

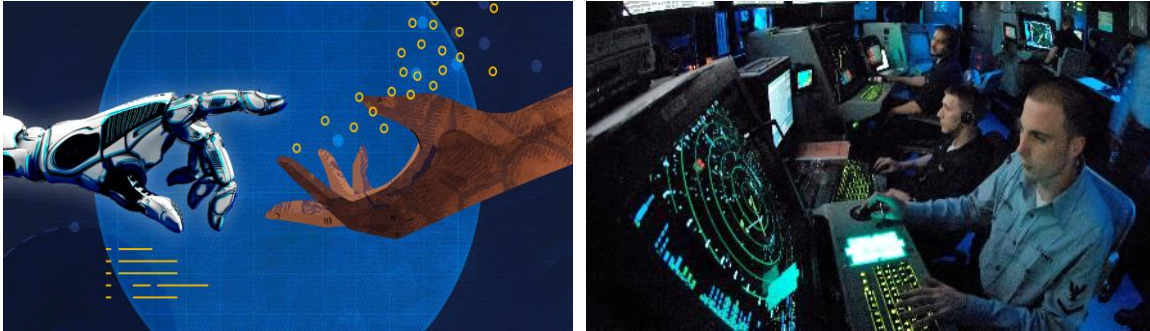
Successful models of inclusive innovation

IMO Innovation Forum

Mr Kenneth Lim, Assistant Chief Executive (Industry), MPA

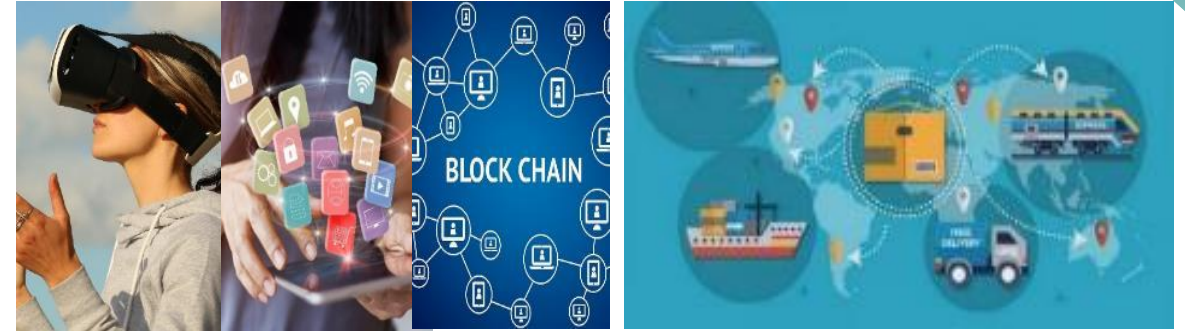
The Maritime sector needs Innovation as an engine of growth

Digitalisation



Increasing pace of digitalisation & automation. Opportunities to improve efficiency of navigation & maritime safety & security

Disruption



Rise in new business models, shifts in global supply chain, changing market structures

Decarbonisation & Environmental Protection



Increasing global pressure on businesses to decarbonise. Prevention and control of marine pollution from ships.

