



MPA
SINGAPORE

Sustainable Port Development through Digitalisation, Decarbonisation & Disruption

David Foo, Snr Director, Operations-Technology



Sustainable Port Development

DISRUPTION

1. The process of changing how we think, behave and do business;
2. The displacement of an existing market, industry or technology.

DECARBONISATION

The conversion to an economic system that sustainably reduces and compensates the emissions of carbon dioxide (CO₂).

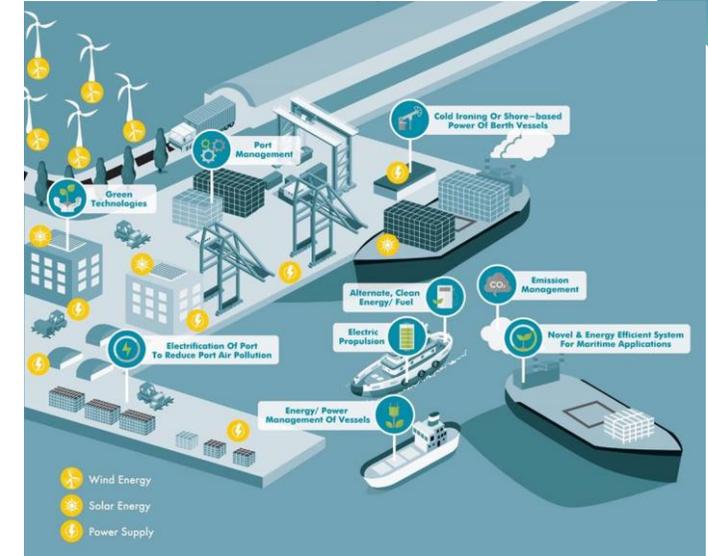
DIGITALISATION

1. The use of digital technologies to change a business model and provide new revenue and value-producing opportunities;
2. The process of moving to a digital business.

Nurturing Talents & Developing Solutions for Maritime Sustainability

Maritime Energy & Sustainable Development Centre of Excellence (MESD CoE)

- Maritime Energy & Sustainable Development Centre of Excellence (MESD CoE) is jointly funded by Singapore Maritime Institute (SMI) and Nanyang Technological University (NTU).
- With the focus on future port and shipping applications, MESD CoE aims to develop innovative and sustainable solutions by working closely with all the key stakeholders within the maritime cluster.



Scope of MESD CoE

Maritime R&D as a Career Option

- Funding support to sustain a core R&D team
- Exchange program with collaborating partners

Manpower Training

- Internships for undergraduates and polytechnic students
- Complementing existing maritime related courses

Research Excellence

- Focus on key R&D Areas
- Visiting experts from industry partners
- Thematic R&D programme

Taking Action on Decarbonisation Initiatives

NextGEN Carbon-free Initiative

- To co-ordinate and spur global efforts, the [IMO](#) and [MPA](#) introduced “NextGEN”, a concept for a collaborative global ecosystem of maritime decarbonisation initiatives.
- Aims to [facilitate information sharing](#) on decarbonisation initiatives across stakeholders, fully developing a common platform for collaboration by [2023](#).

Electric Harbourcraft

- To support Singapore’s harbourcraft industry’s transition towards a low-carbon future, [MPA](#) and [SMI](#) have launched a joint call for proposals on the [electrification of harbourcraft](#).
- A total of [S\\$9 million](#) from the [Maritime GreenFuture Fund](#) will be set aside to co-fund such harbourcraft projects.



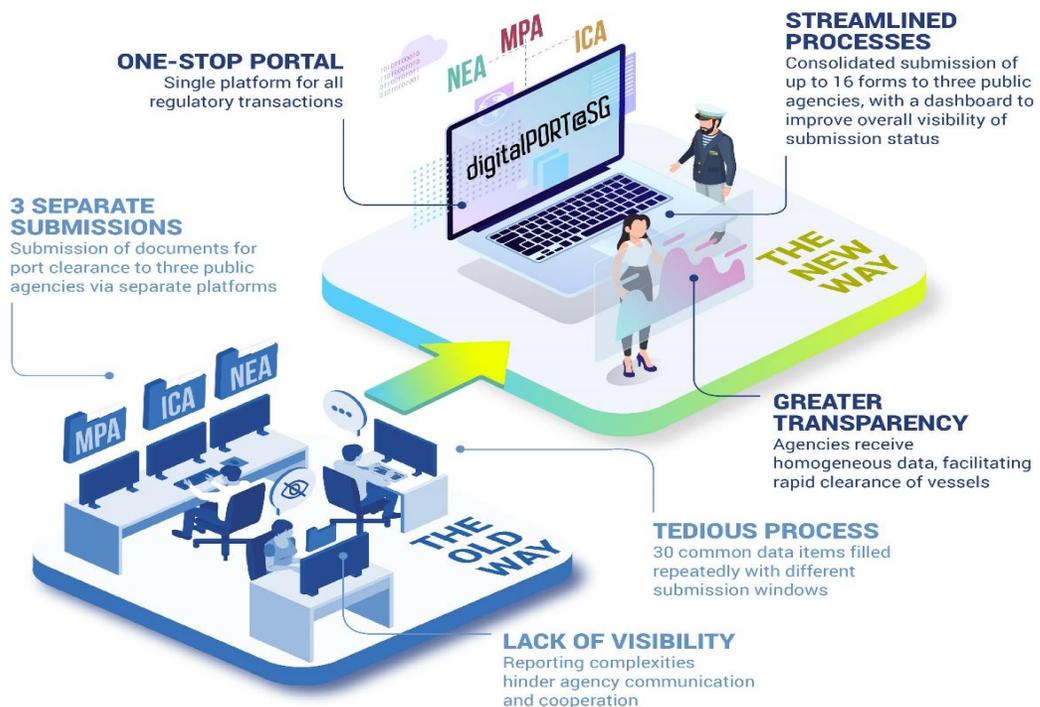
Encouraging Cleaner Fuels

- Enhancements to [Green Port Programme \(GPP\)](#), allowing for even more concessions for vessels using LNG as a marine fuel in Port of Singapore.
- Grant of up to S\$2 million for each newly built LNG-fueled vessel to encourage the switch to LNG.

Optimising Port Operations and Space

digitalPORT@SG™

PHASE 2



Just in Time (JIT) Port Operations

- Enable JIT arrivals, departures and marine services from a port-centric approach for all stakeholders along the maritime value chain
- Enable all vessel scheduled activities dashboard to achieve high performance in operations efficiency



Sea and Anchorage Space Optimisation

- Optimise sea space for competing needs to support future growth of Singapore port
- Minimise delays and wait times at anchorage by enabling advance planning, information visibility and communication among port community stakeholders

Foster Global Interoperability through Open/Common Data Standards and API Exchanges

digitalOCEANS™



Data Standardisation

Promote open data standards to act as data bridge among various community stakeholders, global networks and digital platforms



Platform Interoperability

Global connectivity platform that goes beyond form-based submissions to enable true system-to-system integration



Global Connectivity

Interoperate with national single windows and digital platforms to facilitate global flow of information and reduce inefficiencies



M P A
S I N G A P O R E



MARITIME
SINGAPORE

For Discussion