



GMNI | The Global
MTCC Network
A global network for energy-efficient shipping

GMN SUMMARY REPORT

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MESSAGE FROM THE EDITOR



Four years on, and thanks to a €10 million funding contribution from the European Union, the Global MTCC Network (GMN) project has come into fruition and five Maritime Technology Cooperation Centre's (MTCCs) have been established. They have, to date, developed new technical guidance and involved more than 2,210 participants in more than 50 maritime energy efficiency workshops.

The second half of 2019 was a busy period for the GMN. During this time, each MTCC was focused on completing their respective pilot projects, delivering regional conferences, organizing capacity building activities and, in the case of MTCC-Pacific, launching a new branch office in Samoa. In addition, the project was present at multiple forums and, working in collaboration with the World Maritime University, successfully delivered an international conference.

Another important development during this period was the formal agreement between IMO and EU to extend the GMN project by an additional year. With this commitment, project funding is now guaranteed until December 2020, which will help ensure the long-term sustainability of the MTCCs.

Finally, there were changes within the Project Coordination Unit (PCU). Project Officer, Ms Sibille Cuka, and Administrative Assistant, Ms Josephine Arda, moved on to other positions. The PCU welcomed Ms Petra Ghassemi Ahari as Finance and Administration Officer.

This Newsletter updates you on our journey over the last six months, what we have achieved and what is upcoming for the GMN.

Please enjoy and we look forward to your feedback!

Anton Rhodes

Anton Rhodes
GMN Project Manager



“...project funding is now guaranteed until December 2020, which will help ensure the long-term sustainability of the MTCCs”



GMN OUTREACH

AUGUST

Committed to protecting South-East Asian seas

Delegations from Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand and Vietnam, led by their Heads of Maritime Administrations and other senior officials, gathered at the Second High-level Regional Meeting of the Marine Environment Protection of the South-East Asian Seas (MEPSEAS) project in Manila, Philippines.

During the event, MTCC presented on their work across the Asia region. Particular emphasis was focused on the growth of their technical network and completion of pilot projects.



OCTOBER

3rd GMN International Conference: Trends & Challenges after the Paris Agreement & MTCCs' Success Stories

Hosted by the World Maritime University, the GMN project successfully concluded its 3rd International Conference in Malmö, Sweden. During the conference, representatives from the five MTCCs reported on their pilot projects which assess a range of measures to help cut emissions in the maritime sector. The event was attended by representatives from industry, academia, the EU, IMO and Governments.

"The MTCC Network is a project that unites maritime experts from all over the world in five MTCCs, to provide capacity building for climate mitigation in the maritime shipping industry. Its work plays an invaluable part in promoting global awareness and in developing global solutions to mitigate GHG emissions from shipping through efficient and sustainable energy use," said Dr. Cleopatra Doumbia-Henry, WMU President.



OCTOBER

Smart Maritime Network Copenhagen Conference

Following the very successful launch of the Smart Maritime Network in Athens and Tokyo – with over 150 delegates at each event - this third SMN conference in Copenhagen provided a platform to promote the benefits of enhanced integration and data sharing among stakeholders within the maritime and transport logistics sectors; informing and educating on technological developments and innovations, while providing wider opportunities for relationship building, business development and knowledge sharing. During the event, the GMN presented an overview presentation of the project and explored the possibility of greater public and private collaboration.

DECEMBER

IMO at UN Climate Change Conference - committed to cutting ship emissions

IMO presented its latest work to reduce greenhouse gas emissions from shipping to the UN climate change conference (COP 25) in Spain. IMO also reported on the successful execution of two important capacity-building projects (GloMEEP and the GMN), which are supporting developing countries in the implementation of IMO's energy efficiency measures; and the initiation of a third, GreenVoyage-2050 project, to support global efforts



to demonstrate and test technical solutions for reducing GHG emissions in shipping and enhance knowledge and information sharing to support the Initial IMO GHG Strategy.

IMO MEETINGS

IMO AND CLIMATE CHANGE DEVELOPMENTS

Intersessional Working Group on Reduction of GHG Emissions from Ships

The IMO Intersessional Working Group on Reduction of GHG Emissions from Ships (11-15 November 2019) made significant progress in pushing forward with work to help achieve the ambitious targets set out in the initial IMO strategy on reduction of GHG emissions from ships, which aims, as a matter of urgency, to decarbonise international shipping in this century.

