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Policies and measures in support of intermodal transport:
Measures to promote efficiency of intermodal transport and
bottlenecks in intermodal transport services at the pan-European level

Case studies on automation and digitalization in intermodal freight transport and logistics

Submitted by the Netherlands

Introduction

The case study in annex is submitted by the Netherlands to supplement those provided in ECE/TRANS/WP.24/2024/6 and should be read in conjunction with the aforementioned document.

Annex

Case studies

I.   Solutions for business analytics

G.   Nextlogic – submitted by The Netherlands

Keywords: Supply chain optimization, Rotterdam

1.   Objective

Nextlogic started as a programme in 2012 as an initiative by and for inland container shipping in the port of Rotterdam. The aim was to improve the handling of inland container shipping due to congestion. In 2018, the programme was phased out and Nextlogic became a limited company (BV) with the Port of Rotterdam Authority as a shareholder.

Through a neutral, integrated planning approach, Nextlogic improves every visit of inland container shipping in the Port of Rotterdam. The more terminals, empty depots, barge operators, and their skippers participate and fully adhere to the integrated planning, the more efficiently everyone can operate. This allows terminals and depots to optimize their available capacity and reduce the port stay of inland vessels. The realization of integrated planning is a gradual process. By learning, the port of Rotterdam work together with market parties towards continuous improvement, leading to greater efficiency, speed, and a more reliable inland shipping chain for all participants.

In 2023, after a 1.5-year pilot phase, Nextlogic transitioned to a regular service in the port of Rotterdam. Since then, the focus has been on scaling to 100 per cent of the market parties and continuously optimizing the integrated planning.

2.   Application, benefits and costs

The algorithm that creates the integrated planning is driven by over 40,000 daily updates from the port community. Updates come from barge operators regarding visit and cargo information, and from terminals, Nextlogic receives quay capacity and crane performance. In order to improve accuracy and less dependency on manual input, an automatic identification system is used to track the whereabouts of inland vessels. Over 100 parameters, determined in collaboration with the market, are continuously assessed, including port stay time, optimal route, quay occupancy, staffing, and distance to a terminal. Data show that since 2021, port stay time has decreased by over 20 per cent, alongside with a 25 per cent increase in booking accuracy and an enhanced asset utilization at some of the deep-sea terminals by 20 per cent. These improvements lead to faster container handling and a reduced environmental impact.

To date, a total of 25 million euros has been invested in Nextlogic to achieve these advancements.

3.   Lessons learned

A key lesson learned is the importance of recognizing changes brought about by digitization. It is crucial to involve relevant market parties early on to create awareness and gain support from their workforce for potential new workflows. Without early engagement and commitment from these stakeholders, such processes risk significant delays or even failure.

More information: https://www.nextlogic.nl/