MEDIA RELEASE

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MPA Inks Collaborations with Partners to Accelerate Decarbonisation for the Maritime Industry

Maritime leaders and industry professionals gathered in-person and online today for the ‘Accelerating Decarbonisation Conference’ organised by the Maritime and Port Authority of Singapore (MPA).

2. The Conference was launched jointly with the International Maritime and Port Technology and Development Conference (MTEC) and International Conference for Maritime Autonomous Surface Ships (ICMASS). Norwegian Ambassador to Singapore, His Excellency Eivind S. Homme, delivered a keynote speech titled ‘Singapore and Norway, long-time Ocean Partners, common ambitions for being front runners in maritime digitalisation and decarbonisation’. H.E. Homme highlighted that Singapore and Norway, as two of the leading maritime nations in the world, should cooperate to address challenges and grasp opportunities in the future maritime industry.

3. At MTEC and ICMASS, thought leaders shared the latest maritime research and development (R&D) in technical sessions on Green Ports, Maritime Digitalisation, Connectivity & Cybersecurity, Smart and Autonomous Shipping, and Maritime Safety. Participants also gained a first-hand look at findings from recent maritime research projects to future-proof products, services and applications. The MTEC/ICMASS also announced awards for the best papers presented. Please refer to Annex A for the awardees.

4. The conference also featured a fireside chat on ‘Setting the Scene: Insights to the Maritime Industry Trends’, where panellists, including leaders from the Global Centre of Maritime Decarbonisation (GCMD) and Maersk Mc-Kinney Moller Centre for Zero Carbon Shipping, discussed the journey to maritime decarbonisation, the impact of technology touchpoints, as well as carbon accounting and trading.

5. Discussions on pathways to decarbonisation continued at the ‘SMW Conversations’ where leaders from around the world, including Hamburg Port Authority, CMA CGM and Climate Impact X, spoke on multi-fuel transitions, capabilities of decarbonisation solutions, and steps towards decarbonising the global maritime supply chain.

Partnerships to propel maritime decarbonisation

6. At the event, MPA signed three Memoranda of Understanding (MoU) with two green shipping consortiums on the ammonia value-chain:
(i) The first MoU, signed with ITOCHU Corporation, ITOCHU Enex, MOL, Pavilion Energy, Total Energies Marine Fuels, and VOPAK Terminals, will seek to establish an ammonia fuel supply chain, including an on-shore and/or off-shore facility and an ammonia bunkering ship in Singapore. The MoU is a key element of an integrated project that included the development of ammonia fuelled bulk carriers by ITOCHU with other partners.

(ii) The second MoU with ITOCHU and 15 other Port Authorities, R&D centres and shipping and energy companies, will establish a platform for the parties to exchange views and harmonise ammonia bunkering safety guidelines in the respective ports. Please refer to Annex B for the list of participants.

(iii) The third MoU with the SABRE consortium, comprising the American Bureau of Shipping, Fleet Management Limited, Kawasaki Kisen Kaisha, Ltd. ("K-Line"), Keppel O&M, A.P. Moller - Maersk A/S, Maersk McKinney Møller Center for Zero Carbon Shipping, and Sumitomo Corporation, will work on development works to establish an integrated ammonia supply chain, with the goal to commence ammonia bunkering within this decade.

7. GCMD signed three partnership agreements to further collaboration in maritime decarbonisation at the Sustainability Conference:

(i) bp, the first integrated energy company to sign on as a Strategic Partner, has committed S$10M in cash over 5 years.

(ii) The Boston Consulting Group and Chevron will bring a further S$15M in cash and in-kind contributions through Impact Partnerships. These resources, in addition to the S$130M from the founding and strategic partners, will go towards strengthening GCMD's decarbonisation efforts, especially in conducting trials and pilots.

(iii) GCMD also signed on the International Chamber of Shipping as well as the Singapore Shipping Association as Coalition Partners, which will allow GCMD to tap on the respective association's extensive stakeholder network and expertise.

