were constructed. In 1973, approximately 2900 boats passed through the lock in Brzeg Dolny going upstream and the same number downstream (statistical data, Regional Water Management Authority Wrocław).

So what makes it worthwhile looking at this traditional, and seemingly not very innovative, means of transport?

2. The benefits of inland waterway transport

Before I discuss the undoubted advantages of this type of transport, I should briefly mention its main weakness, namely its slow speed.

In today's world, where the emphasis is on time, one cannot usually permit the delivery of a product after a few days or a few weeks. The Antwerp – Bonne route is covered by barges in 3 days, while the Rotterdam – Avelgem route takes 18 hours. In the case of road transport, the 230 km from Antwerp to Bonn can be overcome in less than three hours, just like the 201 km from Rotterdam to Avelgem (http://www.containerafvaarten.be). In the current world, this slow speed is undoubtedly a drawback for water transport.

Of course, the delivery of goods can be planned to take into account the longer time needed for their transportation. This is what happens with transport by sea – it does not pay to transport all goods by air. However, in most cases, goods must be delivered quickly on a specific date. In this case inland waterway transport loses out to road, rail or air transport.

In Poland, in 2014 out of a total amount of 1,840 million tonnes of cargo – 1,548 million tonnes were transported by road transport, 228 million tonnes by rail, 50 million tonnes by pipeline, 7.6 million tonnes by inland waterway transport and 6.8 million tonnes by sea transport (Transport. The results of activities in 2014, Central Statistical Office of Poland [CSO]). Inland water transport accounted for only 0.41% of total transport.

However, there are products, for which it does not pay or which are even impossible to transport by road or rail. These are bulk goods, including containers and bulky items.

2.1. Bulk goods and large sized cargoes

At present, most of the goods transported by inland waterway in Poland is made up of bulk goods. The most important products transported by inland waterways in Poland are sand, gravel and coal and other mining and quarrying products. These goods account for about 66% of the cargo carried by inland waterways in Poland (in the EU they constitute less than 30% of cargo transported).

A considerable share of inland water transport in Poland is taken up with the transport of large sized and non--standard sized cargoes. In the case of cargoes, such as ship hulls or equipment for the power sector, inland water transport has a significant advantage over road or rail transport.