National Action Plans – draft MEPC resolution agreed

The working group agreed the draft text of a resolution to be put forward to the next Marine Environment Protection Committee (MEPC) for adoption. The text would urge Member States to develop and update a voluntary National Action Plan (NAP) with a view to contributing to reducing GHG emissions from international shipping.

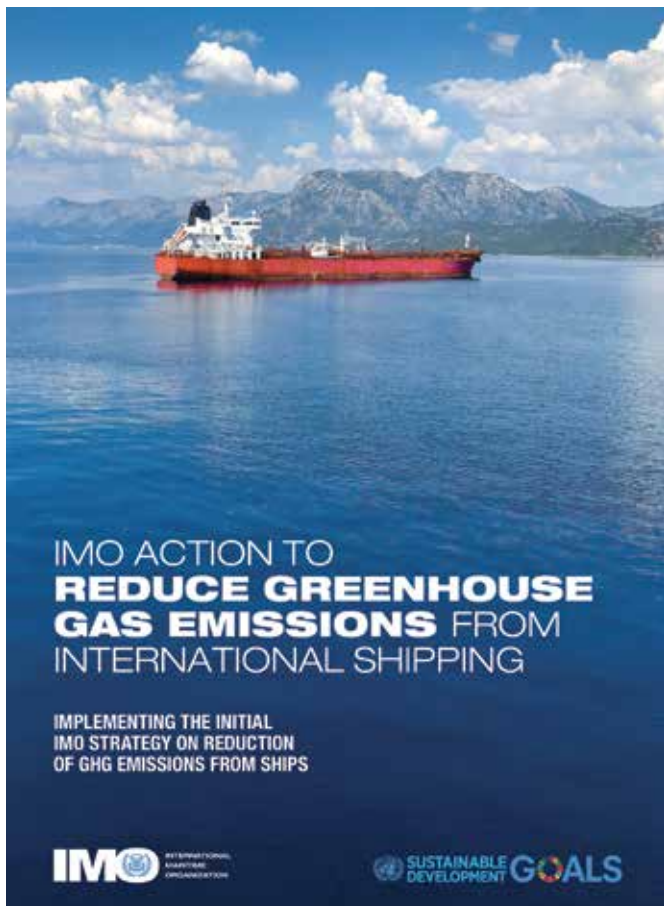
Technical and operational approach

Proposals included an Energy Efficiency Existing Ship Index (EEXI), which could require ships to meet set energy efficiency requirements after the measure taking effect. Other technical proposals relate to mandatory power limitation on ships.

Operational approaches would include focusing on strengthening the ship energy efficiency management plan, as required in SEEMP.

Alternative fuels

With a longer-term perspective, and in order to encourage the uptake of alternative low- and zero-carbon fuels in the shipping sector, the Working Group also agreed on the establishment of a dedicated workstream for the development of lifecycle GHG/carbon intensity guidelines for all relevant types of fuels. This could include, for example, biofuels, electro-synthetic fuels such as hydrogen or ammonia, etc.



Next steps for IMO:

- 23-30 MARCH 2020
Seventh meeting of the Intersessional Working Group on Reduction of GHG Emissions from Ships.
- 30 MARCH TO 3 APRIL 2020
Marine Environment Protection Committee (MEPC 75).



SUMMARY OF DELIVERED ACTIVITIES BY MTCCS

JULY

Second Global Green Maritime Forum

Sponsored by Shanghai Municipal Government, MTCC-Asia and Shanghai Maritime University hosted the event as part of the national celebration of the 15th China Maritime Day.

Nearly 100 delegates from all over the world gathered in Shanghai to discuss how to address the challenges and strategies of the shipping industry in terms of climate change.



JULY

MTCC-Caribbean 2nd Regional Workshop

Government and private stakeholders have expressed their support for climate action in the Caribbean, with a focus on decarbonizing the shipping sector, during a regional workshop on Capacity Building for Climate Mitigation in the Maritime Shipping Industry. The workshop, held at the Chaguaramas Campus of The University of Trinidad and Tobago, was attended by more than 100 international, regional and local participants, from Government ministries and agencies.