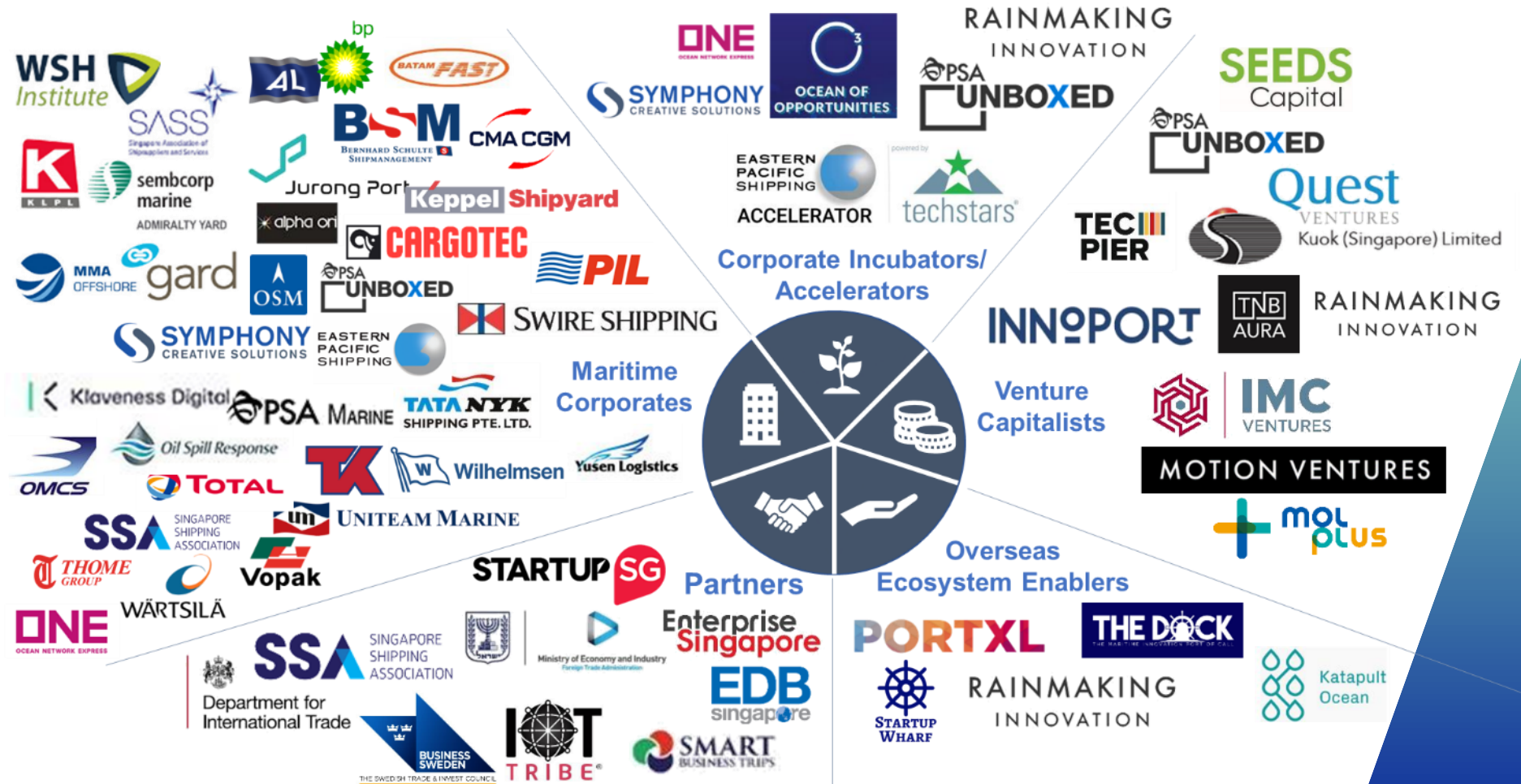
Adopting an Ecosystem Approach to Tackle These Challenges

An Ecosystem Approach to tackle these challenges Bringing together Demand and Supply

PIER71

PIER71™: Port Innovation Ecosystem Re-imagined @ BLOCK71

- > 60 start-ups accelerated
- 32 received grant funding
- 13 solutions deployed in maritime sector



An Ecosystem Approach to tackle these challenges Bringing together Stakeholders across the Value chain

Global Centre for Maritime Decarbonisation



- Platform for tech development, test-bed and trials
- Joint Industry Projects (JIPs)
- Knowledge Sharing

6
MOU Partners



31
Expressions of
Interest



An Ecosystem Approach to tackle these challenges Bringing together Players across the Ecosystem

DigitalOCEANS™

digital  CEANS



Foster global interoperability across the maritime transport chain through Open/Common Exchange And Network Standardisation for efficient data exchanges and service integration across the global digital platforms, and create new business opportunities for Port of Singapore

