

# Navigating maritime frontiers of change p2

SINGAPORE  
maritimeweek®  
2021

Taking the first  
step key to  
success: Yee p4

Green the new  
gold in maritime  
awards p7

# Towards a sustainable future with a global maritime decarbonisation centre

Jacqueline Woo

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**A** global maritime decarbonisation centre in Singapore that will help tackle the big sustainability question is in the works.

This was unveiled by Minister for Transport Ong Ye Kung at the opening of the 15th Singapore Maritime Week (SMW) yesterday, as he addressed more than 230 industry and government delegates gathered physically at the Sands Expo & Convention Centre for the hybrid event.

The centre, he said, will be one where a cluster of like-minded stakeholders can coordinate, drive, and catalyse maritime decarbonisation solutions – “a worthwhile, strategically important initiative”.

This announcement comes at a time when the industry is moving towards targets set by the International Maritime Organization that aim to halve shipping’s greenhouse gas emissions by 2050, from 2008 levels.

The idea for the global maritime decarbonisation centre was recommended by the International Advisory Panel on Maritime Decarbonisation, set up by the Singapore Maritime Foundation last year with the support of the Maritime and Port Authority of Singapore (MPA).

Domestically, MPA will launch a public consultation exercise to develop the Maritime Singapore Decarbonisation Blueprint 2050 by the end of this year. The blueprint will outline Singapore’s long-term strategies for a sustainable Maritime Singapore.

“To drive decarbonisation, we need collective action,” said Mr Ong.

Decarbonisation was the key theme that dominated discussions on the first day of the week-long SMW. Mr Ong also spoke about navigating three other frontiers in a post-pandemic world: resilience, digitalisation, and talent.

Singapore is geographically endowed, he noted. It is located along the Straits of Malacca, which provides passage to one-third of global container trade and about a quarter of global oil trade.

“However, this geographical endowment does not promise us endless uncovering of resources to feed us for generations,” he said.

“It is the proverbial fishing rod that enables us to earn a living with our hard work and our wits. Singapore’s status as a global maritime hub is



A collaborative spirit is most needed in the global maritime industry: Transport Minister Ong Ye Kung.

therefore by no means a given. Along the Straits, there is competition; outside of the Straits, there are alternatives that can potentially bypass us.”

This means that navigating those frontiers would be key. Singapore is already pressing ahead with change, which includes implementing digital solutions to boost efficiency and turnaround times for vessels.

Mr Ong revealed that operational trials kicked off yesterday for the Just-in-Time platform under the second phase of the digital Portal for One-Stop Regulatory Transactions, or digitalPORT@SG™, a single platform for all vessel-related transactions. This will enable ships to turn around faster and marine service providers to manage resources better.

Said Mr Ong: “Digital technology is arguably a more significant technological breakthrough than the steamship, in terms of its impact on globali-

sation. And we are still at a nascent stage of fully leveraging the potential of digitalisation.”

The portal has consolidated 16 forms for vessel, immigration and port health clearances, across separate platforms, into one seamless submission – saving the industry about 100,000 man-hours per year. Consistent data has also allowed it to clear vessels more quickly.

The critical factor in breaking frontiers, added Mr Ong, is less a paradigm shift than a collaborative spirit.

“We know the importance of international collaboration, so I don’t quite think it is a paradigm shift,” he said. “But we need to be committed to collaborating with one another, and be driven by our love for the sea and the idea that the oceans are our most important global commons.” ■

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# How to decarbonise: Take the first step



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There is no easy answer to decarbonisation, but MISC Group President and Group Chief Executive Officer Yee Yang Chien believes getting started is a key step to finding success.

**F**or an industry that has a big question to tackle with no clear answers, shipping veteran Yee Yang Chien believes it is better to take the first step and try – even if it may fail – rather than do nothing at all.

“Decarbonisation is without doubt one of the greatest risks our industry has ever faced in its history,” said Mr Yee, President and Group Chief Executive Officer of MISC Group, who delivered the signature Singapore Maritime Lecture yesterday.

“How does one even begin to deal with a risk that has no immediate or ready-made solution? How does one cope with a risk where the financial cost of our course of action is difficult to quantify as part and parcel of our day-to-day responsibilities of running our respective organisations?”

