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Chartered Accountant SINGAPORE

Singapore CA Qualification Examination

INTEGRATIVE BUSINESS SOLUTIONS

ADVANCE INFORMATION

16 June 2025

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WARNING

Candidates **must not under any circumstances** contact any similar company or its agents to obtain research data, and they must use **ONLY PUBLICLY AVAILABLE INFORMATION.** Under no circumstances should they seek to use unpublished or private information.

Dear Candidate,

This information package contains the **Advance Information** for the Integrative Business Solutions (IB) module final examination to be held on **16 June 2025.** A checklist of the documents (Exhibits) contained in this information package is provided on page 3. It is your responsibility to ensure that you have received every document listed.

Your task now is to familiarise yourself with this information including analysing the data provided. In addition, you are encouraged to undertake further research to form a holistic picture of the industry and markets in which the case study company is operating, and the general economic and business environment. Diligent preparation is essential for success in the IB Examination. **Guidance on preparing for the IB Examination is covered in your IB Toolkit.**

The IB examination will be conducted using Cirrus. Please download this Advance Information to the hard drive on your laptop and print this Advance Information prior to the examination day. Although you will have full access to the hard drive on your laptop during the examination, you are strongly advised to have your notes and other preparatory workings in **hard copy format and** a standalone calculator that complies with the ISCA's regulations for your examination.

You will also receive additional information **(Examination Day Documents)** on the case study company on the day of the IB Examination. The Examination Requirements will be included within Cirrus. Follow the instructions in Cirrus to download the Examination Day Documents. You are not allowed to print the Examination Day Documents on the day of examination. The Examination Day Documents complete the case study scenario and set out the requirements for the report that you are required to write. The IB Examination will be an open-book examination of **4 hours 30 minutes**. Your formal report will cover four specified areas, one of which will be to write an Executive Summary. Please note that **only your report commentary (including the assumptions made), appendices, and workings entered in Cirrus on the day of the examination will be marked.**

MarineHub Pte Ltd

Advance Information (AI) – List of Exhibits

Note: Unless otherwise stated, all dollar amounts ($) are in Singapore dollars.

The shipping terminal management industry in Singapore

Singapore is one of the world's largest and most strategic maritime hubs, with the port of Singapore playing a vital role in global trade and logistics. The port connects major international shipping routes, making it a key transhipment hub in Asia and one of the busiest container ports in the world. The terminal management industry within Singapore operates under a competitive landscape that includes both government-linked entities and private operators, creating a dynamic environment for port operations.

Industry structure and port model

The terminal management industry in Singapore follows the landlord port model, where the Maritime and Port Authority of Singapore (MPA), a government agency, retains ownership of the port infrastructure while leasing terminal spaces to private and public sector operators. This model allows private companies to manage day-to-day operations while ensuring the government maintains strategic control of the port's infrastructure. The port of Singapore is divided into several terminal spaces, which can be operated by different entities under long-term concession agreements with the MPA.

Key players in the industry

The most prominent operator is PSA International (PSA), a government-linked corporation that manages the majority of container terminals in Singapore. PSA is one of the world's largest port operators and has established strong relationships with global shipping lines, ensuring that it remains a key player in Singapore's terminal management sector.

In addition to PSA, several private terminal operators also manage terminals in Singapore under concession agreements with the MPA. These companies bring innovation and operational expertise to the port management industry, helping drive efficiency and enhance the port's competitiveness. Private operators often invest heavily in new technologies and automation to reduce operational costs and improve turnaround times for shipping clients.

Operational efficiency and competition

Competition in the terminal management industry revolves around operational efficiency, customer satisfaction, and cost competitiveness. Operators in Singapore must handle increasing volumes of container traffic, with transhipment services forming a significant part of the port's operations. This makes efficiency in container handling, customs clearance, and ship coordination critical to maintaining competitiveness.

To stay competitive, both public and private terminal operators invest in automation and digital platforms. Technologies such as automated container handling systems, blockchain for customs clearance, and Artificial Intelligence (AI) powered tracking systems are being widely adopted. These innovations help reduce delays, increase container throughput, and enhance service offerings, thereby attracting more shipping lines to Singapore's terminals.

Key regional competitors

Singapore's strategic position makes it a primary choice for transhipment services, but it faces competition from regional ports in Southeast Asia, such as Port Klang and Port of Tanjung Pelepas in Malaysia, and Indonesia’s Tanjung Priok. These ports are actively expanding their capabilities to attract transhipment traffic away from Singapore by offering lower costs or faster service times.

However, Singapore’s strong connectivity, advanced infrastructure, and reputation for reliability help it maintain its competitive edge.

END OF EXHIBIT 1

EXHIBIT 2

Global shipping and terminal management: 2026 economic outlook and future trends

Global economic and trade prospects

In 2026, the global economy is expected to experience moderate growth, driven by post-pandemic recovery, and increasing demand for goods and services. Global Gross Domestic Product (GDP) growth is projected to stabilise between 3-4%, although uncertainties linger due to geopolitical tensions, fluctuating oil prices, and evolving trade policies.

Global trade is set to follow this growth trajectory, with the World Trade Organisation (WTO) forecasting a 4-5% annual increase in trade volumes. This is likely to be fuelled by rising demand from emerging markets, particularly in Asia, Latin America, and Africa, as well as sustained recovery in consumer and industrial sectors across developed economies.

Key trends in the shipping industry

1. **Fleet expansion and sustainability:** Shipping companies are accelerating their investments in fleet expansion and modernisation, with a strong focus on sustainability. As the International Maritime Organisation (IMO) 2023 carbon reduction regulations come into effect, there is a pressing need to invest in low-emission vessels. The industry is expected to see a rise in Liquefied Nitrogen Gas (LNG)-powered ships, hybrid vessels, and future adoption of alternative fuels such as hydrogen and ammonia. This move towards green shipping will also be critical for companies aiming to stay competitive while complying with stricter environmental standards.