SEPTEMBER

MTCC-Asia 4th National Workshop

With enormous support from IMO, the European Union, the Directorate General of Shipping (DGS), Shanghai Maritime University, and China Maritime Safety Administration, the MTCC-Asia 4th National Workshop and Train the Trainer Course was held successfully in Mumbai, India. The workshop was attended by participants mainly from the maritime field such as classification and maritime institutes from India. The aim was to enhance the capacity of handling ship-borne GHG reduction and energy efficiency in the maritime sector in India, based on IMO conventions, national regulations and practices, and the application of new technologies.



The main objective of the event was to share knowledge and experience in the context of the relevant IMO regulations regarding energy efficiency and management. It was also expected to help establish strong links between MTCC-Asia and India.

SUMMARY OF DELIVERED ACTIVITIES BY MTCCS (continued)

SEPTEMBER

MTCC-Pacific 2nd Regional Workshop



The MTCC-Pacific held its Second Regional Workshop in Apia, Samoa, with 220 participants (of whom 26% were women) from 19 countries. Participants included senior Government officials, academics and private sector representatives. Special emphasis was put on the achievements to reduce greenhouse gas emissions and operating costs over the last two years by the MTCC-Pacific. Since 2017, MTCC-Pacific has engaged with 40 private and public ship operators and eight port authorities to deliver capacity building and technical support for pilot projects.

During the event, Pacific Transport Ministers were invited to tour the Lady Samoa III ferry which has been equipped by MTCC-Pacific with a solar power system to reduce oil fuel consumption. The system was officially 'switched on' by Samoa's Minister for Works Transport and Infrastructure, Honourable Papalii Niko Lee Hang.

OCTOBER

MTCC-Africa Regional Conference

"If we want shipping to increase, but emissions to peak at the same time, then ships must become much, much more efficient than they are today." Opening a regional workshop organized by the MTCC Africa, hosted by the Seychelles, Alan Renaud, Principal Secretary for Civil Aviation, Ports & Marine, Seychelles, set the scene.

The 2nd regional workshop provided an opportunity for updates on MTCC activities in the region, including ongoing pilot projects. Representatives from 26 countries agreed a number of important recommendations for future work, including incorporating a concept of "green ports" into the work of MTCC-Africa. Recognizing the need to



support UN SDG 5 on gender equality, the workshop agreed to encourage states to involve women in the implementation of initiated pilot projects and capacity building, to reach at least 40% female participation.

OCTOBER

MTCC-Asia Regional Workshop

Fifteen demonstration ships in the Asia region have provided 68,517 sets of data relating to ship fuel consumption and ship optimum trim. It is this kind of data-gathering and analysis that is helping the regional MTCC-Asia deliver on its commitment to promote innovative technologies and operations to improve energy efficiency in the maritime sector. MTCC-Asia project held its Second Regional Workshop in Yangon, Myanmar.

Around 70 participants from 14 countries in the Asian region attended the workshop, including maritime and energy efficiency specialists. They shared presentations and discussed the centre's progress in delivering technology innovation, capacity building, regional



outreach, exchange and communications. Sharing knowledge and best practices were highlighted as crucial ways to help improve energy efficiency in the maritime sector.

GMN ACHIEVEMENTS (2017 - 2019)

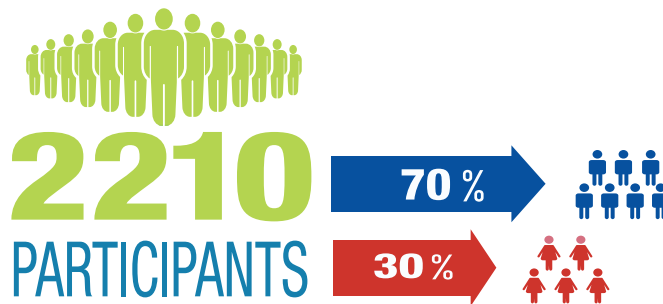
After three years of activities in their respective regions, it is a good time to reflect on some of the MTCC's main achievements.

Technology transfer

Through their pilot project activities, the MTCCs are promoting the uptake of low carbon technologies and operations in maritime transport.

For example, by using machine learning, satellite communication and data processing technologies, MTCC-Asia is helping to improve **ship trim optimization**, which is an efficient and cost-effective way to reduce GHG emissions from ships. MTCC guidance on new trim optimization have been circulated to thousands of vessels.

