

MARITIME FRONTIER

Charting Our ITM Journey

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HEAD START
IN MARITIME

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UPSKILL



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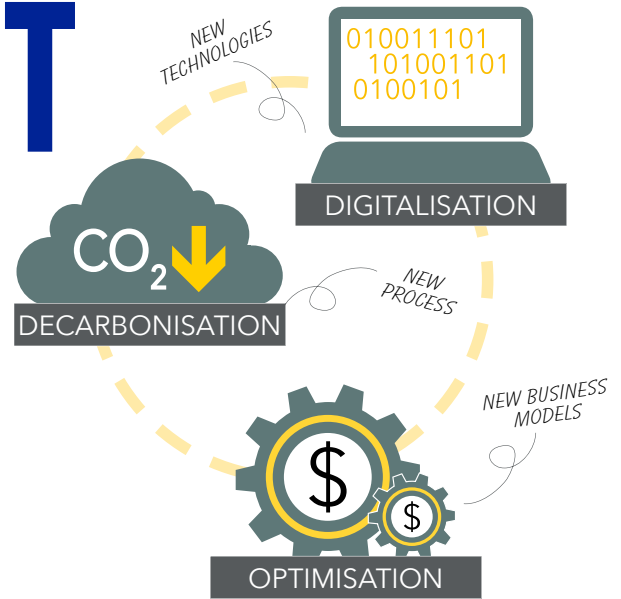
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GET A HEADSTART IN MARITIME

New training opportunities are now available for those looking to reskill and prepare for an exciting career in maritime.

The global maritime industry is undergoing radical transformation in recent times, driven by regulatory and competitive pressure to achieve sustainable and efficient operations. With more than 80% of the world’s merchandise trade by volume carried by sea transport, this change is seismic.

Recent trends in digitalisation, decarbonisation and optimisation of operations alone are spinning off new technologies and business models at an incredible pace, creating new opportunities in the process. Companies are compelled to rethink



familiar strategies and workers to retool traditional skillsets in order to meet new and growing demands of the evolving maritime industry.

To ready Singapore for a digital and decarbonised maritime future, MPA and SkillsFuture Singapore (SSG), in consultation with Singapore Shipping Association and local maritime companies, have established a series of training programmes to develop the maritime workforce and deepen local capabilities.



These 6 - 12 months long courses are administered by SSG under its SGUnited Jobs and Skills Initiative, and conducted by leading organisations, including American Bureau of Shipping



1000

TRAINING & TRAINEESHIP OPPORTUNITIES

AUTOMATION SYSTEMS

Courses by PSA International

- Industrial Automation
- Systems Engineering
- Data Analytics

CARGO SOLUTIONS

Courses by SMU Academy

- Supply Chain Solutioning
- Modelling
- Planning
- Strategy Formulation
- Risk Management & Administration
- Business Innovation & Management

DIGITAL TRANSFORMATION

Courses by National University of Singapore

- Business Process Re-engineering
- Digital Technology Adoption & Innovation
- Project Management
- Maritime Innovation

MARITIME BUSINESS MANAGEMENT

Courses by Singapore Polytechnic

- Ship Operations
- Chartering
- Data Analytics

(ABS), DNV GL, National University of Singapore, PSA International, Singapore Management University and Singapore Polytechnic. Some of the courses are available for application and the rest will be progressively introduced in coming months.

MARITIME SUPERINTENDENCY

Courses by Singapore Polytechnic

- Ship Seaworthiness & Pollution Prevention
- Ship Maintenance & Repair (Dock)
- Risk Compliance & Governance
- Budgeting

MODELLING & SIMULATION

Courses by ABS Singapore

- Digital Twins of Maritime Systems
- Model-Based Engineering
- Internet of Things, Industry Robotics & Machine Learning

SEAFARING (CLASS 1 & 2 DECK OFFICER)

Courses by Singapore Polytechnic

- Navigation & Position Determination
- Navigation Watch
- Ship Seaworthiness
- Pollution Prevention

SEAFARING (CLASS 1 & 2 MARINE ENGINEER OFFICER)

Courses by Singapore Polytechnic

- Electrical, Electronics & Control Engineering
- Propulsion, Plant & Machinery
- Maintenance & Repair
- Ship Seaworthiness
- Pollution Prevention

SHIP OPERATIONS & MANAGEMENT

Courses by DNV GL Maritime Academy Singapore

- Crew Management
- Risk Compliance & Governance
- Technology Integration

The training programmes are part of the **1,000 training and traineeship opportunities**¹ that MPA has secured for mid-careerists and recent graduates to explore career opportunities in the highly resilient and diverse maritime sector.

