REMARKS BY SENIOR MINISTER OF STATE, MINISTRY OF TRANSPORT, MR CHEE HONG TAT AT THE SMART PORT CHALLENGE (SPC) 2021 GRAND FINAL ON 23 NOVEMBER 2021

Ladies and gentlemen,

Good afternoon. I am delighted to join you at the Grand Final of the Smart Port Challenge 2021.

Our ambition to be the Silicon Valley of MarineTech

Challenges such as the COVID-19 pandemic and global supply chain disruptions have brought out the resilience and tenacity of Maritime Singapore. We have sailed through rough seas by working together with our tripartite and international partners. And we have made good progress in key areas such as digitalisation and decarbonisation.

But we are not stopping here. Even though Maritime Singapore has done well, we are not resting on our laurels, because one of our ambitions is to aim to be the Silicon Valley for maritime technology, or "MarineTech". We believe Singapore is well-positioned to excel in this field, as we are a leading global hub port and International Maritime Centre. We are combining with our strengths in technology and digitalisation with our strengths in maritime. We have an innovative and skilled workforce, with talents from diverse sources and disciplines. And our strong tripartite partnership and pro-business regulatory environment give us a further boost to be a living lab to test out MarineTech solutions.

The Smart Port Challenge and PIER71™

To spur innovation in MarineTech, MPA initiated the Smart Port Challenge in 2017. The Challenge is now in its fifth year and I am very happy to know that has grown from strength to strength. This year, 151 start-ups from 25 countries applied to tackle challenge statements ranging from port operations, shipping, and sustainability to crew safety and supply chain management. 18 start-ups were selected to participate in PIER71™ Accelerate, a seven-week programme to connect with potential customers and validate their proposed solutions and business models. Eight have been chosen to pitch at the Grand Final today. I am happy to see a wide range of expertise being applied to tackle the challenge statements, including artificial intelligence, data analytics, robotics and automation.

The Smart Port Challenge is a core programme under the Port Innovation Ecosystem Reimagined @ BLOCK71, or PIER71™ for short. Inspired by the success of the Challenge, MPA and NUS Enterprise started PIER71™ in 2018 to strengthen the MarineTech ecosystem in Singapore.

PIER71™ supports entrepreneurs from ideation to acceleration, and connects start-ups with demand drivers, technology partners and investors. Having a good idea is a good start, but is not enough. We need the ecosystem to support and scale up these good ideas, to take

them from ideation to implementation. So far, PIER71™ has supported 32 start-ups to pilot their solutions with 50 maritime partners. 13 start-ups have deployed their solutions, and 8 have secured investment funding.

For example, dlt-ledgers, a 2018 Smart Port Challenge finalist, provides a blockchain platform for cross-border trade and supply chain digitalisation. It was part of the successful electronic bill of lading trial between Singapore and the Netherlands earlier this year, and recently secured US$7 million in funding – a record amount for a PIER71™ alumnus. Congratulations to dlt-ledgers. Their success is also a testament to the good support that NUS Entreprise, MPA, and our ecosystem partners have provided. I hope it can also inspire and encourage other start-ups to follow a similar successful path.

To build on the success of PIER71™, MPA and NUS Enterprise have agreed to **renew their collaboration for another three years**. In this new phase, PIER71™ will be enhanced to provide start-ups with structured access to NUS resources, including business support, deep tech capabilities, recruitment, mentorship, and customer networks. I would like to thank NUS Enterprise and Professor Boey for their contributions to grow this successful partnership, and look forward to the new opportunities that our collaboration will bring.

Going for growth in MarineTech

Let me now talk about how we are further strengthening our programmes in PIER71™ to go for growth in MarineTech. At the launch of the Smart Port Challenge earlier this year, I spoke about what it would take for Singapore to become a leading MarineTech hub. Setting challenges is important, but that alone is not enough. We must support MarineTech companies with **access to markets, technology, funding, and talent**, to enable good ideas to grow into scalable solutions.

First, access to markets. The many companies operating in our global hub port and International Maritime Centre act as demand drivers to identify innovation opportunities for start-ups. As part of this new phase, PIER71™ will launch **Ascend**, a 12-month by-invitation programme to support the scaling of mature start-ups and groom them into global champions. We still want to encourage more start-ups, but for the companies who are ready to go further, we want to help them grow by shifting from the start-up phase to the scale-up phase. Not every start-up will succeed, but if we create a large ecosystem of start-ups, some of them will succeed. We hope to be able to identify those with growth potential, and help them scale up. This is a continuous process which, if done well, will give us good pipeline of MarineTech companies.

