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SPS Sea Port
Concept Statement

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1 Introduction

SPS sea port concept design and construction are presented in the statement. SPS sea port is the best solution of solving the problem of the shortage of deepwater port facilities intended for small- and middle lump iron ore haulage.

Sea transport is the backbone of the world trade and globalization. More than 80 per cent of world trade goods and products are transported by sea. At the same time bulk cargo haulage accounts for about 40 per cent of the total volume of goods transported by sea. Understanding of this segment of shipping provides the idea of commodity sector state, which has strong influence on our modern life. Despite iron ore, which being melted and recreated turns into consumer goods, and phosphates, which are used to fertilize corps, this sector covers five main bulk cargoes (iron ore, grain, coal, bauxite and phosphates). Bulkers are used to carry these goods. There are the following types of bulkers: Capesize (dwt 83,000 – 200,000 tons), Panamax and Kamsarmax (dwt 57,000 – 82,999 tons), Super Handymax (dwt 36,000 – 56,999 tons) and Handysize (dwt 30,000 – 35,000 tons). Iron ore is currently transported by Capesize bulkers.

Bulk cargo transshipment from rail transport, road transport and other modes to vessels is implemented at sea ports. Depending on their application and appointment, sea ports may be divided into complex ports (see Fig.1) and specialized ones. Large volume of iron ore is usually overloaded to bulk cargo holders at specialized iron ore ports (see Fig.2). They are characterized by huge stockpiles equipped with rotary dampers of rail wagons, stackers, bucket wheel excavators, conveyor equipment, irrigation system and other auxiliary equipment (see Fig. 3).

Fig. 1 Complex sea port (Kokkola, Finland)

Fig. 2 Iron ore loading sea port (Hedland, Australia)