Notes:

¹ https://www.ssg-wsg.gov.sg/news-and-announcements/22_Oct_2020.html



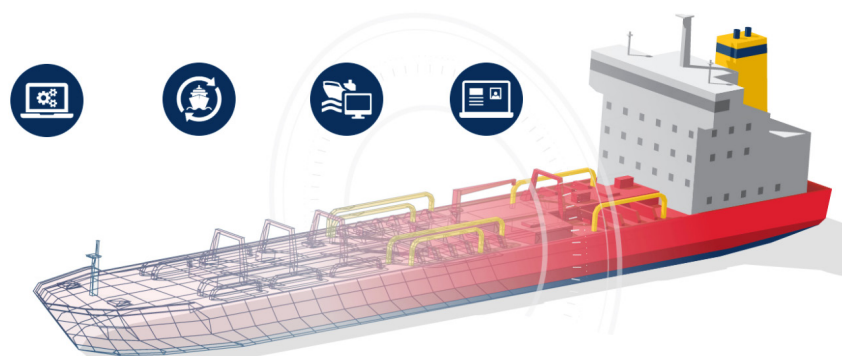
Take modelling and simulation (M&S) for example. There are many challenges today in the design, manufacturing, testing, operation and maintenance of complex systems for digital transformation. Computer-based M&S is the most cost-effective way to address many of these challenges. The ABS M&S programme will equip trainees with essential knowledge and skills to apply M&S across the shipping value chain. It includes an attachment to ABS where trainees can address real-world challenges by drawing lessons from different stages of the lifecycle of marine assets, and gain an integrated and comprehensive understanding of the maritime industry.



Technology is transforming traditional jobs and the types of skills needed by the industry. Modelling and simulation are essential for the analysis and design of complex systems. Leading maritime companies globally have started to leverage this technology to improve products and operations. It's a technology that is becoming increasingly important, with applications not just in maritime but other industries.



DR GU HAI
Vice President, ABS Singapore
Innovation Research Center





The digital transformation of the maritime industry is accelerating globally as a result of the pandemic. Maritime professionals need to be equipped with up-to-date skills to tackle the latest developments in technology, innovation and regulations in today's rapidly changing and complex environment.

MS CRISTINA SAENZ DE SANTA MARIA
Regional Manager,
South East Asia, Pacific & India
DNV GL Maritime



Another example is ship operations and management. The marine and technical superintendent is one of the most sought-after roles in the shipping industry. With the digitalisation of the industry, the duties of the superintendent have to be redefined. The DNV GL course, which covers both technical knowledge and soft skills required for safe and efficient shipping operations, will adequately prepare trainees for the diversified roles of superintendent in a digital future.



Through grooming the local workforce for maritime roles that are in high demand, we aspire to develop a skilled and versatile local talent pool that can lead Singapore into a bright and sustainable maritime future.

GOT THEM SEA LEGS?

Apply for courses at the **MPA resource page**² or traineeships at **myCareersFuture**. Companies in the maritime ecosystem that are interested in supporting these SGUnited programmes can contact **Wu Zhenwei** at Wu_Zhenwei@mpa.gov.sg and **Natasha Teh** at Natasha_Teh@mpa.gov.sg.

TRAINING

SGUnited Skills³
SGUnited Mid-career Pathways Programme - Company Training⁴

TRAINEESHIP

SGUnited Traineeship⁵
SGUnited Mid-career Pathways Programme - Company Attachments⁶

Notes:

² MPA resource page - <https://www.mpa.gov.sg/web/portal/home/maritime-singapore/maritime-careers/sgunited-opportunities-in-sea-transport>

³ SGUnited Skills - <https://www.myskillsfuture.sg/content/portal/en/career-resources/career-resources/education-career-personal-development/sgunited-skills.html>

⁴ SGUnited Mid-career Pathways Programme - Company Training - <https://www.myskillsfuture.sg/content/portal/en/career-resources/career-resources/education-career-personal-development/sgunited-mid-career-pathways-programme.html>

⁵ SGUnited Traineeship - <https://www.wsg.gov.sg/SGUnitedTraineeships-Trainees.html>

⁶ SGUnited Mid-career Pathways Programme - Company Attachments - <https://www.wsg.gov.sg/programmes-and-initiatives/SGUnitedMidCareerPathways-Trainees.html>



Left to Right: Mr Lakhbir Singh and Ms Kate Neo

AUTOMATING AWAY THE MUNDANE CHORES

By facing up to digital disruption, **Orient Maritime Agencies** has placed itself on an exciting growth trajectory in the highly competitive marketplace for ship agents.