- Enhance Port Efficiencies
- Expand Digital Connectivity
- Create New Business Opportunities & Catalyse Ecosystem Development

CargoSmart®

GTD
SOLUTION

PSA
The World's Port of Call

GeTS

Port of
Rotterdam

DIGITAL
CONTAINER
SHIPPING
ASSOCIATION



Where We are Today

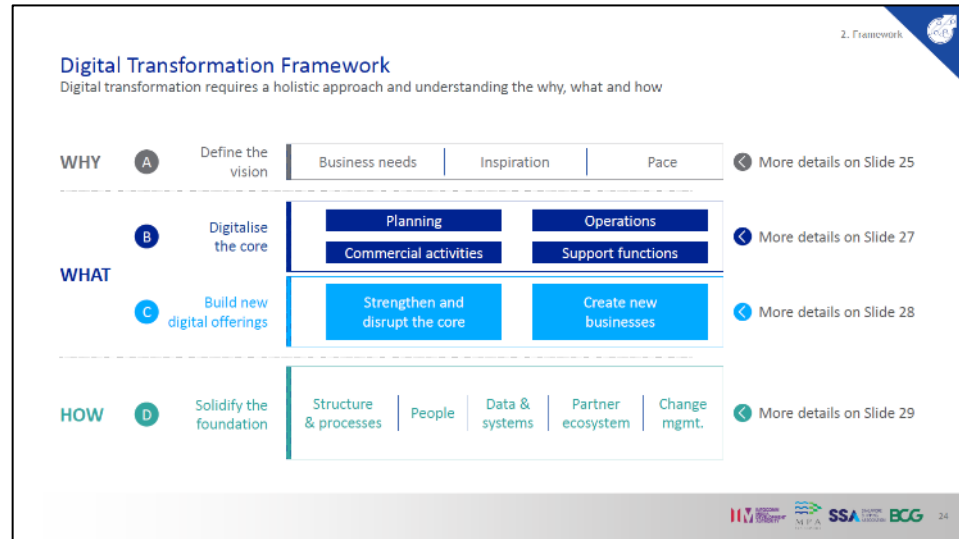
- Established MoU with strategic partners
- Developing Port Clearance API standards
- Developing technical standards referencing IMO's FAL compendium (non-technical)

Inclusive Innovation: For IMO Members' Consideration

Playbooks to serve as a Guide

Maritime Digitalisation Playbook

MPA, Singapore Shipping Association, Infocomm Media Development Authority, Boston Consulting Group