2. **Digital transformation in shipping:** The shipping sector is undergoing rapid digitisation. Artificial Intelligence (AI), Internet of Things (IoT), and blockchain technology are becoming integral parts of shipping operations, facilitating better cargo tracking, predictive maintenance, and real-time decision-making. The adoption of smart sensors and automated navigation systems is improving operational efficiency and reducing

human error. Blockchain technology in particular is playing a significant role in ensuring secure and transparent documentation, cargo tracking, and customs processes, leading to faster clearance and lower costs.

3. **Changing trade routes**: The shifting dynamics of global trade routes are reshaping shipping patterns. With the growing importance of regional supply chains, particularly as companies adopt nearshoring strategies, trade lanes traditionally dominated by long-haul shipments are evolving. The development of new routes, such as the Northern Sea Route (NSR) due to Arctic ice melt, is expected to reduce shipping times between Asia and Europe, offering more efficient alternatives for some shipping companies.

4. **Supply chain resilience:** Following the supply chain disruptions caused by the COVID-19 pandemic and geopolitical challenges, businesses are prioritising supply chain resilience. This includes greater diversification of suppliers, the introduction of end-to-end visibility solutions, and real-time supply chain management. These developments are reshaping the demand for shipping services, with an emphasis on just-in-case inventory management strategies. Terminal operators can seize opportunities by offering flexible logistics solutions, warehousing, and integrated services for enhanced supply chain visibility.

Competitive landscape

1. **Public vs. Private Operators:** In Singapore and globally, terminal operators face competition from both publicly owned entities like PSA International and privately-operated terminals like Hutchison Ports and DP World. Public operators often benefit from state support and government linkages, while private operators rely on innovation, customer service, and technological advancements to gain a competitive edge.

2. **Regional competition:** Singapore-based terminal operators face competition from other key regional ports, such as Port Klang and Tanjung Pelepas in Malaysia, as well as expanding ports in Indonesia, Thailand, and the Philippines. These ports are competing

for transhipment traffic and offer attractive rates, fast turnaround times and incentives to capture market share in Southeast Asia's rapidly growing shipping sector.

Opportunities and innovation for terminal management industry

1. **Automation and efficiency:** Terminal operators are increasingly investing in automation to drive efficiency and reduce operational costs. The trend towards fully automated terminals—with robotic cranes, Automated Guided Vehicles (AGVs), and digitalised gate management systems—is becoming the industry standard for high-volume ports. Automation allows for quicker vessel turnaround times, higher productivity, and reduced labour reliance, positioning terminals to handle growing trade volumes more efficiently.

2. **Sustainability initiatives at terminals**: Sustainability remains a top priority for terminal operators globally, driven by regulatory pressure and industry expectations for greener port operations. Operators are moving toward zero-emission port equipment, electric-powered machinery, and shore power systems that allow vessels to use renewable energy while docked, cutting down on fuel emissions. Terminal operators are also integrating solar and wind energy into their operations, reducing their overall carbon footprint, and positioning themselves as environmentally responsible partners in global supply chains.

3. **Expansion into integrated logistics:** As global trade grows more complex, terminal operators are diversifying their service offerings to include end-to-end logistics solutions such as warehousing, inland transportation, and digital freight forwarding. By expanding beyond traditional port services, operators can tap into new revenue streams while strengthening partnerships with shipping lines. Offering a seamless logistics experience enhances efficiency, improves customer retention, and positions terminals as key facilitators of global trade.

4. **Advancements in technology:** The role of technology in improving terminal operations is expanding rapidly. Investments in AI-powered container tracking and terminal

management systems allow clients to monitor shipments in real-time, automate customs documentation, and ensure regulatory compliance. Blockchain-enabled customs clearance systems further streamline cargo handling and enhance supply chain transparency. Additionally, the integration of big data analytics and predictive maintenance reduces downtime, improves decision-making, and optimises terminal performance, giving operators a competitive advantage in the evolving maritime industry.

Challenges for terminal management industry

While the global shipping and terminal management industry is set for growth, it also faces key challenges:

- Geopolitical instability and fluctuating fuel prices could impact trade volumes.
- The race to decarbonise shipping and terminal operations presents both regulatory pressures and new business opportunities.
- The adoption of new technologies offers a competitive edge but requires significant investment.
- Capacity management will be essential as ports expand and modernise to handle increasing cargo volumes and larger vessels.

Terminal operators that can harness technological advancements, drive sustainability, and maintain operational flexibility will be well-positioned to thrive in the evolving global landscape.

END OF EXHIBIT 2

EXHIBIT 3

Overview of MarineHub

Background and operations

MarineHub Pte Ltd ("MarineHub") operates under a lease agreement with the Maritime and Port Authority of Singapore (MPA), managing one of the key container terminals within the port of Singapore. This agreement grants MarineHub full operational autonomy over the terminal's day-to-day activities, including container handling, transhipment services and maintenance. The terminal plays a crucial role in the global shipping supply chain, serving international shipping clients.

As a privately-owned terminal management company, MarineHub benefits from the backing of a consortium of international shipping companies, private equity investors, and a global port operator, providing it with the financial stability and strategic expertise needed to thrive in the highly competitive terminal management industry. MarineHub focuses on delivering efficient and reliable terminal operations while driving innovation through new technologies such as Artificial Intelligence (AI)-powered container tracking and blockchain-based customs clearance solutions.