In the Caribbean and across Latin America, the MTCC teams have developed **Technology Needs Assessments**, which highlight technology demand / availability and outline a regional approach for the uptake and diffusion of energy efficient technologies.



In the Pacific, **marine solar systems** have been installed on board vessels in Vanuatu and Samoa. As a result, the Vanuatu domestic vessel (Tiwi Trader) will reduce its emissions and also save 32% or AUD 48,000 annually in operating costs; while the Samoa passenger ferry (Lady Samoa III) will save AUD 25,000 per year, with 17% of its operating costs reduced.



Expansion through branch offices

One of the great success stories of the GMN has been its expansion. The MTCC-Asia team established branch offices in Cambodia and Myanmar in 2017 and 2018 respectively. Since their launch, the branch offices have been heavily involved in organizing various technical workshops, carrying out online courses, supporting pilot projects, carrying out national needs analysis and raising wide public awareness of the need for GHG reduction from shipping.

MTCC-Pacific launched a Samoan branch office in September 2019. The branch office is a collaborative effort with the Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP), and expands the regional outreach of the MTCC in the region.

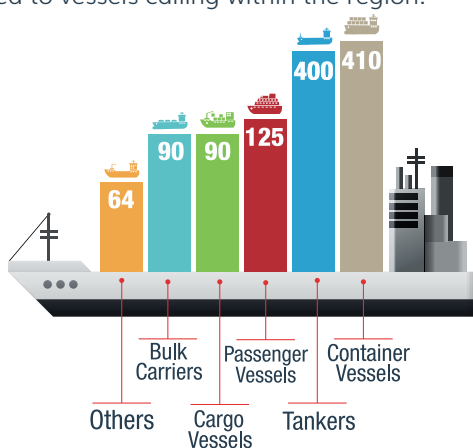


GMN ACHIEVEMENTS (2017 - 2019) (continued)

Data collection and analysis

Another key focus of the MTCCs' pilot project work has been the collection and analysis of ship fuel consumption data. This work has informed stakeholders on technologies and created a data baseline against which ship operators / ships crew can make energy efficiency improvements.

For example, MTCC Latin America performed detailed analysis of fuel oil consumption data from 68 vessels, flying the flags of three participating maritime administrations. In Africa, MTCC experts and focal points boarded 16 vessels to train 36 crew on using Thorium X tablets provided for fuel consumption data collection. These tablets were then handed over to the ship to begin the data collection. In the Caribbean, more than 25 shipping agencies were trained by the MTCC team on the use of its voluntary data reporting form, which was distributed to vessels calling within the region.



1179 PARTICIPATING VESSELS



In the Caribbean, 22,986 data sets were analysed and yielded the following:

- the First Energy Efficiency Operational Index (EEOI) Baseline for the Caribbean;
- the First Baseline on Emissions Control and Energy Efficiency measures in Maritime Shipping in the Caribbean;
- the First Greenhouse Gas Baseline for vessel emissions for the Caribbean; and
- the First Online Voluntary Reporting System (OVRS) for the region.

Across the five MTCC regions, over 1,000 separate vessels contributed fuel consumption data for analysis.



Port Energy Audits

The focus of the GMN has not only been on vessels. Many of the MTCCs have also worked with selected ports to help make energy efficiency improvements.

As a result of an MTCC energy efficiency audit in the Solomon Islands, overall energy use in Honiara Port dropped 8%, saving 15 tonnes of green gas house emissions and EUR 11,000 a month. And it is a similar story at Fiji Port, where as a result of MTCC recommendations to change lighting and use energy more efficiently, the port reduced its energy consumption by 21%. In Africa, the MTCC team successfully conducted a level 1 energy audit in Douala and a level 2 energy audit in Kenya.

GMN ACHIEVEMENTS (2017 - 2019) (continued)

Capacity building & regional outreach

Since the MTCCs became operational in 2017, some 50 capacity building activities have been delivered at national, regional and international levels. Participants have included government ministers, port authorities, shipyards, fuel and technology providers, and maritime administrations among many others. The activities have covered a range of topics which promote the standards and measures outlined under MARPOL Annex VI (the annex under the International Convention for the Prevention of Pollution from ships which includes the mandatory energy efficiency requirements for ships).