8. Mr Kenneth Lim, Assistant Chief Executive (Industry) of MPA, shared, “In our rapidly evolving interconnected world, we need international partnerships and a robust ecosystem of partners to decarbonise. On a parallel track, we also continue to innovate the future of shipping operations with autonomous shipping being one of the long-term targets, to build resilience in the maritime sector.”
Maritime SG Carbon50 Award Ceremony

9. To recognise companies that have contributed to carbon accounting adoption and emission reduction in the maritime industry, MPA also hosted an award ceremony with the Singapore Shipping Association (SSA) and Global Compact Network Singapore (GCNS), where four companies namely Hong Lam Marine Pte Ltd, Jurong Port Pte Ltd, Victory Pte Ltd, and Viswalab Pte Ltd, received the Maritime SG Carbon50 Award. The evaluation panel of MPA, SSA and GCNS assessed the awardees based on the three main criteria of emission reduction, innovation and scalability.

10. Helmed by Carbon Pricing Leadership Coalition (CPLC) Singapore, the decarbonisation arm of GCNS and supported by the National Environment Agency and Enterprise Singapore, LowCarbonSG is a capacity-building programme that empowers local businesses to monitor and reduce their carbon emissions. Upon joining this programme, businesses will gain access to the Carbon and Emissions Recording Tool as well as the carbon management workshops conducted by CPLC Singapore.

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About the Maritime and Port Authority of Singapore (MPA)

The Maritime and Port Authority of Singapore (MPA) was established on 2 February 1996, with the mission to develop Singapore as a premier global hub port and International Maritime Centre (IMC), and to advance and safeguard Singapore's strategic maritime interests. MPA is the driving force behind Singapore's port and maritime development, taking on the roles of Port Authority, Port Regulator, Port Planner, IMC Champion, and National Maritime Representative. MPA partners the industry and other agencies to enhance safety, security and environmental protection in our port waters, facilitate port operations and growth, expand the cluster of maritime ancillary services, and promote maritime R&D and manpower development.

About Singapore Maritime Week (SMW) 2022

SMW is an annual gathering of the international maritime community to advance key industry issues and exchange ideas to bring the sector forward. Driven by the Maritime and Port Authority (MPA), in collaboration with industry stakeholders and research and educational institutions, SMW brings together key opinion leaders and industry leaders through conferences, dialogues and forums.

The range of activities and events organised by MPA, industry stakeholders and research and educational institutions, as well as the cosmopolitan profile of
participants, reflect the vibrancy and diversity of Singapore as a global hub port and leading international maritime centre.

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Annex A

International Maritime and Port Technology and Development Conference (MTEC) and International Conference for Maritime Autonomous Surface Ships (ICMASS) Best Paper Awardees

<table>
<thead>
<tr>
<th>Category</th>
<th>Title</th>
<th>Author</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Shipping and Ports</td>
<td>Towards green and sustainable seaport transport systems via enhancing multimodal transport options for passengers: a case study of Italian and Croatian passenger seaports of Ancona and Zadar</td>
<td>Raffaele Pesenti, Miljen Sirotic</td>
<td>Università Ca’ Foscari, Italy</td>
</tr>
<tr>
<td>Maritime Digitalisation, Connectivity and Cybersecurity</td>
<td>Containerized immutable maritime data sharing utilizing Distributed Ledger Technologies</td>
<td>Knut Erik Knutsen</td>
<td>DNV</td>
</tr>
<tr>
<td>Maritime Safety</td>
<td>Development of the Comprehensive Simulation System for Autonomous Ships</td>
<td>Makiko MINAMI</td>
<td>National Maritime Research Institute, National Institute of Maritime, Port and Aviation Technology, Japan</td>
</tr>
<tr>
<td>Smart and Autonomous Shipping</td>
<td>Development of an advanced, efficient and green intermodal system with autonomous inland and short sea shipping - AEGIS</td>
<td>Stefan Krause</td>
<td>Institut für Strukturleichtbau und Energieeffizienz gGmbH (Research Institute)</td>
</tr>
<tr>
<td>Student Paper</td>
<td>On the use of maritime training simulators with humans in the loop for understanding and evaluating algorithms for autonomous vessels</td>
<td>Anete Vagale</td>
<td>Norwegian University of Science and Technology</td>
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Participating companies and organizations: Brunsbüttel Ports, the French Naval Fire Brigade of Marseille, Fundacion Valenciaport, Great Port of Marseille, HAROPA PORT, Maritime and Port Authority of Singapore, Port Authority of Huelva, Port Authority of Valencia, Port of Algeciras, Port of Rotterdam, ENEOS Ocean Corporation, Mabanaft, Mitsui O.S.K. Lines, Navigator Gas, Planning and Design Center for Greener Ships, ITOCHU Corporation.