

Singapore Maritime Charts Roadmap to Focus on Digitalisation

By **Baibhav Mishra** - April 11, 2019



(Image Courtesy: Ministry of Communications and Information Singapore)

Over the next three years, the Maritime and Port Authority of Singapore (MPA) will focus on digitalisation to help companies innovate and improve productivity. The Singapore Maritime Institute (SMI) will also present the Singapore Maritime R&D Roadmap 2030 to optimise R&D efforts and resources for greater value co-creation within the maritime industry. These were announced by Dr Lam Pin Min, Senior Minister of State, Ministry of Transport & Ministry of Health, at the 4th Singapore Maritime Technology Conference (SMTTC).

Quah Ley Hoon, Chief Executive of MPA, said, "Innovation and digitalisation are key areas for Maritime Singapore to sharpen our competitive edge. We recognise that some companies need help to kick-start their digitalisation journey. With this in mind, we have formed the Circle of Digital InnOvators (CDO) network to champion the adoption of technology and innovation. We will also roll out the Sea Transport Industry Digital Plan to help SMEs in their digitalisation journey. We hope that through such efforts, we can bring the maritime sector to a new level."

Circle of Digital InnOvators Network

MPA is working with the Singapore Shipping Association (SSA) to encourage more maritime corporates to join the CDO network, which was set up in late 2018 to help drive

transformation through the adoption of technology and innovation. The network started with 23 members, and has since expanded to 46 members.

The main goal for the CDO network is to spearhead digitalisation initiatives in the maritime industry and uplift the innovation hub status of Maritime Singapore. The programme comprises events such as learning journeys and hands-on workshops to upskill this select group of individuals in the areas of corporate innovation.

Sea Transport Industry Digital Plan

MPA, in partnership with the Infocomm Media Development Authority (IMDA), Enterprise Singapore (ESG) and SkillsFuture Singapore (SSG), will roll out the Sea Transport Industry Digital Plan (IDP) for the ship agency and harbour craft sub-sectors. Aligned to the Sea Transport Industry Transformation Map, the Sea Transport IDP provides small and medium enterprises (SMEs) in the Sea Transport industry with an easy-to-use, step-by-step guide on the digital solutions to adopt at each stage of their growth. It simplifies the process for SMEs to go digital so that they can readily access the right digital capabilities to achieve internal efficiencies, reduce cost and improve their services for sustained growth in the digital economy.

SMEs can use the IDP to identify a list of digital solutions relevant to the Sea Transport industry, which they can deploy with government co-funding support. Some of these digital solutions include ship agency management, robotic processing automation, vessel management, order booking and deployment, as well as video surveillance and monitoring.

The IDP also includes a Digital Roadmap (Training) to ensure that the industry's workforce is adequately prepared with the necessary skills to adopt digital solutions, and is ready for changes that come with digital transformation.

A total of \$3.7 million have been set aside to assist SMEs over the next three years. IDPs for other Sea Transport sub-sectors will be introduced in due course. Interested SMEs can visit www.mpa.gov.sg for more information.

Singapore R&D Roadmap 2030: Maritime Transformation

The SMI has refreshed the Singapore Maritime R&D Roadmap, which charts out the key thrusts for our research community to channel their R&D efforts. The Roadmap, titled 'Singapore R&D Roadmap 2030: Maritime Transformation' helps to create better strategic alignment and resource allocation by funding agencies, industry and our research and technology communities.

Presented at the SMTC R&D Seminar, the Roadmap has outlined the following five strategic research thrusts:

- Efficient and Intelligent World-Class Next Generation Port
- Strategic Sea Space and Maritime Traffic management
- Smart Fleet Operations and Autonomous Vessels
- Effective Maritime Safety & Security
- Sustainable Maritime Environment & Energy

The research project under the 2nd Joint Grant Call between the Research Council of Norway (RCN) and the Singapore Maritime Institute (SMI) was formally awarded today at the SMTC R&D Seminar. The research project is a joint collaboration between Norway and Singapore with Assistant Professor Tang Yi of the Nanyang Technological University (NTU) as the Singapore principal investigator collaborating with Associate Professor Jon Are Wold Sul of the Norwegian University of Science and Technology (NTNU).

They will work together on ultra-high power density wireless charging for maritime applications. This will enable the advancement of maritime transportation with potential applications in autonomous systems, harbour crafts and ferries.

The winners of the Low Cost LNG Retrofit (LCLR) Challenge, organised by Nanyang Technological University through its Maritime Energy & Sustainable Development (MESD) Centre of Excellence (MESD COE), Shell Tankers (Singapore) Pte Ltd (Shell) and DNV GL Singapore Pte Ltd (DNV GL), were unveiled too. The LCLR Challenge was organised to develop new ideas which could overcome the economic challenge of retrofitting an LNG fuel system to an existing vessel.

MPA also roped in the maritime CDOs to help articulate industry problem statements, to provide innovation opportunity for various groups such as:

- Global start-ups through PIER71 Smart Port Challenge;
- Singapore-based technology companies through Maritime Innovation & Technology (MINT) Fund Call for Proposals; and
- Local universities and research institutions through SMI Call for Proposals.

In particular, MPA and NUS Enterprise will launch the 2019 edition of Smart Port Challenge (SPC) under the PIER71 initiative, which will be enhanced in the areas of start-up mentorship, corporate partnership and access to potential investors. MPA has since awarded 13 projects for pilot testing with maritime companies as test-bedding partners from the 2018 cohort of start-ups.

These include the test-bedding of a data accelerator product to improve throughput efficiency of satellite communication by SkyLab Services; development of an AI-Prediction Engine for Vessel Arrival Timing by AIDA Technologies; and a Ship Suppliers Platform to improve productivity for ship chandlers and visibility of ship supplies by Ship Supplies Direct.

Expanded SMTC programme

Held at Marina Bay Sands from 10 to 12 April 2019 in conjunction with Singapore Maritime Week 2019 (SMW 2019), the three-day conference covers four key themes:

- SMTC-Tech session, themed “Impact of Digitalisation on Business”, will focus on digitalisation trends in the maritime industry and feature technology implementations and challenges, and technology as an enabler for growth.
- SMTC-R&D (previously called SMI Seminar) spotlights on “Ports of the Future” with key decision makers sharing their perspectives on enabling the transformation of the port through digitalisation, research and innovation.
- SMTC-Cybersecurity session will focus on “Being a Cyber-Smart Industry”, as the threat is real and evolving, in a bid to stay resilient through the use of technologies to enhance detection and improve processes to respond and recover from threats expeditiously.
- SMTC-Start-up is a new session organised under the PIER71 programme and focuses on co-creating the future of maritime with technology start-ups.

Over the three days, the conference is expected to be attended by more than 300 participants from 12 countries.

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