Orient Maritime Agencies¹ is a Singapore-based ship agency with a growing presence in Southeast Asia. Established in 2015, the company's vision is to differentiate itself as the leading ship agency of choice.

Ship agents play a crucial role in ensuring that port clearances, bunker supplies

and other ship services are arranged and delivered without a hitch when vessels arrive into port. It is therefore not surprising that ship agents are inundated with data entry, coordination, documentation and record keeping, especially if they are still relying on manual processes to do so.

Notes:

¹ Orient Maritime Agencies -- <http://www.orientmaritimegroup.com/>

Orient Maritime Agencies' co-founders Mr Lakhbir Singh and Ms Kate Neo have always believed that digitalisation and automation are key to eliminating the mundane and repetitive processes while increasing the efficiency, transparency and accuracy of data. "Technology has advanced significantly over the past few years with cloud storage and computing. On-premise technologies with large server rooms which are costly to set up and maintain are a thing of the past. We felt we were missing out on growth opportunities by not taking advantage of new technologies," said Mr Singh.

The duo attended various industry forums organised by the Maritime Port Authority of Singapore (MPA) and **Singapore Shipping Association (SSA)**², to learn more about digitalisation and market trends. At one of the forums, Orient Maritime Agencies chanced upon the founder of **Constant Bearing**³, who was then conducting trials to improve the planning and execution of port calls, and a decision was taken to sign up for the programme.

Orient Maritime Agencies' digital adoption was supported in part by the **Maritime Cluster Fund - Productivity (MCF-PD)**⁴. The project involves the development of a web app and the use of Robotics Process Automation (RPA) to digitise and automate its port call operations. Unlike what the name implies, the RPA is not a physical machine or robot. Rather, it is a software programme that can automate routine business processes using artificial intelligence.



Ms Neo cited the manual tracking of vessel nominations using spreadsheet as one of the prior process challenges. "With multiple parties accessing and updating the same spreadsheet in Cloud, the file would sometimes hang and the content would not save properly. We also had to deal with data entry errors and progressive build-up of records, which impeded our processing time," she recalled.

With the new solution, vessel information in the company's master database can be automatically retrieved and submitted to support various service requests, once the vessel call has been registered on the app. Work progress can also be monitored in real-time on mobile devices by staff and management, as well as the client. "With improved information flow, it only takes about 90 minutes for us to organise the service requests for vessel

Notes:

2 Singapore Shipping Association (SSA) - <https://www.ssa.org.sg/>

3 Constant Bearing - <https://constantbearing.com/>

4 Maritime Cluster Fund - Productivity (MCF-PD) - <https://www.mpa.gov.sg/web/portal/home/maritime-companies/setting-up-in-singapore/developing-manpower/maritime-cluster-fund-mcf>

arrivals each day. This translates into average **manpower savings of over 80%**⁵ per day for each department," said Ms Neo.

The sending of operational reports via email templates was another prior challenge, as it required the manual transfer of information, which was tedious and prone to error. With RPA, email reports can be auto-populated from the central database, and despatched to respective stakeholders at specific timings in the day. For example, the sending of notices to bunker surveyors, traders and suppliers, and the generation of routine documents such as Statement of Facts and Arrival & Departure reports, can be achieved at the click of a button. Likewise, the completion of online forms for **digitalPORT@SG**⁶ can be easily achieved using RPA, without having to switch between files and folders to extract information.

As the vessel transactions are stored in a centralised system, the team no longer has to scan, print and house voluminous stacks of email reports in the office. Managers are able to check the accuracy of services delivered at any time, while vendor invoices can be promptly validated using e-stamps and e-signatories, with payment completed without delays. "On average, we now require about 270 minutes to capture, approve and document the service requests from an incoming vessel. Previously, this would have taken hours of manual coordination by personnel across different departments," affirmed Ms Neo.