MTCC Caribbean has to date delivered eight capacity building workshops across the Caribbean, successfully reaching over 500 participants from every facet of the maritime sector, with a 5:3 male to female ratio. The participants have been sensitized to the technical, legal and institutional framework requirements for the facilitation of green technology uptake, energy efficient operations, and achieving compliance with regulatory requirements. Since 2017, MTCC-Pacific has engaged with 40 private and public ship operators and eight port authorities, achieving significant results to reduce emissions and operating costs.



Through such capacity building activities, the MTCCs have been very successful building strong maritime networks. In Africa, for example, many countries, including Madagascar, Namibia, South Africa, Ghana, Mauritius, Nigeria and Seychelles, now have active focal points supporting the MTCC.



LOOKING AHEAD

Project extension – 2020

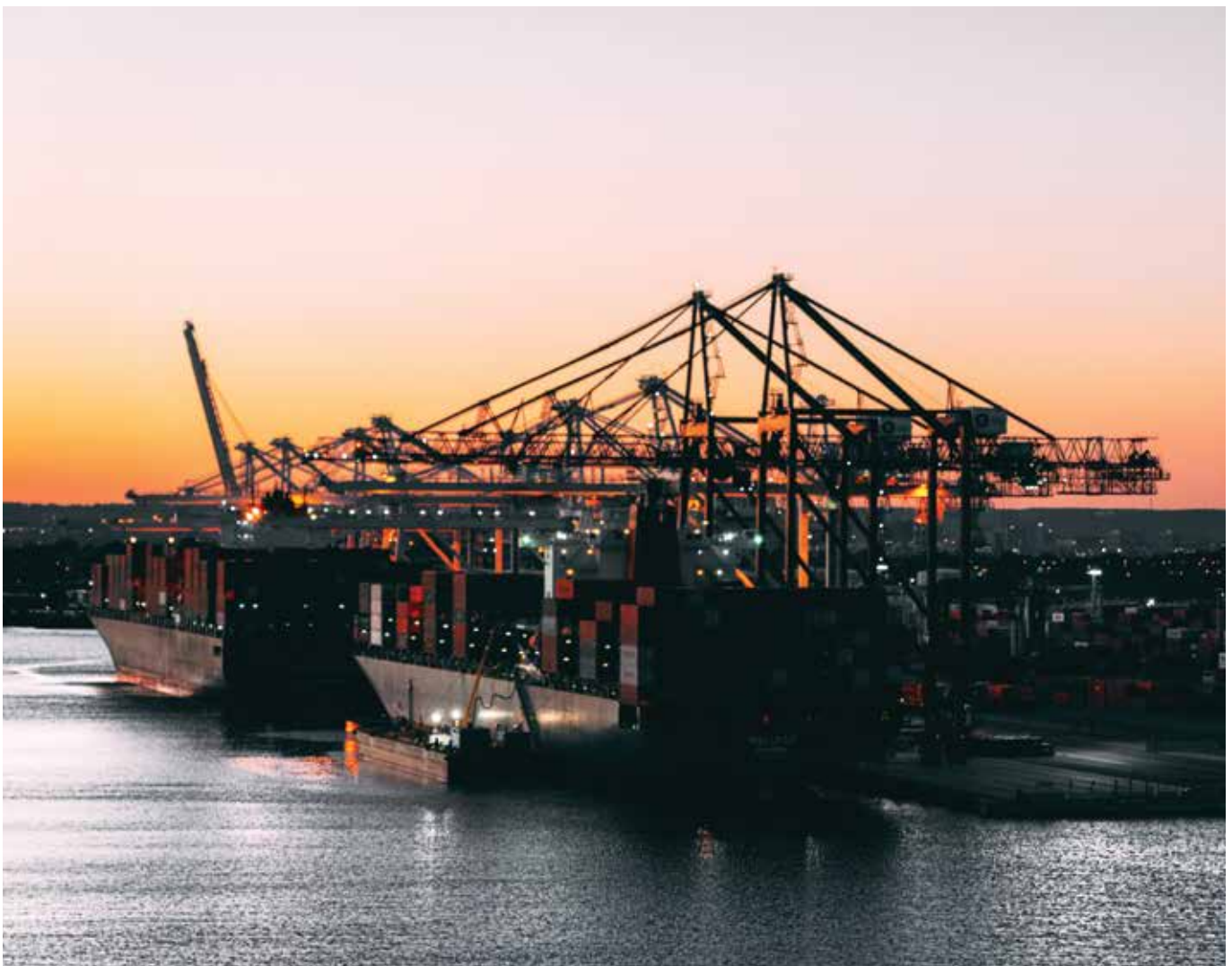
In 2019, IMO and the EU formally agreed to extend the GMN project by an additional year. With this commitment, project funding is now guaranteed until December 2020.

