



Helping the winners of the future

by Jaana Niemi

In August 2023, Nortal, a multinational digital transformation and strategic change company that has been digitalising ports for more than 20 years, announced cooperation with MODI, an international leader from Germany in biometrical vision and entrance solutions. This partnership means a leap forward to providing a groundbreaking passenger experience across European and North American ports.

Nortal has extensive experience bringing the port, ferry, cruise and maritime cargo sectors on board the digital revolution. The Smart Port solution – the company’s innovative answer to streamlined port management – blends service design, data, the Internet of Things (IoT), and automation to redefine interactions from digital environments to physical contact points in terminals.

Staying relevant and efficient

The Smart Port solution includes terminal management and gate operating systems, a digital check-in, and terminal automation components – an overall setup built and continuously developed based on market feedback and needs. Nortal has successfully implemented its solutions in more than 15 Baltic seaports.

Among many, the Smart Port system has improved efficiency and brought significant environmental savings at the Port of Tallinn: a 44% reduction in waiting times during check-in & boarding and a 95% faster pass-through rate in automated lanes (max two seconds), resulting in shorter turnaround times for ferry operators. The system also brought about a 75% reduction in terminal

operational staff (check-in and marshalling); very high passenger and employee satisfaction; comprehensive real-time access to terminal data (personalised for different internal and external stakeholders); and optimal use of terminal space (e.g., serving several parallel operators and departures and the ability to add additional departures).

The results are achieved through a ‘factory-like’ system that automatically collects all traveller and vehicle data without stopping (including license plate numbers, vehicle weight & dimensions, and the like). The system also guides traffic through the terminal more efficiently and sustainably by using IoT-controlled automatic gates, traffic lights and screens. It also dynamically adjusts the terminal space to fit the loading requirements of the next vessel, and precisely sorts the vehicles into various loading groups as requested by the ferry operator.

“We see ports struggling with lack of efficiency, poor passenger experience, meeting sustainability goals and getting on track with the data game in our everyday work,” says Kadri Haufe, Head of Smart Port Advisory at Nortal. She further, “Uncertain volumes development coupled with a highly competitive landscape requires ports to keep adapting to

stay relevant and efficient. The winners of the future will be the most efficient players.”

Flowing freely

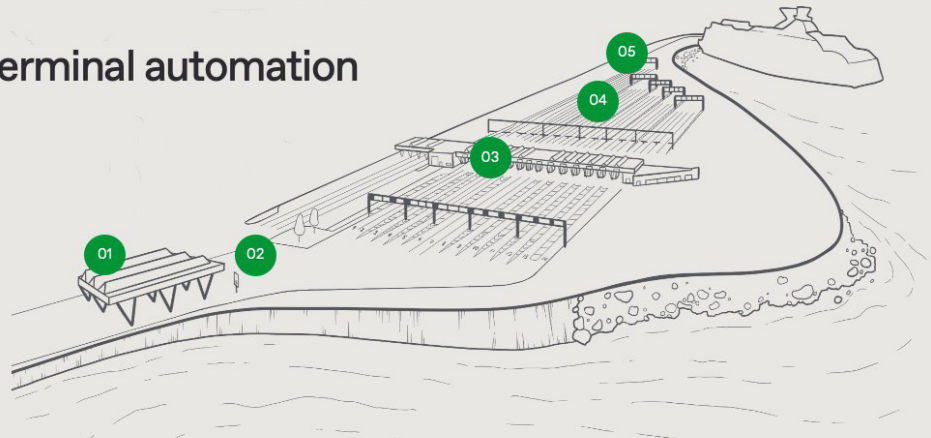
Nortal is continuously looking for opportunities to support and future-proof ports. While the company has a hardware-agnostic software solution that can easily integrate with legacy and most modern solutions, it prefers best-in-class, proven and tested technology that brings real value to the process. “Cooperating with MODI fits these principles perfectly. We aim to help ports achieve high-level efficiency, provide excellent customer experience, and meet their sustainability goals. Cooperation with MODI supports each of those elements,” underlines Haufe.

MODI, Nortal’s cooperation partner, has specialised in biometric systems and identity validation tools for commercial and government applications worldwide for over two decades. MODI Vision has developed a free-flow, on-the-move facial recognition with a unique, patented camera technology (currently the most innovative technology in terms of speed, resolution, and image quality). “After we introduced the Paperless Airport already years ago, MODI GmbH is now focusing strongly on the port of the



RoPAX & Cargo terminal automation

The Smart Port solution provides a holistic view of terminal operations to support every team's unique needs.



01

Automatic data gathering about vehicles and PAX to **check compliance with the booking** (incl. license plate, weight, dimensions, damage, no. PAX, identity etc.).

02

Personalized driving directions after entering the port area. LED displays guide each driver through the check-in and collection area.

03

Check-in area with automated check-in procedures based on vehicle license plate recognition. No need to show the ticket. Stopping max 2 sec.

04

Automated traffic management in gathering area. Marshalling done automatically (no staff on ground), dynamic loading area mgmt etc.

05

Loading & discharge support. Real time overview of loading statuses and remaining vehicles. Controlling all hardware through simple UI.

Photo: Nortal



Photo: Kaupo Kalda

future. MODI, in collaboration with Nortal, will carry out this necessary development for the maritime industry in the digital age," shares Dieter Klawunder, CEO of MODI. He also notes, "The biometric facial recognition offers several advantages, including a much more convenient boarding process for passengers. Verifying passport data and secure identification also significantly enhance security and improves flow at the border control points in the ports."

Nortal and MODI have developed an initial concept with integrated biometric facial recognition for ferry ports and cruise terminals. For passengers and drivers, this solution would first mean enrolling their biometric information (taking a selfie) and

verifying their travel documents before arriving at the port, then just passing the identity verification control cameras in free flow (i.e., without stopping for verification). If the pre-enrolment is done and the passenger is recognised, there's no additional activity required for identity verification at the port – neither from passengers nor from staff. This is a revolutionary upgrade from the technology we're starting to see

in bigger airports, which requires standing in a precise location and looking into a single camera.

The Nortal-MODI solution will be used for foot passengers, vehicles, and staff entrance controls. The solution will most benefit frequent travellers who can use the same enrolment over extended periods (e.g., six months). In case the individual does not have a chance to pre-enrol home or on borders with specific security standards, the option will be present in the terminal in the form of self-service kiosks.

From the technical perspective, this system involves a specialised camera, a user interface for enrolments, a matching back-end for identity verification, and integrations with the Smart Port system.

The joint offering will allow ports to provide a seamless passenger experience and achieve high efficiency by removing manual information processing for passengers and cargo. Both companies are confident that their combined product portfolio and digital concepts will establish the port of the future as highly secure, smart, and passenger-friendly. ■



Nortal

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