Lease Agreement with the Maritime and Port Authority of Singapore (MPA)

MarineHub operates the terminal under a long-term lease agreement with the MPA, providing the company with exclusive rights to manage the terminal space for a defined period. The key terms of the lease agreement with MPA are as follows:

- **Length of Lease:** The lease is a 25-year agreement with an option for renewal based on performance reviews and negotiations with the MPA. The current lease began in 2015 and is set to expire in 2040. Renewal discussions may commence at least 3 years before the expiration date, contingent upon compliance with operational and environmental standards.

- **Lease Payments:** MarineHub pays a fixed annual lease fee to the MPA, based on the size of the terminal space, combined with a variable component tied to the throughput volume, being the number of standard containers, known in the industry as Twenty Foot Equivalent Units (TEUs) handled each year. This variable component therefore increases as MarineHub increases terminal capacity and efficiency. Payments are due on a quarterly basis, and any significant fluctuations in shipping volumes are factored into the variable portion of the lease.

- **Obligations and responsibilities:** MarineHub is responsible for the maintenance and development of the terminal infrastructure within the leased space, including upgrading equipment, ensuring environmental compliance, and adhering to safety and operational standards set by the MPA. The MPA retains ownership of the land and core infrastructure but requires MarineHub to manage the terminal in line with Singapore's strategic port development goals.

- **Environmental and Compliance Requirements:** As part of the lease, MarineHub must meet strict environmental and sustainability standards set by the MPA, including commitments to reduce emissions, optimise water usage, and manage waste. Failure to meet these standards could lead to penalties or, in severe cases, non-renewal of the lease or even termination before the end of the lease term.

Through the lease agreement, MarineHub is positioned as a critical player in Singapore's port ecosystem, contributing to the nation's goal of remaining a leading global shipping hub while ensuring compliance with government standards and long-term sustainability objectives.

Core revenue streams

MarineHub generates revenue from two main core activities:

(1) **Terminal Operations and Management:** MarineHub charges shipping lines for loading and unloading containers at its terminal.

(2) **Transhipment services:** MarineHub facilitates the transfer of containers between different shipping lines or routes, ensuring efficient onward journey to minimise delays.

Strategic growth initiatives

MarineHub is focused on strategic growth through both organic expansion and acquisitions:

1. **Regional expansion:** MarineHub is exploring opportunities to replicate its terminal management model in other Southeast Asian ports. By acquiring or operating terminals in locations such as Indonesia, Vietnam, and the Philippines, MarineHub aims to capitalise on growing trade volumes and position itself as a regional leader in terminal operations.

2. **Operational excellence:** MarineHub's emphasis on continuous improvement and operational excellence allows the company to increase container throughput, reduce operational costs, and maintain high standards of service. The company's investments in automation and employee training ensure that it remains a competitive player in the region.

Competitors

MarineHub faces competition both locally and regionally. In Singapore, PSA International is the main competitor, operating multiple terminals with extensive government backing. Regionally, MarineHub competes with private terminal operators like Hutchison Ports, DP World, and COSCO Shipping Ports, all of which manage container terminals in Asia and beyond. Additionally, MarineHub faces competition from regional transhipment hubs such as Port Klang and Port of Tanjung Pelepas in Malaysia.

END OF EXHIBIT 3

EXHIBIT 4

MarineHub operations and leadership

Introduction

MarineHub operates as a leading terminal management company in Singapore, with a centralised structure designed to efficiently manage its container terminal operations and transhipment services.

MarineHub operates under a long-term concession agreement with the Maritime and Port Authority of Singapore (MPA), granting it operational autonomy within the leased terminal space. MarineHub's core functions—terminal operations, finance, human resources, procurement, marketing, and technology—are highly integrated, ensuring seamless coordination and operational efficiency. Each department is led by experienced managers, while strategic oversight and decision-making are handled by the executive team and the Board of Directors.

The maritime industry in Singapore is estimated to be worth approximately S$6.4 billion in 2024, with projections to reach S$8 billion by 2029. MarineHub generated revenue of S$838.9 million in 2024, suggesting a market share of 13%.

Terminal Operations and Management

MarineHub's terminal operations are the cornerstone of its business, involving the management of container loading, unloading, and storage. The terminal is equipped with advanced automation technologies that streamline operations, such as AI-based container tracking systems, which enhance efficiency and reduce human error. Terminal managers oversee daily operations, ensuring smooth vessel berthing, container handling, and transhipment activities. MarineHub charges shipping companies' container handling fees based on the volume and complexity of the services provided, including special handling for oversized or hazardous goods. To remain competitive, the company continually invests in automation and workforce training, optimising its terminal capacity while ensuring compliance with international safety and environmental standards. The revenue of S$579.3 million in the year to 31 March 2024.

Transhipment Services

Transhipment is a key revenue driver for MarineHub, as the company facilitates the movement of containers between shipping lines. MarineHub coordinates the transhipment process by leveraging its strong relationships with global shipping partners, ensuring that containers are transferred efficiently with minimal delays. MarineHub does not own a shipping fleet but charges a fee to facilitate the transhipment of containers. Fees are calculated based on factors such as the container size and shipping capacity. MarineHub's transhipment operations are vital for retaining key shipping clients and maintaining a competitive position in the region's port network. This segment generated revenue of S$259.6 million in the year to 31 March 2024.

Human Resources and Training

The Human Resources ('HR') department at MarineHub oversees recruitment, training, performance management, and compliance with Singapore's labour laws. MarineHub places a strong emphasis on employee development, offering comprehensive training programmes on terminal operations, safety protocols, and technology use. The company's investment in workforce development has resulted in low employee turnover and high operational efficiency. Additionally, MarineHub has implemented a structured career development framework, ensuring that employees have clear growth paths within the organisation, further boosting retention.

Legal Compliance

MarineHub's Legal and Risk department is responsible for ensuring the company's compliance with regulatory requirements and managing legal risks associated with its operations. This includes overseeing compliance with international shipping laws, environmental standards, and health and safety regulations. The legal team also manages contracts with shipping companies and its suppliers, ensuring that MarineHub's interests are protected.