He was referring to how companies are straddling the pressures of cutting emissions in line with the International Maritime Organization’s 2050 decarbonisation goals, while trying to ensure they remain financially viable, especially in these uncertain times.

The industry has yet to come to a clear-cut route to a zero-carbon future, or what the fuel of the future will be.

But it is in trying, Mr Yee said, that we find the answers.

This was the approach MISC Group took when it made the “high-risk bet” to invest in its first liquefied natural gas (LNG) dual-fuel Aframax tankers via its

subsidiary AET Tanker Holdings in 2017.

Today, as LNG is increasingly being accepted as a fuel source for vessels in the transition towards clean energy, MISC Group is setting its sights on replacing half of its fleet with LNG dual-fuel vessels over the next decade.

“What (matters) to me is we take the first step. I am not in any way brushing aside the enormity of the challenges and problems to be solved along the way, but I believe not trying to do something is a greater sin than trying and failing,” he said.

One way to solve the big challenge of decarbonisation is to break it down into smaller parts, he added, and to work with like-minded partners.

The Castor Initiative – started over a cup of coffee between two partners who wished to do something for the industry – is testament to this. It is a Joint Development Project to develop an ammonia-fuelled tanker design involving six partners: MISC Group, Lloyd’s Register, MAN Energy Solutions, Samsung Heavy Industries, Yara International, and Maritime and Port Authority of Singapore. Ammonia is a zero-carbon fuel with the potential to contribute significantly to shipping’s decarbonised future.

Speakers at a high-level panel discussion that followed Mr Yee’s speech voiced strong consensus towards taking action on decarbonisation.

Ms Vandita Pant, Chief Commercial Officer of BHP, one of the largest dry bulk charterers in the

world, believes there is “no silver bullet”. What will be needed is a portfolio of solutions and a focus on outcome-based results. “We will try everything,” she said.

BHP has been taking the lead in driving change. It awarded the world’s first LNG-fuelled Newcastlemax bulk carrier tender in 2020 with the aim of reducing greenhouse gas emissions by over 30 per cent per voyage.

Just earlier this month, it also completed the first marine biofuel trial on an ocean-going bulk vessel bunkered in Singapore, with Oldendorff Carriers and GoodFuels, and the support of MPA.

For all the disruption COVID-19 has wrought on the industry, it has also offered opportunities, noted DHL Consulting’s Pang Mei Yee, who is Head of Asia Pacific and Global Practice Lead for Supply Chain and Analytics Practice.

“The opportunity that COVID-19 has given us is this sense of urgency – many companies are now willing to take a chance on innovation, perhaps even make a mistake...as they embark on the (decarbonisation) journey,” she said.

As Sembcorp Marine’s Vice President and Head of Research and Development Simon Kuik observed, 2021 is shaping up to be a year of taking action.

“For the maritime industry to tackle decarbonisation and reach the IMO 2050 targets, we must take action now,” said the President of the Association of Singapore Marine Industries. “We must accelerate our efforts.” ■

# 11 HONoured AT SINGAPORE INTERNATIONAL MARITIME AWARDS 2021

Justin Kor

**G**reen was the theme at this year's Singapore International Maritime Awards (IMA), with two new accolades that recognised maritime companies' efforts to decarbonise and bolster sustainable practices across the industry.

The first was the Sustainability Award, which acknowledged the company that has contributed significantly to the industry's environmental sustainability efforts. The SRS Green Ship Owner Award – given to the ship owner with the largest proportion of ships participating in the Maritime and Port Authority of Singapore's (MPA) Green Ship Programme (GSP) – was the other new prize on offer.

In all, Senior Minister of State for Transport Chee Hong Tat presented 11 awards at the hybrid event yesterday, which took place both on-site at Marina Bay Sands and online. It was held in conjunction with the 15th Singapore Maritime Week.

Global marine and offshore company Sembcorp Marine was the winner of the inaugural Sustainability

Award. One of its green initiatives includes the building of liquefied natural gas (LNG) hybrid-powered tugs that will also use electricity. When deployed, these vessels will help cut carbon emissions at the Port of Singapore.