The streamlined processes and online workflows could not have come at a better time. "Despite the safe distancing measures during COVID-19, the team managed to process the work without any compromise on customer service standards. And because the system is able to detect discrepancies, this has accounted for more precise planning and better resource utilisation," Mr Singh noted.



Notes:

⁵ Approximately 2,000 manhours of productivity gain per annum

⁶ digitalPORT@SGTM is a one-stop port clearance portal for ships calling at the Port of Singapore. The next phase of digitalPORT@SGTM will include booking of marine services and a Just-In-Time service to orchestrate vessel call activities for optimal passage planning. See <https://digitalport.mpa.gov.sg/>

When asked if they had encountered any resistance to digital adoption, Ms Neo shared: "It is only natural for employees to worry about job redundancies, especially during challenging times. As supervisors, I feel it is our responsibility to show people exactly how they would benefit from digital transformation. For example, instead of focusing on mundane functions, people are starting to value add to improving customer experiences. By embracing digitalisation, we're able and ready to do more with the current team. To me, that's a step closer to achieving our vision while enlarging our growth prospects!"

For Mr Singh, the implementation of the web app and RPA is just the tip of the iceberg: "In the next step of our digitalisation journey, I hope to see a more complete and seamless integration between governmental and commercial platforms. The Sea Transport Industry Transformation Map and MCF have provided a much-needed catalyst in the drive towards digitalisation. As a young company, we are embracing this not only because we want to take the lead, but because this is the right way forward."



Staff from Orient Maritime Agencies adapting quickly to the use of digital tools, which have helped to reduce paperwork, simplify processes and improve productivity.



What is the Maritime Cluster Fund - Productivity?

The MCF-PD aims to elevate the productivity of maritime companies by enhancing business processes and workflow or by developing and adopting technology solutions. Qualifying projects can receive co-funding support from MPA for eligible expenses. For more information on MCF-PD, contact the **MCF Secretariat** at mcf@mpa.gov.sg.

FAST TRACKING MARITIME TECH START-UPS

The maritime industry is intensifying its digital transformation, and opportunities are immense for start-ups looking to be part of this exciting innovative space.



Left: Singapore-based start-up BeeX wins PIER71's SPC 2020 with their autonomous maritime solution.

Top-Right: Mr Marc Sima, CEO of SPC 2020 runner-up, FUELSAVE, an efficiency enhancement and cleantech start-up, receiving the award virtually from Germany.

Bottom-Right: Third prize winner, Vulcan AI, creates a safer work environment through intelligent sensors and wearable AI.

Full recording of the SPC 2020 is available at <https://spc2020.pier71.sg>

Imagine a future where dangerous and prohibitively expensive underwater inspections can be performed repeatedly by a thinking robot. With the **A.IKANBILIS**, a hover-capable autonomous underwater vehicle designed and developed by deep tech start-up BeeX, this scenario could become reality sooner than expected.

BeeX was among the 16 finalists at this year's **Smart Port Challenge (SPC)**¹, scoring a seat in **PIER71 Accelerate**² – an

incubation programme curated specially for maritime start-ups. Enrolment perks include exclusive mentoring and coaching, as well as access to domain experts, investors and maritime corporations. BeeX eventually emerged as the winner of SPC 2020, bagging the grand prize of S\$10,000. All finalists are also eligible to apply for MPA's support grant of up to **S\$50,000**³ to develop and pilot the solutions with maritime companies.

Notes:

1 Smart Port Challenge (SPC) - <https://www.pier71.sg/smart-port-challenge/>

2 PIER71 Accelerate - <https://www.pier71.sg/start-ups/>

3 The support grant taps on the Maritime Innovation and Technology (MINT) Fund that was set up to develop Singapore as a Centre of Excellence for maritime R&D and technology solutions - <https://www.mpa.gov.sg/web/portal/home/maritime-companies/research-development/Funding-Schemes/mint-fund>



A flagship programme of **Port Innovation Ecosystem Reimagined at BLOCK 71 (PIER71)**⁴, the SPC is an annual call for groundbreaking proposals that address problem statements put forth by maritime corporates in Singapore. Since its inception in 2017, the SPC has garnered close to 600 technology proposals that address over 80 innovation opportunities identified by 68 maritime corporates. The participation from maritime companies has been steadily growing over the last four years, providing a critical mass of demand drivers for innovation activities.