Shipping Lines



Shipping Agencies



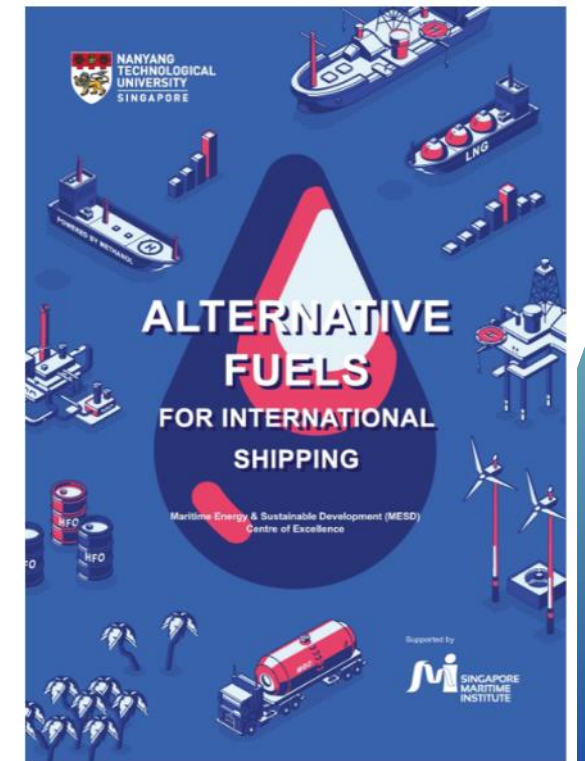
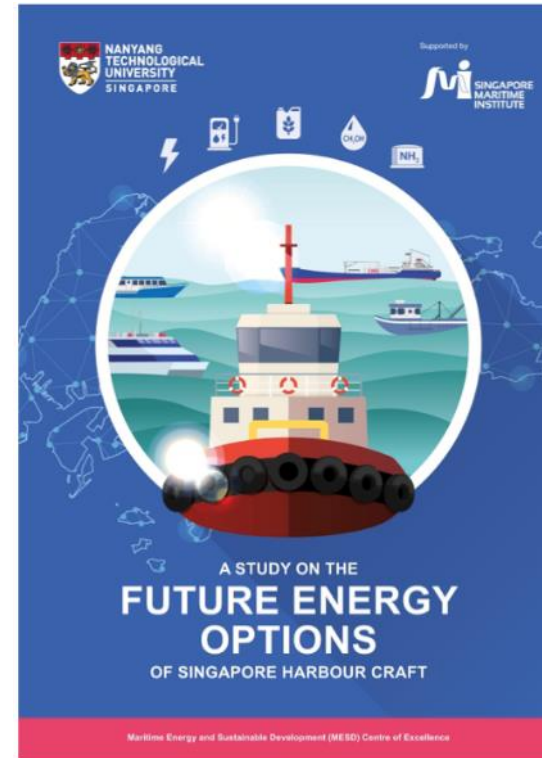
Ship Management



Harbour craft

Decarbonisation Guide

Centre of Excellence in Maritime Energy and Sustainable Development @ Nanyang Technological University



Innovation Processes and Infrastructure

Maritime Innovation Process

PIER71



SSA SINGAPORE SHIPPING ASSOCIATION

SMF Singapore Maritime Foundation

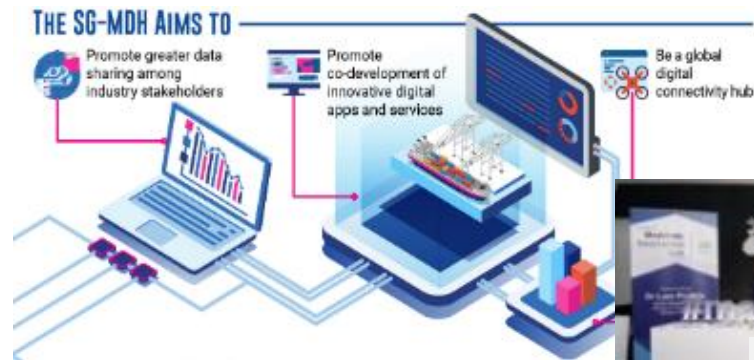
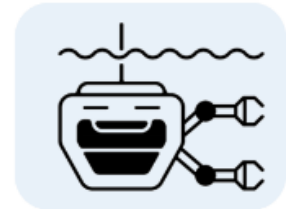
Distilling Industry Problems to Solver Communities

Short-Term
- Students

Short/
Medium-Term
- Startups

Long Term –
R&D
community

Enabling Infrastructure for Innovation



Singapore Maritime Data Hub



Possible avenues of collaboration for all IMO members

Joint Authorship of Playbooks



Maritime Digitalisation Playbook

Decarbonisation IAP Report



Sharing of Industry Challenge Statements

PIER71 Smart Port Challenge 2021



Examples of industry-wide challenge statements:

- Ensuring drinking water quality onboard vessels
- Monitor, detect and improve workforce physical & mental health in maritime sector

Contributing to inclusive decarbonisation through NextGEN



- Contribution of project information to NextGEN database
- Participating as a stakeholder in NextGEN workshops and workstreams
- Seeding collaboration for capacity-building and technology transfer



MPA
SINGAPORE



MARITIME
SINGAPORE