Risk Management

Risk management practices are integrated across the organisation, focusing on operational risks, environmental impacts, and corporate governance. The risk management committee oversees the identification, assessment, and mitigation of key risks, ensuring alignment with regulatory requirements and industry best practices. It works closely with senior management to implement risk control measures, monitor emerging threats, and enhance business resilience through proactive risk mitigation strategies.

Financial Management

MarineHub's finance department plays a critical role in budgeting, financial planning, and performance tracking. The finance team works closely with the terminal operations teams to ensure that financial objectives are met, and that cost efficiencies are achieved without compromising service quality.

Marketing and Client Relations

MarineHub's marketing efforts are focused on maintaining its position as a premier terminal operator in Singapore and the region. The marketing team actively promotes MarineHub's operational capabilities through digital campaigns, industry events, and global partnerships. Client relations are central to MarineHub's business, with key accounts receiving personalised service offerings.

MarineHub Board of Directors

Name	Position	Overview
Dr. Alan Irawan	Chair (Independent Non-Executive Director)	Alan has been the Chair of the Board since 2014. With over 30 years of experience in global freight logistics and port management, Alan provides strategic oversight and ensures the Board's focus on long-term growth.
Marie Collins	Chief Executive Officer (CEO)	Marie has been CEO since 2018, with over 20 years of experience in terminal management. Formerly

		the Chief Operating Officer at a leading global port operator, Marie has driven MarineHub's strategic growth through investments in technology and expansion into logistics services.
Rachel Tan	Finance Director	Rachel has been with MarineHub since 2017, Rachel oversees financial strategy and reporting. Previously, Rachel worked as a Senior Financial Analyst at a major logistics firm, bringing deep expertise in financial planning and risk management.
Michael Putra	Operations Director	Michael joined MarineHub in 2016. A logistics veteran with over 15 years of experience, previously held a senior role at a regional port in Malaysia. Michael ensures smooth terminal operations and effective transhipment services.
Sophie Lim	Sales and Marketing Director	Sophie has been leading the sales and marketing efforts since 2018. Formerly with a multinational shipping company, she has revitalised MarineHub's brand and strengthened client relationships through innovative marketing strategies.
David Wong	Technology Director	David has been with MarineHub since 2015, David oversees the development of MarineHub's terminal management system. He previously led information technology projects for global supply chain operators and is responsible for MarineHub's technological transformation.
Sarah Nair	Human Resources, Legal and Risk Director	Sarah joined MarineHub in 2015 after a distinguished career in maritime law. Sarah ensures MarineHub's compliance with international regulations and manages legal risks associated with the terminal and logistics operations.

Emily Koh	Non-Executive Director (large shareholder nominee)	Emily is an expert in risk management and sustainability. She joined the Board in 2020. Emily previously held executive positions at a global transport firm and brings extensive experience in governance and sustainability practices.
Victor Cheung	Non-Executive Director (large shareholder nominee)	Victor is a logistics and supply chain expert with over 25 years of experience. He joined MarineHub's Board in 2019. His background includes leadership roles in multinational shipping companies, where he advises on operational efficiency and innovation.

This leadership team, supported by an experienced management team, allows MarineHub to maintain its competitive advantage while pursuing growth opportunities in the global terminal management sector. The integrated governance structure ensures that strategic decisions are made with a long-term focus on operational excellence, technological innovation, and financial sustainability.

END OF EXHIBIT 4

EXHIBIT 5

MarineHub management accounts for the year ended 31 March 2024

To: The Board of Directors
From: Rachel Tan, MarineHub Finance Director
Date: 1 May 2024
Subject: MarineHub management accounts and key performance indicators (KPI)

Please find extracts below from summary management accounts for the year ended 31 March 2024 together with the comparative year (2023) and relevant operating data.

MarineHub Statement of Profit or Loss for the year ended 31 March

	Note	2024 S$'million	2023 S$'million
Revenue	**1**		
- Container terminal handling services		579.3	521.2
- Transhipment services		259.6	241.9
Total revenue		**838.9**	**763.1**
Cost of sales	**2**		
- Direct labour costs		(130.5)	(120.2)
- Equipment and maintenance costs		(84.8)	(79.3)
- Fuel and energy costs		(74.9)	(70.1)
- Port concession/lease costs		(150.1)	(141.0)
- Import/export documentation and compliance		(54.7)	(50.2)
Total cost of sales		**(495.0)**	**(460.8)**
Cost of sales attributed to:			
- Container terminal handling services		*(308.1)*	*(293.6)*
- Transhipment services		*(186.9)*	*(167.2)*
Gross profit		**343.9**	**302.3**

Operating expenses			
Administrative salaries		(69.4)	(66.8)
Marketing and advertising		(18.2)	(16.7)
Depreciation & amortisation	**3**	(37.9)	(35.6)
IT expenditure and other overheads		(28.1)	(24.3)
Total operating expenses		**(153.6)**	**(143.4)**
Operating profit		**190.3**	**158.9**
- Finance cost		(18.9)	(17.8)
- Taxation (17%)		(29.1)	(24.0)
Net profit after interest and tax		**142.3**	**117.1**
Dividends		(71.1)	(58.6)
Retained earnings		**71.2**	**58.5**

Operating data:	**2024**	**2023**
Containers handled (TEU millions)	1.385	1.255
Transhipment operations (TEU millions)	1.715	1.525

MarineHub Statement of Financial Position as at 31 March

	Note	**2024**	**2023**
		S$'million	**S$'million**
Non-Current Assets			
Property, plant, and equipment	**4**	922.6	881.7
Right-of-use assets	**5**	221.4	230.9
Intangible assets	**6**	52.9	48.2
Total Non-Current Assets		**1,196.9**	**1,160.8**
Current Assets			
Inventory	**7**	21.5	18.9
Trade receivables		155.4	150.8
Prepayments		4.7	4.1
Cash and cash equivalents		174.8	121.6