PIER71™ Ascend will include curated masterclasses, industry networking sessions, and an annual immersion programme to help connect start-ups to overseas markets and government stakeholders. This will help start-ups to access new customers, develop better product-market fit, and export their solutions overseas. Through PIER71™ Ascend, we hope more start-ups could follow in the footsteps of Glee Trees, the winner of the 2017 Smart Port Challenge. Glee Trees first developed a software tool to automate manual processes such

as data entry in shipping agencies. It has since expanded into other sectors, such as finance, insurance, and manufacturing. Today, it has customers across the Asia Pacific, and has set up a subsidiary in China. This is a good example of how a company started in maritime and expanded into other areas. There are other companies that were originally from another sector, and applied their technology and solutions to maritime. Both paths are good, as long as in the end, they create a product that can solve practical problems, and is in demand by customers.

Second, access to technology. We are enhancing the MarineTech ecosystem's access to physical and digital technologies. Our partnerships with research institutes and institutes of higher learning enable start-ups to tap on key technologies and translate them into deployable solutions. Under the enhanced PIER71™, MarineTech **start-ups can now be linked up with NUS' Industry Liaison Office and tech experts** working on maritime-related fields for mentorship and to tap on their expertise to bring their solutions to the cutting edge. MPA is also growing its physical and digital sandboxes to support trials and experimentation, through the MPA Living Lab.

Earlier this year, we launched the Maritime Drone Estate at Marina South Pier, to provide a conducive space to develop drone technologies for maritime applications, such as shore-to-ship deliveries and remote ship inspections. I think there is potential for drones to do more. We need regulatory sandboxes to test solutions, and prove that these concepts can work and can be scaled up. MPA will continue to provide regulatory support for trials of other technologies, such as underwater robotics and autonomous vessels.

In the digital realm, the Singapore Maritime Data Hub provides live data from MPA to enable the testing of digital solutions. For example, 2018 Smart Port Challenge finalist Claritecs developed the Bunker Maestro platform to optimise bunker fleet operations, and tested it using the Data Hub. Today, I am happy to announce a new **data sharing collaboration between MPA and Wartsila**. We will witness a virtual signing of the MOU later to mark this collaboration. Under this MOU, Wartsila will share vessel information from their Naviport system, such as predicted arrival times, with MPA's Just-In-Time port coordination platform under digitalPORT@SG™ Phase 2. Based on arrival information, the ship agents will plan the itineraries and book the services such as pilotage, bunkering and repairs. Masters of arriving ships can review these itineraries on the Just-In-Time platform. By enabling resources to be deployed based on adjusted arrival times, this data sharing will reduce ship turnaround times and enable marine services providers to serve more vessels. This is a win-win for all players. Ship owners would appreciate this as well, because it reduces waiting and turnaround time, which is crucial to shipping operations.

I encourage more industry and MarineTech players to come forward and work with MPA to develop new solutions to optimise the whole suite of different services we provide. In the process of discovery and discussion, trials and experimentation, we can find new opportunities, apply our minds to them, and co-create new innovative solutions. We are also linking up different port platforms through the digitalOCEANS™ initiative. I am pleased to

launch the **first version of the application programming interface (API) specifications for port clearance developed under digitalOCEANS™**, an initiative involving industry partners to promote greater system-to-system inter-operability across the global maritime transport chain through common data standards. This is very important, because without this, we cannot exchange data and inter-connect. This is something that is quite fundamental, and we need to get it done. If we can do this, ship operators and other supply chain players will enjoy smoother port clearances at ports that use this API for submission of information.

Start-ups and other MarineTech players can also tailor their products to utilise this common, inter-operable API, to develop port clearance related solutions, and potentially expand their market reach to more ports and shipping lines, including supply chain companies.

Third, access to funding. MPA has partnered ESG's SEEDS Capital to provide co-investment funding from six venture capital groups (VCs) for promising MarineTech start-ups. PIER71™ has also brought three additional VC partners on board. These have provided a total funding amount of $80 million. VCs provide not only the financial resources start-ups need for scaling up, but also expertise in shipping, tech, decarbonisation and many different fields. This will ensure that the developed solutions have a good fit with what the industry needs. Through the enhanced PIER71™, we will strengthen our engagement of the VC community by launching **structured investor networking and pitching events**. These will facilitate discovery and deals between VCs and start-ups, so that the $80 million made available can translate into investments for deserving start-ups.