Aside from the SPC, PIER71 offers year-round opportunities for

entrepreneurs interested in port and maritime technologies. This include a **Marketplace**⁵ aimed at attracting and growing partnerships between tech start-ups, maritime corporates and venture capitalists. There is also a sponsored residency programme for eligible firms known as **Landing Pad**⁶ at Block 71, JTC LaunchPad @ one-north, which seeks to foster vibrant innovation communities and encourage ideation.

To continue growing the maritime innovation ecosystem in Singapore, MPA has been working with Enterprise Singapore (ESG) to attract higher participation from start-ups and to anchor their innovation and enterprise

Notes:

4 PIER71 is a collaboration between MPA and NUS Enterprise to support industry-wide acceleration programmes for the port and maritime industry

5 Marketplace - <https://www.pier71.sg/marketplace/>

6 Landing Pad - <https://www.pier71.sg/about-pier71/our-landing-pad/>

activities in Singapore. In June 2020, MPA and ESG jointly appointed **six partners**⁷ to boost the maritime ecosystem by catalysing a combined S\$50 million of co-investments into maritime start-ups – a move expected to benefit more than 50 up-and-coming Singapore-based start-ups.

Entrepreneurs can also turn to **Startup SG**⁸, **SGInnovate**⁹, and incubators run by various institutes of higher learning to discover and access resources ranging from talent sourcing and accelerator programmes, to capital funding, co-investments and infrastructural support.

Besides assistance schemes from the government, there are also private entities providing helplines for maritime start-ups. For example, **PSA unboXed**¹⁰ was set up in 2016 to focus on investment, collaboration, incubation and testing activities aligned to PSA's blueprint for the Container Port of

the Future. **Ocean of Opportunities challenge**¹¹, a tie-up between Symphony Creative Solutions and NUS Enterprise, has been running for three years, gathering innovation solutions for the shipping industry; while **EPS-MaritimeTech Accelerator Powered by Techstars**¹² is a Singapore-based global maritime tech accelerator programme empowering fledgling enterprises through mentorship and investments.

Rainmaking Innovation¹³ focuses on decarbonisation, shipping and supply chain, and has recently launched a maritime innovation advisory network for Southeast Asia with more than 30 industry leaders. This year, PIER71 also collaborated with **NTU Ecolabs**¹⁴, which focuses on clean technology start-ups and offers innovation programmes, test-beds and investment partners. All in all, these opportunities offer exciting inroads for start-ups to contribute ideas to Singapore's sea transport industry transformation efforts.



INTERESTED TO LEVEL UP YOUR INNOVATION AND R&D PROJECTS?

Learn more about industry support programmes and funding schemes for maritime companies in Singapore at the **MPA website**¹⁵.

Notes:

7 six partners - <https://www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/938d18a2-108e-4763-905a-f0646bba6acb>

8 Startup SG - <https://www.startupsg.gov.sg/>

9 SGInnovate - <https://www.sginnovate.com/>

10 PSA unboXed - <https://unboxed.globalpsa.com/>

11 Ocean of Opportunities challenge - <https://ooo.sg/>

12 EPS-MaritimeTech Accelerator Powered by Techstars - <https://www.techstars.com/newsroom/techstars-and-eps-launch-global-maritimetech-accelerator-in-singapore>