The SRS Green Ship Owner Award went to shipping company BW Group, which has been a key participant of the GSP. The programme aims to encourage ship owners to adopt energy-efficient ship designs.

Its Chairman, Mr Andreas Sohmen-Pao, also clinched the International Maritime Centre (Individual) Award, which recognises an outstanding individual who has contributed towards Singapore's development as a premier maritime hub.

Besides heading BW Group, he also holds a number of roles in various organisations and committees, such as co-chairing the International Advisory Panel on Maritime Decarbonisation – a group that recommends policies and actions to help the industry meet its global decarbonisation goals. ■

## The Award Winners

**International Maritime Centre Award (Corporate)**  
Eastern Pacific Shipping

**International Maritime Centre Award (Individual)**  
Mr Andreas Sohmen-Pao

**Excellence in Manpower Training and Development Award**  
PSA International

**Outstanding Maritime R&D and Technology Award**  
Shipsfocus Services

**Sustainability Award**  
Sembcorp Marine

**Bunker Award**  
V-Bunkers Tankers

**Maritime Service Provider Award**  
Synergy Marine

**SRS Ship Owner of the Year Award**  
AET Tankers

**SRS Green Ship of the Year Award**  
Saga Dawn, Saga LNG Shipping  
Special Mention: Takaroa Sun, NYK Bulkship (Asia)

**SRS Green Ship Owner Award**  
BW Group

## EASTERN PACIFIC SHIPPING: Winner of the International Maritime Centre (Corporate) Award 2021

Marcus Wong

**T**he past few years had been a busy period for the maritime industry. Apart from having to manage the usual ups and downs of the market cycle, many companies have had to adapt to technological disruption, decarbonisation rules and, of course, the fallout from COVID-19.

But instead of getting distracted by these events, Eastern Pacific Shipping (EPS) has kept its sights firmly on its long-term objective of greening the seas.

Last year, it set out a commitment towards industry-wide decarbonisation as part of its Environmental, Social and Governance policy. Earlier this year, it doubled down on its pledge by announcing that it managed to surpass its CO2 reduction target two years ahead of schedule, the result of its concerted effort to move its fleet towards green-technology and cleaner fuels.

"While there is no perfect solution, the company remains committed to continue its transition towards using cleaner energy sources available today to lower its carbon emissions," said EPS' Chief Executive Officer Cyril Ducau.

"As a leading tonnage provider managing over 17 million DWT, EPS has a responsibility to implement emission lowering solutions available today while simultaneously developing solutions for tomorrow. This is in line with Maritime Singapore's decarbonisation agenda guided by the targets of the International Maritime Organization (IMO) to reduce total annual greenhouse gas (GHG) emissions from international shipping by at least 50 per cent by 2050."

Apart from decarbonisation, he believes that there are multiple challenges the industry must face, and these can only be met with a combination of innovation, technology and talent.

In 2019, the company launched the Eastern Pacific Accelerator in partnership with accelerator platform Techstars. The goal: cultivate a new generation of startups and entrepreneurs that can reshape the maritime industry by bringing new solutions to longstanding challenges.

So far, 18 startups have received funding and mentorship to pursue a range of different solutions from artificial intelligence, virtual reality and drones. About half of them are based in Singapore.

The company is also focusing its efforts to tackle the talent crunch that the industry is facing, said Mr Ducau.

"The most significant challenge in achieving this growth is attracting talent to pursue a career in maritime business, marine engineering, or a life at sea as a seafarer," he said.

The company, headquartered in Singapore, partnered Idan & Batia Ofer Family Foundation to launch an annual S\$200,000 scholarship fund for an initial period of three years. It will be awarded in cooperation with the Singapore Maritime Founda-



tion's MaritimeONE scholarship programme, and aims to award 10 full and mid-term programme scholarships a year.

These initiatives have helped bolster the reputation of Singapore as an international maritime centre, something that Mr Ducau is happy to do.

"Much of our success can be attributed to being headquartered in Singapore and we are committed to supporting Maritime Singapore, which represents the entire ecosystem of the maritime industry on a global stage," he said.

