

Towards Interoperability in the European Railway System – Evaluation of Promising Strategies within the REORIENT Project

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Within the European Commission's 6th Framework Programme, the REORIENT project is investigating ways to provide seamless international rail freight transport, in order to make rail transport more attractive and increase the amount of freight being transported by rail. The project is focusing on a selected freight transport corridor that connects Scandinavian countries with Southeastern Europe via a corridor through Poland, the Czech Republic, and Austria. In order to achieve its objective, the REORIENT Consortium developed a methodology that includes surveys, data collection, network modeling, and evaluation tools. This presentation will present an overview of these methods and focus on the planned project activities to evaluate a number of promising strategies for improving international rail freight transport.

The strategy evaluation scheme consists of three core components: (a) the assessment of socio-economic costs and benefits, which will produce a quantification of key social and environmental indicators, (b) the assessment of costs and benefits to businesses, which will produce key business indicators, and (c) an integrative overall assessment, which will create in-depth knowledge about the welfare and distribution effects of proposed measures.

For the integrative overall assessment, we have proposed using the multi-criteria decision aiding approach ELECTRE III. It allows the ranking of strategies when values of indicators are uncertain (e.g. outcome indicators of freight-demand-modeling), handling trade-offs among the indicators and incorporating indicator scores on different scales without converting all indicators into the same units. With the application of a multi-criteria decision aiding approach for the integrative assessment, the proposed methodology overcomes serious drawbacks that arise if rankings are established exclusively on the basis of cost-benefit-analysis. Experiences from developing a appropriate software tool to carry out the ELECTRE III procedure and to perform robustness analysis will be explained.