

# Using SWOT and risk analysis in prevention of coal dust emission during its transportation in Tallinn ports

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## **Abstract**

The Muuga Coal Terminal in Tallinn together with the transportation of coal accounts for a substantial part of Estonia's income. The port is situated very near to the garden-town and represents a big pollution problem for people living there in summer or all year around. SWOT and risk analysis were used in the present study to establish a Multi-Dimensional Risk Assessment Model RAM-MD(3). The RAM-MD model enables the analysis the following aspects in global systems: the consequences of hazards on human life and health; on the environment (sea, nature pollution) and on the property.

## **Introduction**

On the 1<sup>st</sup> of May 2004 The Baltic Sea became an inner sea of Europe. Estonia is the eastern border of The European Union since then, and it plays a role of a bridge between Russia and the united Europe. Estonian legislation supports the development of business and active innovative politics.

The construction of the Muuga Coal Terminal (Muuga CT) enhances the economics of the country, improving the collaboration between Estonia and Russia that makes it mutually beneficial both for European Union and Russia. The Muuga CT in Tallinn including the transportation of coal accounts for a substantial part of Estonia's income. The Muuga CT equipment has a high productivity profile. The coal unloading speed at the Terminal is approximately 20 wagons of 60 tons each per hour while the loading speed is 1800 tons per hour. The hole storage area provides a capacity of simultaneously keeping up to 750 000 m<sup>3</sup> of coal and three moorages with sum length of 770 metres and depth of 11 to 17 metres. The last number, a depth of up to 17 metres, is one of the advantages of Muuga CT over other portal terminals situated on the Baltic Sea. That assures serving practically all vessels passing through the Denmark Strait.

In D. de Waard, G.R.J. Hockey, P. Nickel, and K.A. Brookhuis (Eds.) (2007), *Human Factors Issues in Complex System Performance* (pp. 455 - 460). Maastricht, the Netherlands: Shaker Publishing.