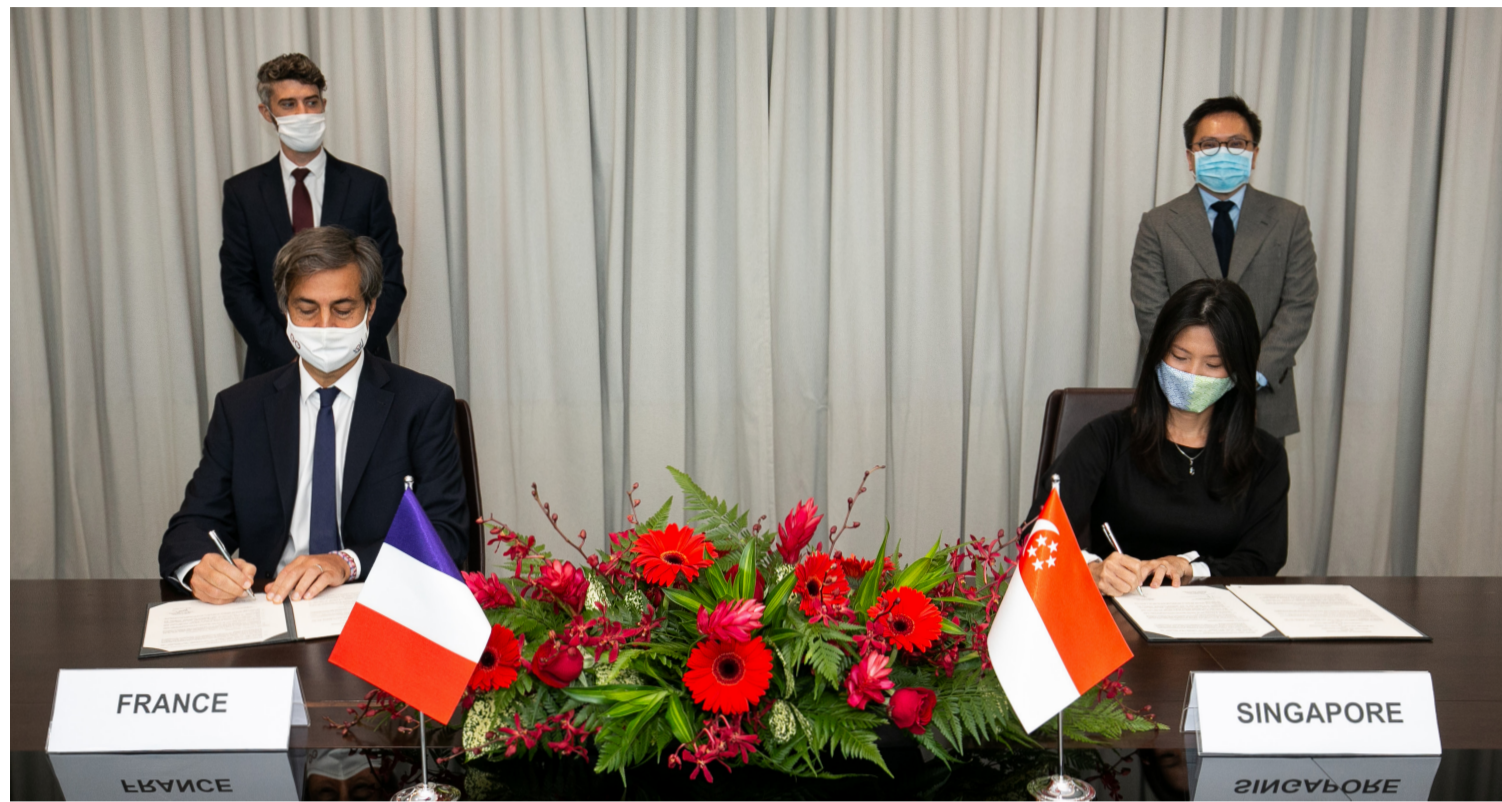
"It is essential that Singapore remains relevant as a global maritime hub as it is a maritime gateway to key Asian markets and the world." ■

# Singapore and France cement maritime collaboration

**S**ingapore and France signed an agreement to promote cooperation across several areas in maritime, including digitalisation, sustainability, training and innovation.