Total Current Assets		**356.4**	**295.4**
Total Assets		**1,553.3**	**1,456.2**
Equity and Liabilities			
Equity			
Share capital		200.0	200.0
Retained earnings		804.3	733.1
Total Equity		**1,004.3**	**933.1**
Non-Current Liabilities			
Lease liabilities	**8**	176.2	181.8
Long-term borrowings	**9**	216.5	196.3
Provisions	**10**	14.2	13.0
Total Non-Current Liabilities		**406.9**	**391.1**
Current Liabilities			
Trade and other payables		43.5	46.3
Lease liabilities (current portion)	**8**	55.8	50.6
Long-term borrowings (current portion)	**9**	22.4	16.0
Accruals and other liabilities		10.1	9.7
Provisions (current)	**10**	10.3	9.4
Total Current Liabilities		**142.1**	**132.0**
Total Liabilities		**549.0**	**523.1**
Total Equity and Liabilities		**1,553.3**	**1,456.2**

Notes to the management accounts

1. **Revenue**

   - **Container terminal handling services:** This represents revenue earned from handling containers for shipping clients. Revenue is recognised at the point when the container handling service is completed, typically upon loading or unloading of the container.
   - **Transhipment services:** This is revenue earned from facilitating the transfer of containers between different shipping lines or vessels at MarineHub's terminal. Revenue is recognised when the transhipment process is completed, which occurs when the container is successfully transferred to the connecting vessel.

2. **Cost of sales**

   - **Container terminal handling services:** These are direct costs incurred in operating the terminal, including labour, equipment maintenance, and energy costs required to load and unload containers.
   - **Transhipment costs:** These are direct costs associated with the transhipment of containers, including staff wages, equipment usage, and handling charges, as well as any fees paid to shipping lines or agents to facilitate smooth transfers.

3. **Depreciation and amortisation:** This represents the reduction in value of MarineHub's long-term assets over time. It covers depreciation of terminal equipment, cranes, trucks, Information Technology (IT) infrastructure, and other machinery essential for daily operations, as well as amortisation of intangible assets such as software licenses or acquired technology solutions.

4. **Property, plant, and equipment:** This represents MarineHub's investment in physical assets such as terminal cranes, container storage systems, trucks, forklifts, port infrastructure, and other machinery required for day-to-day operations. This includes capital improvements made to the terminal.

5. **Right-of-use assets:** These are assets recognised under leasing arrangements. Since MarineHub operates terminals under a concession agreement, the leased space and equipment used in the terminal operations are recorded as right-of-use assets, as per SFRS(I) 16 Leases. It includes the lease value of equipment and terminal space.

6. **Intangible assets:** Intangible assets consist of various non-physical assets such as intellectual property, its terminal management system and other software licenses. These assets are amortised over their useful life.

7. **Inventory:** Inventory includes spare parts, fuel, and consumables required for the smooth functioning of MarineHub's container handling and transhipment operations. These are items used in the maintenance of terminal equipment and operational machinery.

8. **Lease liabilities:** This represents long-term leasing agreements for port space and operational equipment used in MarineHub's terminal operations.

9. **Long-term borrowings:** These are debts or loans that MarineHub has taken on to fund its long-term investments in terminal infrastructure, technology, and expansions. The balance includes both the principals that are due within 12 months of the date of the financial statements and those due after 12 months.

10. **Provisions:** Provisions represent expected future obligations, such as maintenance costs, employee benefits, or legal liabilities.

Best wishes,
Rachel Tan
Finance Director

END OF EXHIBIT 5

EXHIBIT 6

Commentary on MarineHub management accounts for the year ended 31 March 2024

To: The Board of Directors
From: Michael Putra, MarineHub Operations Director
Date: 2 May 2024
Subject: Commentary on the 2024 MarineHub management accounts

The year ended 31 March 2024 marked another successful period for MarineHub, characterised by strong revenue growth and continued operational expansion. Our terminal management and transhipment operations performed exceptionally well, reflecting our ability to adapt to increasing demands in global trade and maintain high service standards across our operations.

Revenue growth and profitability

MarineHub's revenue increased significantly in 2024, driven by continued growth in container terminal handling fees and transhipment services. Container handling volumes grew due to the global recovery in shipping activity and trade, as well as our efforts to streamline operations through automation and digital integration. The demand for transhipment services also rose, with more shipping lines relying on our efficient, strategically located terminal for swift container transfers.

Despite facing rising costs, our gross profit expanded from the previous year. A combination of economies of scale from operating at higher volumes and cost-control measures helped MarineHub to maintain its gross margins. However, the industry-wide challenge of rising fuel and energy prices added pressure to our cost base. These external cost factors, along with increasing port concession fees and compliance-related expenses, have impacted the overall cost of sales.

Operational efficiency and investment in technology

In 2024, MarineHub invested heavily in operational efficiency, including upgrades to our terminal management system. This system has become a critical tool for managing complex container movements and streamlining documentation processes. We plan to continue investing in this area, to improve the depth and breadth of services and to provide improved access directly to our clients. We have also strengthened our supporting IT systems allowing us to handle larger container volumes without a proportionate increase in administrative costs.

Administrative salaries and IT and other overheads both rose due to the hiring of specialised personnel and further development of our digital capabilities. These investments were essential for supporting our operational growth, particularly in an industry where digitalisation is becoming an important competitive factor.

Challenges and cost management

One of the significant challenges we faced during the year was the increase in equipment maintenance costs. As the scale of our operations has grown, ensuring that our cranes, forklifts, and other terminal machinery are well-maintained has been a top priority. Although these costs have increased, our proactive maintenance strategy ensures minimal downtime, which is crucial for maintaining our competitive edge.