It was agreed that in 2020, EU funds would be used to maintain project staff, support the respective MTCCs with their in-region work programmes and help them transition towards a self-sustaining business model.

The intention has always been that MTCCs will continue to support their regions long after the project (EU funding) phase has been completed.

Key focus areas in 2020:

- Support for the implementation of the IMO sulphur emissions limit and the Initial IMO strategy on reduction of GHG emissions from ships through delivery of training courses/ workshops
- Dissemination of pilot project results
- Sustainability of the MTCCs, including tailor-made workshops to focus on industry engagement with a view to establishing regional industry alliances.
- Delivery of energy efficiency global technology exhibitions (Asia/Pacific, Europe/ Africa, Latin America/Caribbean), focusing on low-carbon new technologies



JANUARY TO AUGUST 2020

 <p>MTCC CARIBBEAN Maritime Technology Cooperation Centre</p>	<p>MTCC-Caribbean National Workshop - Training workshop on IMO 2020 Sulphur Cap 10 FEBRUARY 2020 <i>Trinidad and Tobago</i></p>
 <p>MTCC PACIFIC Maritime Technology Cooperation Centre</p>	<p>MTCC-Pacific National Workshop 10 MARCH 2020 - 12 MARCH 2020 <i>TBC</i></p>
 <p>MTCC AFRICA Maritime Technology Cooperation Centre</p>	<p>MTCC-Africa Sulphur Workshop 2020 themed 'IMO's Global Sulphur Cap' 18 MARCH 2020 - 20 MARCH 2020 <i>Mombasa, Kenya</i></p>
 <p>MTCC PACIFIC Maritime Technology Cooperation Centre</p>	<p>MTCC-Pacific National Workshop 13 APRIL 2020 - 15 APRIL 2020 <i>TBC</i></p>
 <p>MTCC CARIBBEAN Maritime Technology Cooperation Centre</p>	<p>MTCC-Caribbean 3rd Regional Workshop 20 APRIL 2020 - 23 APRIL 2020 <i>University of Trinidad and Tobago</i></p>
 <p>MTCC AFRICA Maritime Technology Cooperation Centre</p>	<p>MTCC-Africa National Workshop 20 MAY 2020 <i>TBC</i></p>
 <p>MTCC ASIA Maritime Technology Cooperation Centre</p>	<p>MTCC-Asia Regional Ship Energy Efficiency Technology Conference 22 JUNE 2020 - 24 JUNE 2020 <i>TBC</i></p>
 <p>MTCC PACIFIC Maritime Technology Cooperation Centre</p>	<p>Asia-Pacific Conference and Exhibition on Maritime Technology for Climate Mitigation 10 JULY 2020 - 12 JULY 2020 <i>TBC</i> <i>Shanghai, China</i></p>
 <p>MTCC ASIA Maritime Technology Cooperation Centre</p>	
 <p>MTCC AFRICA Maritime Technology Cooperation Centre</p>	<p>MTCC-Africa Conference and Exhibition 29 JULY 2020 - 31 JULY 2020 <i>TBC</i></p>
 <p>MTCC CARIBBEAN Maritime Technology Cooperation Centre</p>	<p>Caribbean and Latin America Conference and Exhibition 03 AUGUST 2020 - 05 AUGUST 2020 <i>Trinidad and Tobago</i></p>
 <p>MTCC AFRICA Maritime Technology Cooperation Centre</p>	<p>MTCC-Africa National Workshop 25 AUGUST 2020 <i>TBC</i></p>
 <p>MTCC PACIFIC Maritime Technology Cooperation Centre</p>	<p>MTCC-Pacific Regional Workshop on the Implementation of the Annex VI of MARPOL Convention 16 SEPTEMBER 2020 - 18 SEPTEMBER 2020 <i>TBC</i> <i>TBC</i></p>

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