The Memorandum of Understanding (MOU) was signed by Ambassador of France to Singapore Marc Abensour and Ms Quah Ley Hoon, Chief Executive of the Maritime and Port Authority of Singapore, on the sidelines of the Singapore Maritime Week yesterday. They represent the maritime sectors of France and Singapore respectively.

The agreement builds on the strong collaborative relationship between the two countries. Both countries already have agreements covering a wide range of areas including food safety, cybersecurity, digital technologies, education and even the suppression and prevention of crime. ■



## SEMBCORP MARINE: Winner of the Sustainability Award 2021

Justin Kor

**A**t Sembcorp Marine's Tuas Boulevard Yard in the far west of Singapore, rows of gleaming black boards harness the enormous power of the sun. These solar panels, perched on the rooftop of a steel structure fabrication workshop, can generate enough power for 1,100 four-room Housing Board flats a year.

It is set to get even bigger. The global marine and offshore company plans to more than double the amount of electricity generated, from 5,000MWh currently to 12,000MWh by 2025, which will further reduce their carbon emissions.

This is one of Sembcorp Marine's moves to bolster sustainability efforts in the maritime industry. With seaborne trade expected to double by 2050, the company has recognised the importance of ushering the sector towards a decarbonised future to mitigate the impacts of climate change.

"As the industry embraces sustainability and envisions a future where maritime stakeholders collectively drive and adopt the implementation of sustainable business practices, we endeavour to continue to do our part to support the transition to decarbonised fuels, enhance the efficient use of resources and protect the ocean," said Mr Simon Kuik, Sembcorp Marine's Vice-President and Head of Research & Development. He is also the company's Sustainability Secretariat.

Besides conventional methods like solar panels, the company's green efforts also involve innovative solutions. For example, its Ballast Water



Management System uses ultraviolet rays, instead of chemicals, to treat ballast water. This prevents both chemical pollution and the spread of harmful aquatic organisms from one region to another.

Its sustainability efforts also involve future generations, said Mr Kuik. Its annual Green Wave Environmental Care Competition, a mainstay on the company's calendar since 2003, looks to promote environmental awareness among the youth.

Looking ahead, he called for more collaborations. By tapping on the capabilities of different stakeholders, the potential for innovative breakthrough solutions will be "tremendous".

He noted that public-private partnerships will be key, citing Singapore's creation of the International Advisory Panel on Decarbonisation as an example. The panel brings together private and public sector leaders to formulate a strategy that would reduce greenhouse gas emissions in the industry.

"To facilitate such collaborations, it is essential for governments to develop policies and initiatives that are conducive for cross-border and cross-organisational R&D, test-bedding and knowledge sharing," said Mr Kuik, who is also President of the Association of Singapore Marine Industries. ■

# Sailing through the storm: How leadership and collaboration can steer the maritime sector into calmer seas

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**T**he COVID-19 pandemic has upended the global maritime sector, but it also underscored the importance of visionary leadership and encouraged greater industry collaboration, said Mr Loh Ngai Seng, Permanent Secretary of the Ministry of Transport.

“Amidst challenging times, it becomes even more important for maritime leaders to come together to share best practices and discuss key issues such as keeping supply chains going and accelerating digitalisation,” he said at the launch of the 4th Advanced Maritime Leaders’ Programme (AMLP) yesterday.

Held in conjunction with the Singapore Maritime Week 2021, the five-day leadership programme brings together senior leaders from the maritime and port authorities to discuss the challenges confronting the industry.

Organised by the Maritime and Port Authority of Singapore (MPA) Academy, in partnership with the Singapore Management University, the programme will feature lectures, discussions and case studies on key policy issues.

It will also touch on recent supply chain challenges faced by the industry, future trends like digitalisation and decarbonisation, and highlight skill sets required to lead the industry in a post-pandemic world.

When the world went into lockdown last year, the maritime industry faced issues like crew change and severe disruptions to supply chains. Despite this, Singapore kept its ports open and industries going.

But even as borders slowly open up, countries should maintain a sense of camaraderie and strengthen partnerships, noted Mr Loh, adding:

“There is an African proverb: If you want to go fast, go alone. If you want to go far, go together.”