13 Rainmaking Innovation - <https://rainmaking.io/>

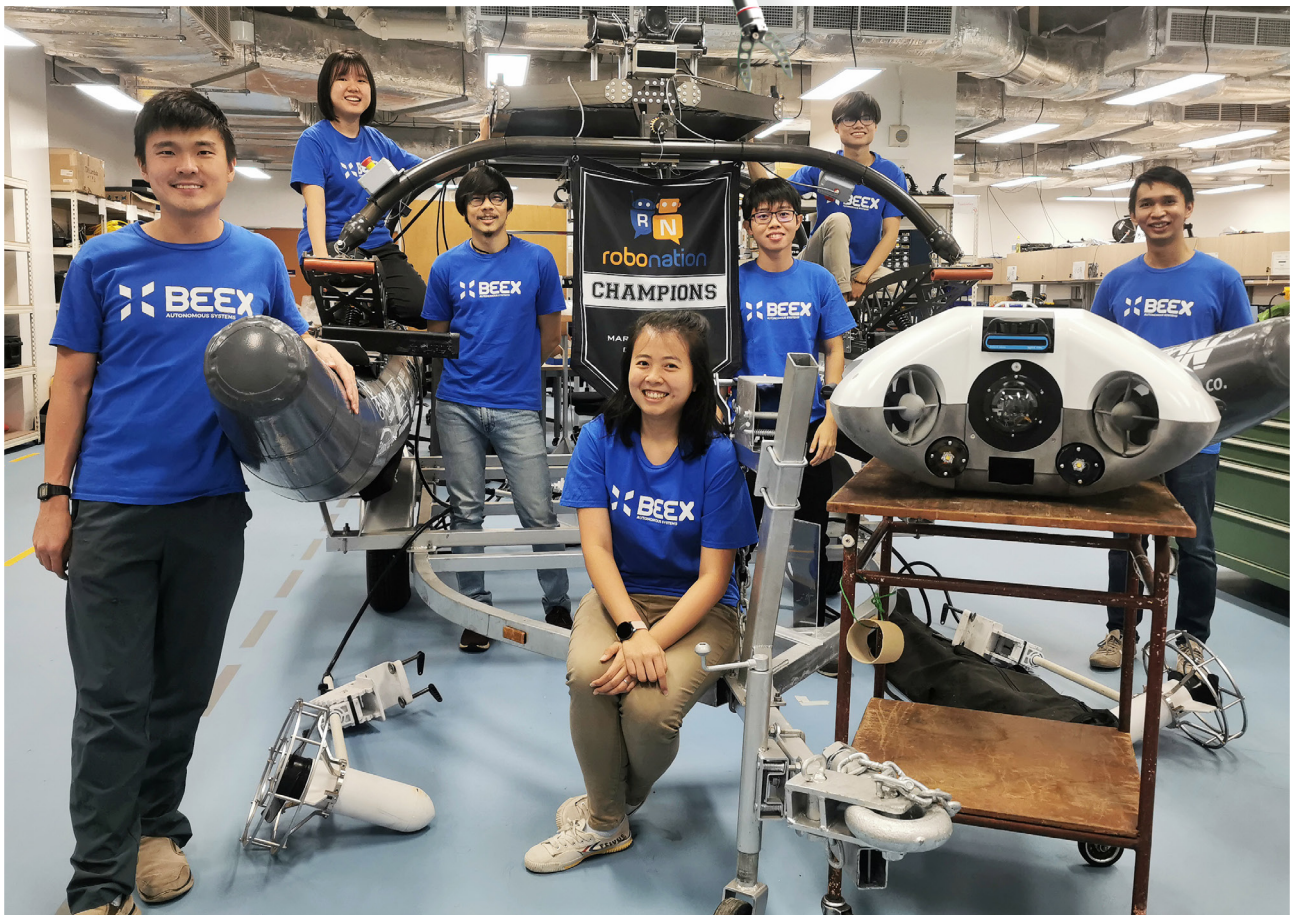
14 NTU Ecolabs - <http://ecolabs.sg/>

15 MPA - <https://www.mpa.gov.sg/web/portal/home/maritime-companies/research-development>

THIS SMALL FISH MADE IT **BIG**



Do not underestimate the **A.IKANBILIS**¹, an unpretentious-looking machine concealing advanced artificial-intelligence functions for underwater missions. Thanks to the recently concluded SPC 2020, this flagship product by **BeeX**², a spin-off from NUS' Advanced Robotics Centre, has been making waves among operators looking to new technologies to address the challenges of underwater inspections.



Ms Grace Chia (seated) with the A.IKANBILIS and her team of engineers with multi-disciplinary expertise in marine robotics, naval architecture and autonomous self-driving.

Notes:

¹ Ikan Bilis is the Malay name for small, dried anchovies used to provide subtle yet impactful flavours to Asian cuisines. The prefix A. was included by BeeX to represent Autonomy.

² BeeX - <https://beex.sg/>



The A.IKANBILIS is an autonomous underwater vehicle designed to eliminate the risks and high costs of underwater inspections. Its sensors and AI features enable improved productivity and robust data collection in high-current and low-visibility conditions, while in-built batteries and an on-board processing unit support self-sufficient deployment.

