



Transport and Telecommunication, 2021, volume 22, no. 3, 332–342
Transport and Telecommunication Institute, Lomonosova 1, Riga, LV-1019, Latvia
DOI 10.2478/ttj-2021-0026

A DIGITAL OR SUSTAINABLE SMALL AND MEDIUM-SIZED PORT? SUSTAINABLE PORT BLUEPRINT IN THE BALTIC SEA REGION BASED ON PORT BENCHMARKING

Christopher Meyer^{1,2}, Laima Gerlitz², Robert Philipp², Vytautas Paulauskas³

¹*Tallinn University of Technology, Ehitajate tee 5, 19086 Tallinn, Estonia*

²*Hochschule Wismar, University of Applied Sciences: Technology, Business and Design, Philipp-Müller-Str. 14, 23966 Wismar, Germany*

³*Klaipeda University, H. Manto g. 84, 92294 Klaipeda, Lithuania*

christopher.meyer@hs-wismar.de

laima.gerlitz@hs-wismar.de

robert.philipp@hs-wismar.de

vytautaskltc@gmail.com

Small and medium-sized ports (SMSPs) in the Baltic Sea Region (BSR) are caught in a dilemma of less financial support by the European funding programmes due to their peripheral position in the TEN-T Core Network. Most of the BSR ports belong to the TEN-T Comprehensive Network, which is rationally less important in the topical financial, infrastructural and policy discourses. Despite this, BSR ports are of a colossal importance for the regional economic development serving as gateways for the individual regions and drivers of socio-economic and environmental transition. In addition, ports are essential in pursuing new innovation avenues. The environmental targets published by the European Commission for maritime sector in 2030 and 2050 are applicable for SMSPs as well, creating further obstacles and future challenges on the one hand, but opening new horizons to grow and innovate on the other one. A successful environmental and digital transformation going hand in hand in SMSPs enable sustainable boost of sustainable development. Thus, as a first step, the assessment of sustainable readiness in SMSPs is incumbent in order to implement tailor-made solutions on individual basis, by ensuring efficient usage of available resources and capabilities. In line with the Connect2SmallPorts project, part-financed by the INTERREG South Baltic Programme, 38 SMSPs in the BSR were approached to mapping their digital readiness according to the methodology of the Digital Readiness Index for Ports (DRIP), published within the project in 2020. Building upon this, this paper introduces the idea of digital and environmental twinning to conclude on sustainable development potentials in SMSPs with an adaptation of the DRIP score. Hence, the research contributes to the sustainable port concept and illustrates the positioning of SMSPs in the progress of sustainable development.

Keywords: Small and medium-sized ports, Baltic Sea Region, sustainable port, Digital benchmarking, sustainable development

1. Introduction

European seaports are in process of digital transformation identifying high potentials for performance improvements. As logistical and trans-national nodes in global supply chains, ports are crucial for economic development on regional, national and European level. Hence, they are facing increasing pressure on optimising their activities with respect to not only economic but also energy and environmental obstacles.

In this vein, recent discourse on port development is focusing on greening port measures (Castellano *et al.*, 2020; Hua *et al.*, 2020; Munim *et al.*, 2020; Sadek & Elgohary, 2020). Following this stream, the idea of twinning digital and environmental activities has been elaborated by recent research outputs (Gerlitz & Meyer, 2021; Zhou *et al.*, 2021) with the overall objective to change the perspective on ports towards sustainable and smart development, utilising digital technology applications.

New initiatives such as the European Green Deal (EGD) or Sustainable and Smart Mobility Strategy of the European Commission are fostering and demanding a more sustainable development of ports, but also increase the pressure on seaports in terms of indicators to be achieved in 2035 and 2050. In addition, the United Nations 17 Sustainable Development Goals (SDGs) are producing additional challenges for seaports (Alamouh *et al.*, 2021; Wang *et al.*, 2020). To be more precise, the environmental target values are applicable for seaports as well, which requires mainly prototyping, piloting and capacity building according to the “Energy Technology Perspectives 2020” report published by the International European Agency.