It is this spirit of solidarity that brought together 19 senior maritime officials from 14 countries and the International Maritime Organization (IMO) for the AMLP.

Among them is Mr Magele Hoe J. Viali, Chief Executive Officer & Secretary for Transport, Ministry of Works, Transport & Infrastructure (MWTI), from Samoa.

“The AMLP will be certain to provide leadership knowledge of how other maritime administrations are coping with current and emerging issues in maritime matters,” he said. ■





# Ammonia-fuelled tanker goal en route to set sail within the decade

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**T**he ambitious aim to have ships sail on a product typically used for fertiliser is on course to becoming reality by the middle of this decade.

Just over a year after four companies – Lloyd’s Register (LR), MISC Group, Samsung Heavy Industries (SHI), and MAN Energy Solutions (MAN) – announced a joint development project (JDP) to build an ammonia-fuelled tanker by 2025, things are moving at a steady clip.

“The work is progressing as scheduled,” said Mr Ahn Youngkyu, Vice President of SHI Shipbuilding Sales Engineering Team. “More detailed assessment of the ammonia fuel supply system as a marine fuel in technical and regulatory aspects will be done.”

After LR awarded an Approval in Principle (AiP) to SHI for its ammonia-fuelled tanker design in September last year, the South Korean shipbuilder revealed that a second AiP will be awarded this year.

The new AiP will cover two things: the basic design of an ammonia fuel tank, and the updated design of an ammonia fuel supply system.

The focus this year will also include evaluating the economic costs of using ammonia as fuel, and assessing its supply chain options. After that, the next three years will be dedicated to designing and engineering an ammonia-fuelled main propulsion plant, with an aim to construct a prototype of the vessel by 2024.

Powered by a zero-carbon energy resource, ammonia-fuelled ships will play a key role in steering the shipping industry towards a decarbonised future. This is in line with the International Maritime Organization’s (IMO) aim to halve international shipping’s 2008 greenhouse gas (GHG) emissions by 2050.

For that to happen, zero-carbon vessels need to be on the seas by 2030.

“The years ahead are a time for action,” said LR’s Marine and Offshore Director Mark Daley. “We all need to recognise how our ways of living affect our planet and for us, decarbonising the maritime industry is a key priority.”

But it is not all smooth sailing. As ammonia is toxic and corrosive, harnessing the compound as a sustainable fuel source will be a challenge. The slightest leak or spill could be disastrous.

“It should be handled with a high level of safety in the design to protect seafarers and the systems onboard,” noted Mr Ahn.

As such, collaboration between partners boasting different areas of experience and expertise will be vital for success. For instance, while SHI focuses on designing and building an ammonia-fuelled vessel, MAN’s role is to develop its engine and auxiliary systems. MISC Group will be the eventual owner and operator of the ship.

“Through collaborative efforts, we can do much more,” said Mr Yee Yang Chien, President and Group Chief Executive Officer of MISC Group. “Each partner’s experience and expertise will be central to the success of the initiative, from conception to project realisation.”

This collaboration has also been strengthened after two more organisations came on board in February – the Maritime and Port Authority of Singapore (MPA) and Norwegian chemicals giant Yara International. The expanded alliance is now known as the Castor Initiative, named after a six-star system in the Gemini constellation.

“By joining the consortium, MPA strives to work with the partners to identify challenges and opportunities relating to ammonia as a marine fuel and for ammonia bunkering,” said Mr Ng Yi Han, MPA’s Director (Innovation, Technology & Talent Development Division).

It also means that the project now has a complete representation from all areas of the maritime industry. As a leading fertiliser company, Yara will harness its knowledge of ammonia to help develop the vessel, while MPA’s experience on ammonia bunkering procedures will come in handy.

“To have a company on board that is already specialised in ammonia and also to engage with the port authority of one of the world’s most important bunker hubs, will provide a holistic approach to using ammonia as fuel,” said MAN’s Regional Sales Manager Erik Karlsen.

Although there will be many challenges ahead in achieving a zero-carbon agenda for the maritime industry, they also present opportunities for more collaboration, added Mr Daley.