According to Ms Grace Chia, CEO of BeeX, the biggest advantage of joining SPC 2020 was the chance to interact with many maritime companies. "We are thankful for the networking opportunities with corporates, mentors, regulators and other start-ups working in this sector. The generous publicity has definitely motivated us to strengthen product excellence and build up a valuable company," she revealed.

"If you are a start-up with an innovative solution to offer, there is no better time to make an impact in the world than

now. Through PIER71, we are piloting the **A.IKANBILIS** with two homegrown companies, HydROV and G8 Subsea, who specialise in vessel hull maintenance and floating solar engineering respectively. We are also engaging local diving contractors like Dive Marine and Divetech Marine to make existing underwater operations safer and more cost effective. It has been truly rewarding to see how the opportunities and combined expertise have enabled our innovation to create new value in the market," Ms Chia added.



Check out the success stories of other maritime tech start-ups at <https://www.pier71.sg/success-stories>.

SAILING ONLINE TO CHINA WITH EASE



Enterprise Singapore (ESG) helped open up maritime opportunities in China by connecting local Singaporean entrepreneurs with major Chinese enterprises through maritime innovation webinars.

The current pandemic situation might have put a stop on international travel but it has not dampened our efforts to promote and expand the footprints of our local maritime enterprises overseas.

Under the ambit of the Zhejiang-Singapore Economic and Trade Council, ESG jointly organised two maritime innovation webinars with their Chinese counterparts with the theme "Seeking New Development and Creating a New Future Together". Some 90 participants from Zhejiang and Singapore Maritime communities came together for these sessions.

Like the Port of Singapore, the Ningbo-Zhoushan port is an important node in the global maritime trade. There are many areas where both sides can learn from and cooperate with one another. One such area is in technological innovations that are essential to fuel growth and improve productivity in the maritime industry - the vital bloodline of the global economy.



“新加坡是建设国际一流自由贸易港的成功范例，也是浙江自贸试验区对外合作的重要伙伴。油气贸易和海事服务专题工作组，作为浙新经贸理事会框架下成立的第一个专题工作组，要充分发挥现有机制作用，紧紧围绕相关政策完善和突破，积极搭建平台、畅通渠道，强化精准对接，推动双方企业深入合作，促进浙新政府、企业、专家间开展更多积极对话。”

房立群
浙江省商务厅副厅长

“Singapore is a successful example of building a world-class free trade port, as well as an important partner for foreign cooperation in the Zhejiang Pilot Free Trade Zone. The Work Group on Oil and Gas Trade and Maritime Services, being the first working group established under the framework of the Zhejiang-Singapore Economic and Trade Council, should leverage on existing systems to seek improvements and breakthroughs of related policies, actively build platforms, facilitate channels for collaboration, strengthen matching, promote in-depth cooperation between enterprises, and promote constructive dialogue between the government agencies, enterprises and industry experts from both Zhejiang and Singapore.”

MR FANG LIQUN

Deputy Director General of Zhejiang Provincial Department of Commerce

To this end, ESG has co-organised the Singapore-Ningbo Maritime Innovation Webinar together with Ningbo Economic and Information Bureau on 12 August 2020, and the Singapore-Zhejiang Belt & Road Maritime Innovation Webinar with Zhejiang Department of Commerce on 27 August 2020.

Five maritime-tech companies from Singapore - BeeX, Brightree, F-Drones, Glee Trees and ShipsFocus - were invited to pitch their technology solutions to a diverse audience comprising Zhejiang Provincial Government departments, Ningbo and Zhoushan Municipal Governments, key Chinese maritime companies of Ningbo Port Group, COSCO Shipping Agency (Zhoushan), Zhejiang Port Group; and members of the Singapore Logistics Association and the Singapore Association of Shippers and Services.

During the Singapore-Zhejiang Belt & Road Maritime Innovation Webinar, the Zhejiang Department of Commerce presented on the Zhejiang Pilot Free Trade Zone with its "One Hub, Three Centres and One Demonstration Zone" Vision, as well as major maritime developments in the province. The webinars shared developments in Ningbo-Zhoushan Port and how technologies, such as drones, artificial intelligence, Internet-of-Things and unmanned autonomous vehicles, are transforming traditional operations.