To further boost access to funding, MPA recently established the MINT-STARTUP grant. The grant awards up to $50,000 to PIER71™ alumni to pilot their projects. Scale-ups can be awarded up to $100,000. To benefit a wider pool of start-ups across the ecosystem beyond PIER71™, MPA will **extend the MINT-STARTUP grant to start-ups identified under recognised partner programmes in Singapore. These programmes are:**

   i. **Eastern Pacific Shipping (EPS) Ventures,**
   ii. **Ocean of Opportunities Challenge by Ocean Network Express (ONE) and Symphony Creative Solutions (SCS),**
   iii. **PSA unboXed, and**
   iv. **Rainmaking Innovation**.

This will encourage the industry to share their expertise and actively partner, mentor and incubate MarineTech start-ups. We will continue to support those within PIER71 programmes. By including these partner programmes, we will reach out to the larger ecosystem of MarineTech start-ups. Through these efforts, we grow a stronger and more vibrant MarineTech ecosystem.

Last but not least, access to talent. To succeed as a leading MarineTech hub, we must remain open to talent from around the world, and welcome individuals with different ideas,

skills, and perspectives to become part of Maritime Singapore. The Smart Port Challenge welcomes participants from all over the world. This openness to talents and to ideas has been very beneficial to Maritime Singapore, and is something we must continue to preserve.

For example, Kanda, a 2019 finalist, was originally based in Denmark. It has developed a virtual reality course to train crew in LNG bunkering procedures, and moved its operations to Singapore. Kanda has recently received an investment of $2 million in seed funding from a group of investors including EPS, which is also a company headquartered here. Kanda is also giving back to the ecosystem. It was one of the sponsors for the inaugural Maritime Digital Challenge earlier this month, where more than 120 students from our Institutes of Higher Learning (IHLs) developed new solutions to challenges set by MarineTech companies. The winning team was from Nanyang Polytechnic. They used virtual reality and game-based learning to address the challenge from Kanda to develop an app for online maritime operations training.

At the same time, working with the tripartite partners, we hope to be able to grow a strong Singapore core for the industry, by attracting and developing our workers to take up new opportunities. With these new opportunities in MarineTech, we want to be able to expand our reach to students beyond maritime-related courses such as software engineering and data analytics, and to offer them internships and career opportunities in MarineTech companies and start-ups. They may not start off with maritime in their courses, but this does not mean that they cannot take up a career in maritime. We hope to reach out to more young people in Singapore to consider maritime as a potential career path, and "Make Maritime Your Port of Call."

We recently launched the Career Conversion Programme (CCP) for Sea Transport Professionals and Associates, to help mid-career individuals who want to join or transit to new roles in the sector. This is a good opportunity for MarineTech start-ups to bring in these mid-career individuals, because they have experience and skillsets from other industries, and they can value add to MarineTech start-ups at this stage of their growth. We can equip them with maritime knowledge through the CCP. We welcome MarineTech start-ups to tap on such initiatives to draw in talent.

Access to markets, technology, funding, and talent – these are the four critical ingredients for us to create a vibrant MarineTech ecosystem. MPA has brought these resources together through the **MarineTech Start-up Playbook** to provide a useful reference for the industry. I hope that start-ups, and those who are thinking of forming a start-up, will find it useful.

Conclusion

As Maritime Singapore emerges from the pandemic, one key thing we want to do with our tripartite partners is to go for growth. By going for growth, we can attract more investments, create more jobs, and enlarge the economic pie. Our ambition to be the Silicon Valley of

MarineTech, because we believe that this will be a key driver of Maritime Singapore, and we have strengths in both technology and maritime. We hope that this will benefit investors, start-ups, researchers, workers, and eventually, the global maritime industry.

We previously announced our ambition to triple the number of start-ups supported by MPA's programmes, from about 30 in early 2021, to 100 by 2025. With our renewed efforts to support MarineTech companies with access to markets, technology, funding, and talent, **MPA has decided that they will take up my challenge, and raise their target further to 150 start-ups by 2025**.

This 5-fold increase from the 30 start-ups we had supported in early 2021 is a stretch target. We are not 100% certain if we can achieve it, but we will certainly give it a shot and do our best with your support. Even if we do not reach 150, we will reach as many as we can. That will give us a further boost to our ambition to be the Silicon Valley of MarineTech.

I hope that regardless of who wins this year's Smart Port Challenge, all participants will continue to have this spirit of daring to try, and if you fail, to pick yourselves up again. That is how Maritime Singapore has succeeded, and how successful ideas can become world-beating innovations.

Thank you.

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