“In confronting this transition, shipping can decide its preferred future direction rather than leaving others to determine the road ahead,” he said. ■

## Tomorrow’s Highlights Wednesday, April 21



Register here:  
[smw.sg](https://smw.sg)

### Arbitration’s Role In Dispute Resolution And The New Normal: Enhancing SCMA’s Relevance

The session aims to raise awareness of arbitration and the Singapore Chamber of Maritime Arbitration (SCMA), in preparation for the post-COVID world.

**Virtual Only**  
3:00pm – 5:00pm

### Towards Zero Emissions – Sharing The Norwegian Experience

A special insights panel that will explore how “Norwegian” fuel sources like electrification, green ammonia and hydrogen can contribute to decarbonisation.

**Virtual Only**  
3:00pm – 5:00pm

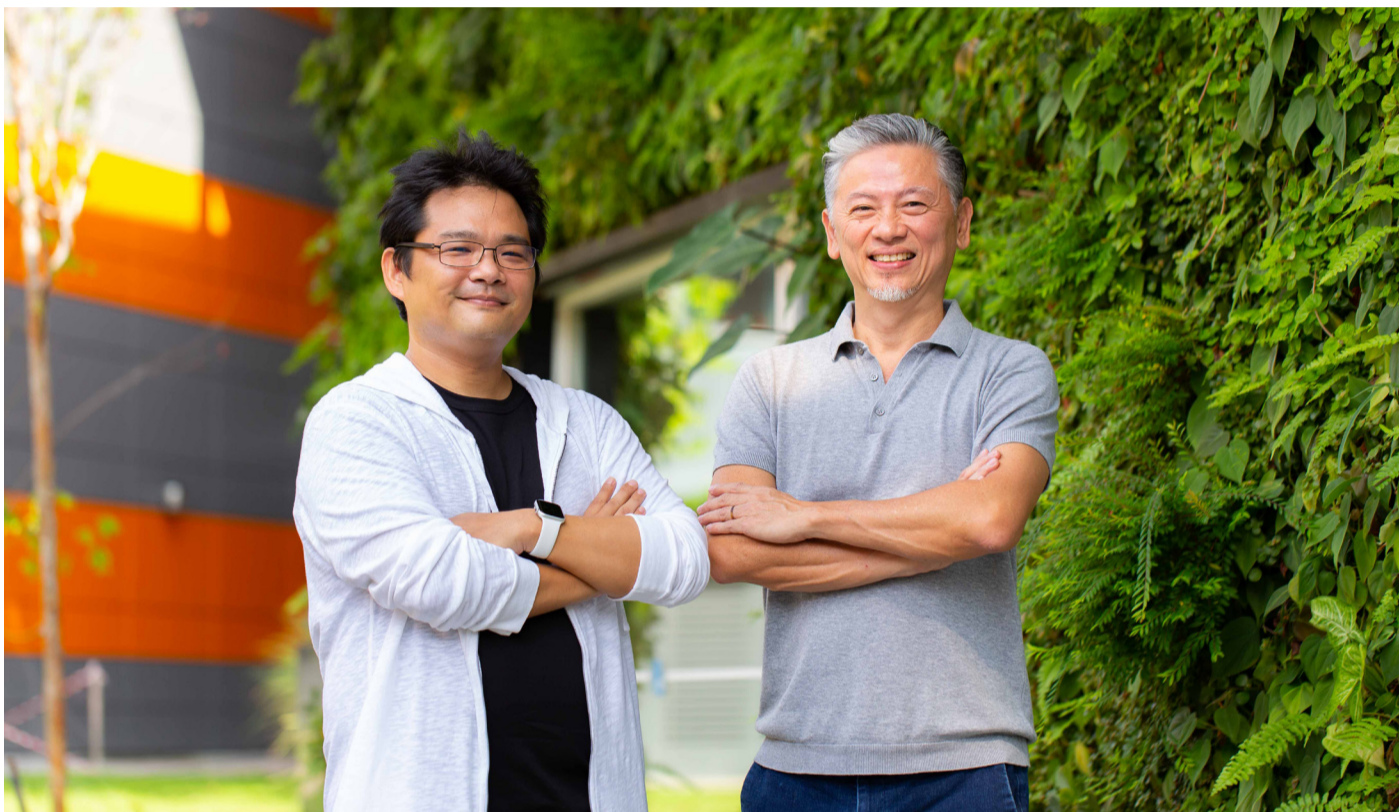
### Baltic Freight And Commodity Forum – Tanker And Gas

Analysts and industry leaders will share how the freight and commodities markets have performed in the past year, and where they expect them to head.