Fuel and energy costs remain another area of concern. In light of rising global energy prices, MarineHub is evaluating options to increase energy efficiency, including investing in alternative energy solutions, and optimising fuel consumption during terminal operations.

Financial position

Our non-current assets also saw an increase, primarily driven by investments in terminal equipment and ongoing improvements to our digital infrastructure. These assets are essential for maintaining our operational capacity and providing high-quality services to our clients.

MarineHub's financial position remains solid, with a strong equity base and adequate liquidity to support ongoing operations and expansion plans. Our liabilities remained well-managed during the year. Both long-term borrowings and lease liabilities are under control, providing us with the flexibility to make further strategic investments without over-leveraging the company.

Looking ahead

MarineHub continues to benefit from its strong market position in Singapore and the broader Southeast Asian region. However, we remain aware of the competitive pressures from regional ports and other terminal operators. To stay ahead, we will focus on expanding our service offerings, improving customer satisfaction, and exploring opportunities for regional expansion.

END OF EXHIBIT 6

EXHIBIT 7

Risk register issued by the MarineHub Risk Management Committee

The MarineHub Risk Management Committee has identified the following ten risks that could significantly impact MarineHub's operations and long-term success. These risks will be regularly reviewed by the Risk Management Committee to ensure that the list is complete and remains relevant, and the appropriate mitigation actions are implemented.

The following ten risks identified in this register outline the key areas where MarineHub must maintain vigilance and strategic oversight.

Risk Register

Risk ID	Risk Area	Risk Detail	Risk Owner
R001	**Termination of container terminal lease by MPA**	The early termination or non-renewal of the lease agreement with the Maritime and Port Authority (MPA) would significantly disrupt MarineHub's operations.	**Marie Collins, CEO**
R002	**Cybersecurity**	Increasing reliance on digital platforms, AI systems, and blockchain technology heightens the risk of cyberattacks, data breaches, or system outages.	**David Wong, Technology Director**
R003	**Regulatory Compliance**	MarineHub is subject to a complex regulatory environment governing port terminal operations and freight services. Additionally, evolving international trade policies, tariffs, and import/export controls may impact MarineHub’s ability to efficiently	**Sarah Nair, Human Resources, Legal and Risk Director**

		manage freight flows, or reputational damage.	
R004	**Supply Chain Disruptions**	Global supply chain disruptions caused by geopolitical tensions, pandemics, natural disasters, or economic instability could lead to delays in container handling, shortages of critical equipment, or higher operating costs.	**Michael Putra, Operations Director**
R005	**Market Competition**	Increased competition from regional ports and private terminal operators, coupled with the rapid adoption of new technologies by competitors, could erode MarineHub's market share and compress margins.	**Sophie Lim, Sales and Marketing Director**
R006	**Environmental Sustainability**	MarineHub's failure to meet sustainability targets or comply with environmental regulations could harm marine wildlife and damage MarineHub's reputation with key stakeholders including MPA and regulatory authorities.	**Sarah Nair, Human Resources, Legal and Risk Director**
R007	**Labour & Workforce**	Labour shortages, especially in skilled positions required to manage advanced digital and automated systems, could lead to operational inefficiencies.	**Sarah Nair, Human Resources, Legal and Risk Director**
R008	**Financial Risk**	Volatility in interest rates, foreign exchange rates, or global economic conditions could increase MarineHub's borrowing costs or affect profitability. This is particularly important as the company deals with international clients	**Rachel Tan, Finance Director**

		and incurs expenses in different currencies.	
R009	**Customer Demand Fluctuations**	Fluctuations in global shipping demand, driven by economic cycles, trade wars, or pandemics, could reduce container throughput and negatively affect MarineHub's revenues.	**Sophie Lim, Sales and Marketing Director**
R010	**Reputation Risk**	A negative incident—such as failure to meet key performance metrics, operational delays, or service failures—could harm MarineHub's reputation and lead to a loss of customers or valuable partnerships.	**Michael Putra, Operations Director**

END OF EXHIBIT 7

EXHIBIT 8

Email from Operations Director and Technology Director regarding potential technology enhancements for MarineHub

To: MarineHub Board of Directors
From: Michael Putra, Operations Director; David Wong, Technology Director
Date: 1 July 2024
Subject: Potential technology enhancements for MarineHub

Dear Board members,

We are writing to present several potential technology initiatives that can significantly enhance MarineHub's operational efficiency, customer experience, and sustainability efforts. By embracing these innovations, MarineHub will not only remain competitive in the industry but also position itself as a leader in digital and sustainable operations. Below is a summary of the key areas where we see significant opportunities for growth and improvement.

1. Digital freight management platform

MarineHub has the opportunity to enhance its core container terminal handling and transhipment services by developing a Digital Freight Management Platform (DFMP). This platform would improve operational efficiency, streamline container handling, and enhance real-time tracking within MarineHub's terminal, ensuring a seamless experience for shipping clients.

By integrating automation and digital documentation, MarineHub can optimise container movements, reduce turnaround times, and improve coordination between shipping lines. Blockchain technology can be leveraged to ensure secure and transparent documentation for customs clearance and compliance, reducing errors and administrative burdens. Additionally, predictive analytics will enhance planning, enabling clients to manage container flow, anticipate delays, and improve overall supply chain efficiency.

2. AI-powered predictive maintenance

We recommend deeper investment in AI-based predictive maintenance systems to minimise unplanned equipment downtime. By analysing data from sensors installed on cranes, vehicles, and other port machinery, we can predict and address potential mechanical failures before they cause disruptions. We believe predictive maintenance will allow us to schedule repairs at optimal times, reducing the risk of sudden breakdowns and improving equipment reliability. Also, implementing predictive maintenance will lower repair and replacement costs, leading to significant long-term savings.