Mr Desmond Tay, Regional Group Director, China Group, Enterprise Singapore, giving opening remarks at the Singapore-Zhejiang Belt & Road Maritime Innovation Webinar

Through both sessions, the Singapore maritime-tech startups were able to gain a better understanding of China's maritime landscape. The webinars provided them with a useful platform to connect and explore potential business opportunities, and initiate further discussions with interested Chinese companies.



Singapore start-ups and representatives from Enterprise Singapore, Singapore Logistics Association and Singapore Association of Shipsuppliers and Services at the Singapore-Zhejiang Belt & Road Maritime Innovation Webinar

In-line with its mandate to help Singapore enterprises to internationalise, ESG will organise more webinars to assist local enterprises in capturing business opportunities overseas.

Local maritime enterprises that are keen to find out more can reach out to:

Ms Iris Quah
iris_quah@enterprisesg.gov.sg
Enterprise Singapore



“The COVID-19 pandemic has underscored the need to accelerate the transformation of the maritime industry. As a global hub for trade and connectivity, we have been leveraging technology and innovation to develop and facilitate efficient, resilient and secured trade flows. Local startups are also working hand-in-hand with global companies in the maritime eco-system to navigate the disruptions by creating new and innovative business models. We encourage more Singapore companies to partner us in uncovering collaboration opportunities overseas.”

MR LAW CHUNG MING
Director, Transport & Logistics
Enterprise Singapore

MY FIRST PITCH AT THE MARITIME INNOVATION WEBINAR

By MR KEVIN PENG

As the MD of Brightree Pte Ltd, I am always keen to explore overseas markets, especially China, for growth and partnership. So, when ESG invited Brightree to participate in the Maritime Innovation Webinars, I jumped at it!

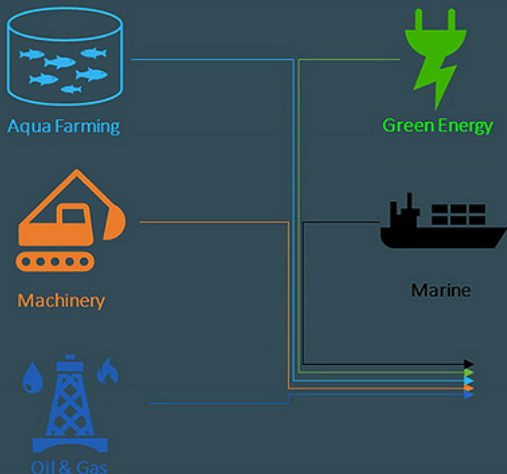
The pitch was quite intense. There were 10 of us and we were given only five minutes to succinctly propose

our solutions to a panel of Chinese corporations and government agencies. When my turn came, I presented on how Brightree solutions can significantly enhance productivity in bunkering operations.

As an Industrial-Internet-of-Things enabler for maritime operations, we mainly provide data logger for logging of Coriolis mass flow metres (MFM) onboard bunker tankers to enable bunker operators to track the bunkering process in real time. Through accurate tracking of bunker discharged using MFM and digitalising bunkering documentation, we reduce discrepancies and enable transparency in the bunker custody transfer process.



INTERNET OF MACHINES



We also have the Digital Fleet Management System that uses smart IoT devices for monitoring of engine condition, fuel consumption and CCTV video streaming, among other things. It enables higher productivity by alerting operators to anomalies as well as automatically logging and tracking incidents in the system.

Overall, the two webinars went smoothly. They provided valuable opportunities for me and other participants to expand our network in China, scout for potential collaborations and assess the potential of Brightree solutions.

China has been aggressively building its port technologies in recent years. As the world's largest bunkering hub and a leading hub port, Singapore has much to offer in terms of tested and proven technologies and capabilities. Our maritime-tech companies should consider leveraging this advantage to make in-roads overseas.



Going to new market will always be challenging, and having strategic partners can often make all the difference. My advice to local companies thinking of venturing overseas is to seriously consider tapping on the extensive resources and assistance programmes in ESG and MPA. In today's super competitive world, every advantage counts.

MR KEVIN PENG
Maritime Innovation Webinar Participant
& MD Brightree


www.brightree.com.sg





Maritime Frontier is a quarterly electronic newsletter produced by the Maritime and Port Authority of Singapore (MPA). The publication aims to inform and engage the maritime industry as well as workforce in Singapore on the various initiatives and opportunities under the four pillars of Productivity, Innovation, Jobs and Skills, and Internationalisation of the Sea Transport Industry Transformation Map.

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