

# NAVOZYME

## Facilitating the Digital Transformation of the Global Maritime Industry

Navozyme is an award-winning technology scale-up on a mission to accelerate the digitalisation and decarbonisation of the global maritime industry. A Singapore headquartered company, Navozyme has entities in Barcelona, Spain, and a Centre of Excellence in Bilbao.



The company works with a wide set of actors within the maritime ecosystem to create blockchain and AI solutions aimed at reducing complexity and friction for critical maritime processes. Beneficiaries of Navozyme's products include Port Authorities, Shipowners, Agents, MARPOL Operators, Maritime Training Institutions, and Seafarers. Navozyme's solutions facilitate the real-time interchange of authentic data amongst various actors enabling decarbonisation, higher productivity, enhanced compliance and cybersecurity. Specifically, the company's solutions enable:

1. Quicker ship turnaround via smarter Port Call Administration, including Port Clearances, Ships' Waste Declarations and Bunker optimisation.
2. Seafarers' Certificates Management.

### DIGITAL TRANSFORMATION OF MARITIME CERTIFICATION PROCESSES

Navozyme was commissioned to assist with the digital transformation of Philippines' leading maritime institution, MAAP (Maritime Academy of Asia and the Pacific). MAAP is supported by the Philippines Seafarers' Union (AMOSUP) which consists of about 200,000 members, one of the largest representations of seafarers globally. Typically, maritime certificate issuers (Flag States and Maritime Training Institutions) and certificate receivers (largely seafarers) suffer through several pain points due to the paper-based certificate processes. Paper certificates are vulnerable to security issues, including loss, damage, and forgery, and also require extensive processing times. Furthermore, paper certificates allow fraud to proliferate because their authenticity cannot be guaranteed in real-time.

*The Navozyme team presents N-Bunker at the DigiCirc Finals in Deloitte's Milan Office, March 2023*

Navozyme pioneered the use of Blockchain Enabled Electronic-certificates (BEEs). Each BEE contains a unique hash and digital fingerprint, offers advanced security features, and provides real-time validation of data via distributed networks. MAAP adopted this technology to facilitate the management of seafarers' credentials. Consequently, the digital identity of the seafarers and their maritime training certificates are now easily verifiable. Seafarers are also able to carry their credentials in a secure form on their mobile wallets. Navozyme partnered with Hochschule Bremen (HSB) on a pilot project to enhance process efficiency related to maritime certifications – the project estimated that digitalising certifications reduced 15,000 waiting days and saved 13,000 paper sheets.



## N-MAP S

Navozyme aims to facilitate the digital transformation of the global maritime industry via deeptech solutions. One of Navozyme’s products, N-MAP S (Maritime Authentication Platform) has had positive effects for the port call ecosystem with considerable impact in 3 key areas: Safety, Sustainability, and Productivity. N-MAP S has improved safety, eliminating 18,000 physical contact points, and enhanced decarbonisation by eradicating 6,200 metric tons of CO2 and getting rid of 27,000 papers. Furthermore, N-MAP S has saved 3,500 admin hours and 10,200 hours of waiting time, ameliorating productivity. Consequently, N-MAP S has facilitated the quicker turnaround of ship vessels, drastically reducing waiting time and wasted fuel burn. These metrics indicate how Navozyme’s solutions directly enable digital for sustainability goals in a myriad of ways.

## ARTIFICIAL INTELLIGENCE

Navozyme is trialling an AI-ML algorithm for facilitating Just-In-Time (JIT) bunkering in the Port of Algeciras. The planning tool incorporates the Estimated Time Arrival (ETA) predictions for calling vessels with the bunker supplier and pilots plans to generate an optimal time window for bunkering operations. The aim is to reduce port congestion and wait time, eliminating wasted fuel burn which in turn will considerably reduce the GHG emissions in the port area.

*Navozyme at the startup event of the MWC-4YFN, April 2023*

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