3. Autonomous drones for inspections

We propose adopting autonomous drones to perform real-time inspections of terminal equipment, monitor container placement, and assess infrastructure. This will enhance the accuracy and speed of inspections while reducing manual labour and safety risks. Drones can quickly access difficult-to-reach areas and provide a comprehensive view of operations without interrupting workflow. It also reduces the need for human personnel to enter hazardous areas, enhancing overall safety at the terminal.

4. Automating terminal operations

In the longer term, we aim to further automate our terminal operations by investing in automated cranes, trucks, and container handling systems. This would enable us to streamline workflows, reduce labour costs, and operate more efficiently, especially during peak periods.

5. Augmented Reality (AR) for employee training and equipment maintenance

Augmented Reality (AR) offers an innovative way to improve both employee training and equipment maintenance processes. AR can provide real-time visual overlays that guide employees through complex maintenance tasks, while also offering interactive training modules for new recruits. AR is already in use for Health and Safety training. Its use can be expanded to allow staff to gain hands-on experience in a range of virtual environments, improving their skills without disrupting operations. Also, AR tools will provide technicians

with real-time information during equipment repairs, improving accuracy and reducing downtime.

We believe these innovations will position MarineHub as a technological leader in the terminal management industry.

Best regards,
Michael Putra and David Wong
Operations Director and Technology Director

END OF EXHIBIT 8

EXHIBIT 9

Extract from MarineHub Board Meeting Minutes related to sustainability

Date: 20 September 2024
Attendees: Alan Irawan (Chair, Independent Non-Executive Director), Marie Collins (Chief Executive Officer), Rachel Tan (Finance Director), Michael Putra (Operations Director), Sophie Lim (Sales and Marketing Director), David Wong (Technology Director), Sarah Nair (Human Resources, Legal and Risk Director), Dr. Emily Koh (Non-Executive Director), Victor Cheung (Non-Executive Director)

Agenda Item 1: Singapore's Green Initiatives and MarineHub's Sustainability Strategy

Marie Collins, CEO, began the meeting with a review of Singapore's key green initiatives and their relevance to MarineHub's operations.

Marie highlighted the Singapore Green Plan 2030, which seeks to transform Singapore into a sustainable city by focusing on emissions reduction, clean energy, and resource efficiency.

Specific initiatives, such as the Carbon Pricing Act, Maritime GreenFuture Fund, and the expansion of solar energy capacity, were also discussed as opportunities for MarineHub to enhance its environmental strategy.

Rachel Tan, Finance Director underscored the importance of fast-tracking investments in green technology, such as hybrid-electric port equipment. She suggested exploring green finance instruments like green bonds to fund these investments, which would reduce MarineHub's carbon tax liabilities while contributing to environmental goals.

Michael Putra, Operations Director, reported that MarineHub is already benefiting from the government's Maritime GreenFuture Fund through partial subsidies for the purchase of hybrid-electric cranes and other port equipment. He also highlighted that MarineHub is

considering cold ironing technology at the terminal which will enable ships to connect to shore power and significantly reduce emissions and is seeking further information in this area.

Alan Irawan, Chair, outlined two key developments in sustainability regulation.

Firstly, in 2023, the International Maritime Organisation (IMO) introduced regulations to enhance shipping sustainability, focusing on the Energy Efficiency Existing Ship Index (EEXI) and the Carbon Intensity Indicator (CII). The EEXI sets efficiency standards for existing vessels, while the CII measures operational carbon intensity, assigning ratings from A to E. Poorly rated ships must implement corrective action plans to reduce emissions. These measures support the IMO's goal of cutting shipping emissions by 40% by 2030 and achieving net-zero by 2050. While these regulations do not directly impact MarineHub, the company must consider how to improve its terminal services to support compliance and sustainability efforts within the broader maritime industry.

Secondly, Singapore's Public Utilities Board (PUB) launched the Coastal Protection Initiative, a comprehensive strategy to safeguard the nation against rising sea levels and coastal erosion. The initiative includes nature-based solutions, such as mangroves and seagrass meadows, to enhance biodiversity while providing effective coastal defence.

The Chair stressed the need for MarineHub to ensure compliance with evolving regulations, proposing the extension of cold ironing facilities to all berths by 2027 and exploring partnerships with the government's Coastal Protection Initiative to align with long-term sustainability goals.

Agenda Item 2: Update on MarineHub's ongoing sustainability-related activities

Michael Putra, Operations Director, presented an update on ongoing sustainability activities at MarineHub:

1. **Electrification of terminal equipment:** As part of MarineHub's commitment to reducing carbon emissions, 20% of port handling equipment will be replaced with electric models by the end of 2026, reducing the company's overall carbon emissions by 10%. This initiative is also expected to reduce fuel costs.

2. **Solar panel installation:** In June 2024, an array of solar panels was installed as a pilot project on some administrative buildings and warehouses. The panels are expected to contribute up to 5% of the terminal's total energy consumption in 2026.

3. **Community initiatives:** From 1 October 2024, MarineHub will partner with the National Environment Agency (NEA) to sponsor local tree-planting programs and coastal clean-ups, reinforcing its commitment to Singapore's Zero Waste Masterplan.

Agenda Item 3: Proposed MarineHub sustainability initiatives

Dr. Alan Irawan (Chair) explained that it was time for MarineHub to approve the following sustainability initiatives, which were first outlined at the beginning of 2024, if the Board is serious about improving MarineHub's sustainability performance:

1. **Carbon emissions reduction:** Aiming to reduce MarineHub's carbon footprint by 25% primarily through improved energy efficiency, such as the electrification of terminal equipment, automation, and increased use of renewable energy, such as solar energy.