**Virtual Only**  
4:00pm – 5:15pm

# Create the “Queen Bee” venture studio to produce many startup eggs

*How do you break the innovation and adoption conundrum, where many maritime firms are still not adopting technology? Chief Operating Officer **James Kim** and Founder **Chye Poh Chua** of ShipsFocus, winner of the Outstanding Maritime R&D and Technology Award at this year's Singapore International Maritime Awards, tell **Samantha Boh** how they intend to solve the puzzle.*



Chief Operating Officer James Kim and Founder Chye Poh Chua of ShipsFocus, which is a maritime venture studio and digital factory that turns creative ideas into practical applications that generate recurring value.

## Tell us about ShipsFocus and your core product

**James:** Our core product is not a single software or a platform but a venture studio that creates startups which help maritime stakeholders to first digitalise, before connecting them to other stakeholders digitally.

Despite great effort, attractive offerings and a very vibrant ecosystem, suitable technology applications are either still not available or not readily adopted. We call this the ‘innovation and adoption conundrum’.

To find a way to overcome this, we studied the startup ecosystem by mimicking it, putting all its critical components under one roof to detect the missing components.

Over four years, we developed a dozen solutions and created new business models that include operational software tools, aggregation services and data-analytics offerings. They

complement each other and link interconnected data silos that are prevalent in maritime operations.

Last year, our venture studio incorporated two new startups. We hope to continue at this pace or improve on it in the coming years.

## How can ShipsFocus' technologies benefit the shipping industry?

**James:** The maritime venture studio model is a significant breakthrough from both the effectiveness and efficiency angles.

Firstly, it breaks the ‘innovation & adoption conundrum’ effectively, producing innovative products that cultivate adoption.

Secondly, it is probably the most efficient way to bring innovation and adoption to life, optimising the use of precious resources. The venture studio acts as a Queen Bee that can produce many valuable startup eggs consecutively.

## You manage a Maritime Fund at Quest Ventures. What sort of startups will you be investing in?

**Chye Poh:** We are right at the first close of the fund. Apart from James' and my money, the fund has three other very astute and supportive investors. It will start to invest from next month in three target-investee groups:

- Startups from the venture studio
- Startups from the community
- Overseas startups that want to expand in Asia

These startups and their solutions directly serve maritime commerce and operations, with a scalable business model for industry wide adoption.

## With over 30 years of experience in the maritime industry, could you share how the startup landscape has evolved?

**Chye Poh:** We are in a most exciting time and place. The four shipping markets (New Building; Sale &

Purchase; Freight; and Demolition) are extensively diversified with many sectors and sub-sectors. So, while the industry has always been innovative, it has not appeared so due to its fragmented nature and many specialisations.

The last exceptionally prominent period was the dot.com boom, which saw a flurry of startup activities that disappeared after a few years. Activity is now starting to heat up again, coinciding with the rapid rise of Uber, and corresponding attempts to apply the Uber model in different shipping sectors. An exciting competition is now also going on in startup ecosystems of major cities.

Strategically, our Singapore ecosystem can ride on a comparatively unfair advantage in our maritime startup sub-ecosystem, something even Silicon Valley can only envy.

## What are the biggest game changers that will take the industry by storm?

**Chye Poh:** Decarbonisation is a big topic today, but one that is likely to be closely driven by regulations. From our perspective, digitalisation and its resultant connectivity will in time reach a tipping point, producing a huge game-changing impact.

When that happens, the value creation will extend far beyond benefits like efficiency gains for the maritime stakeholders, but including huge reduction or eradication of ‘missed opportunities’ by even non-maritime stakeholders in trading, finance, etc.

Until that happens, game changers are more likely to be from compressive disruptions rather than big bang disruptions. This means unglamorous but practical methodologies more than exhilarating inventions. But their effects will be insidious, with a sudden and radical change.