2. **Water conservation:** Targeting a 15% reduction in water consumption through improved water recycling processes and rainwater harvesting systems by 2030.

3. **Waste management:** Setting a target to divert 50% of current operational waste from landfill sites by 2030 by enhancing recycling programs for metals, chemicals such as waste oil, and reducing the use of single-use plastics.

4. **Sustainable supply chain:** Committing to engage only with suppliers who follow sustainable practices, ensuring environmental compliance throughout the supply chain.

The Board emphasised the need to accelerate efforts in its sustainability performance and reporting, particularly in renewable energy and emissions reduction.

Rachel Tan, Finance Director, noted that MarineHub is not yet legally required to monitor Environmental, Social, and Governance (ESG) performance data or issue a sustainability report to its investors, as MarineHub is not listed. However, Rachel did acknowledge this may change for large companies in Singapore in the area of climate-related disclosures.

END OF EXHIBIT 9

EXHIBIT 10

Article from *Green Horizons: Science & Sustainability in Southeast Asia* Magazine (June 2024)

The Environmental Impact of Shipping in Singapore and How the Industry Can Evolve

By Margaret Zhou, Senior Environmental Correspondent

Singapore's position as a global shipping hub is unmatched, with the port of Singapore consistently ranking as one of the busiest in the world. With thousands of vessels passing through its waters daily, Singapore plays a pivotal role in global trade. However, this critical position comes at a steep environmental cost. As the shipping industry continues to facilitate the flow of goods across continents, it also leaves behind a substantial carbon footprint, contributing to air pollution, marine degradation, and biodiversity loss. In recent years, the Singapore government and industry stakeholders have acknowledged these challenges and are working together to find sustainable solutions.

Greenhouse gas emissions and air pollution in Singapore's ports

Shipping is responsible for approximately 3% of global carbon dioxide (CO2) emissions, and Singapore, as a maritime hub, is a major contributor to this figure. Ships that visit Singapore burn large quantities of low-grade bunker fuel, releasing harmful Sulphur Oxides (SOx), Nitrogen Oxides (NOx), and particulate matter into the atmosphere. These pollutants contribute to poor air quality in coastal areas and have been linked to respiratory problems among Singapore's urban population.

In response, Singapore has been proactive in introducing stricter environmental regulations. The Maritime and Port Authority of Singapore (MPA) has implemented the International Maritime Organisation's (IMO) 2020 Sulphur Cap, which mandates that ships must use fuel with a maximum sulphur content of 0.5%. Also, Singapore's Green Ship Programme offers financial incentives to ship owners who adopt energy-efficient technologies or switch to cleaner fuels, such as Liquefied Natural Gas (LNG), to further reduce emissions.

Protecting Singapore's marine biodiversity

In partnership with the National Parks Board (NParks), Singapore is increasing its efforts to protect marine biodiversity around its coasts. Plans are underway to expand the country's network of marine parks and no-go zones, protecting coral reefs and coastal ecosystems from the damaging effects of shipping traffic. These efforts align with Singapore's commitment to marine conservation under the United Nations' Sustainable Development Goals (SDGs).

Cold ironing

Cold ironing, or shore power, enables ships to shut down their auxiliary engines while docked and draw electricity from the local grid via shore power stations. This process eliminates emissions from idling vessels, significantly reducing pollutants such as Sulphur Oxides (SOx), Nitrogen Oxides (NOx), and particulate matter—key contributors to poor air quality and respiratory health concerns in port cities like Singapore. However, effective implementation requires both ports and vessels to be equipped with the necessary infrastructure, demanding substantial investments in grid expansion, standardized power systems, and shore-side electrical capacity.

Singapore faces considerable technical and logistical challenges in integrating cold ironing into its terminal operations. The national power grid must support high electricity demands from multiple ships simultaneously and widespread adoption depends on industry-wide compatibility and investment from shipping lines. While cold ironing aligns with Singapore's maritime sustainability goals, its success hinges on infrastructure readiness, regulatory support, and continued advancements in cleaner energy sources. If effectively implemented, it could significantly reduce port-related emissions.

As Singapore continues to drive the adoption of green technologies and sustainable practices, it can serve as a model for other shipping hubs around the world. By embracing sustainability, the global shipping industry can not only protect our oceans but ensure its own long-term viability.

END OF EXHIBIT 10

Suggestions for further research

The following resources may be useful when beginning your research into the case study of MarineHub. As always, use professional judgment and critical thinking when evaluating sources. All links were active as of 30 April 2025.

EXHIBIT 1: The shipping terminal management industry in Singapore

Maritime and Port Authority of Singapore (MPA)

Comprehensive information on Singapore's port management, terminal operations, and regulatory framework.

https://www.mpa.gov.sg

World Bank - Global Container Terminal Management

Insights into container terminal management practices worldwide, with relevant comparisons to Singapore's port industry.

https://www.worldbank.org

Drewry Maritime Research - Southeast Asian Ports

A detailed analysis of container terminal operations and competitiveness in Southeast Asia, including Singapore.

https://www.drewry.co.uk

EXHIBIT 2: Global shipping and terminal management: 2026 economic outlook and future trends

International Maritime Organisation (IMO) - Global Shipping Forecast

Provides forecasts on global shipping trends, regulatory developments, and environmental challenges.

https://www.imo.org

OECD – Future of Maritime Trade and Logistics

Analysis on how international trade will shape the future of shipping, with a focus on port

infrastructure and terminal management.
https://www.oecd.org

Bloomberg - Global Shipping Industry Recovery Post-COVID
A report on the recovery of the global shipping sector, offering insights into growth projections and market volatility.
https://www.bloomberg.com

EXHIBIT 8: Email from Operations Director and Technology Director regarding potential technology enhancements for MarineHub
Research on how digitalisation and automation are reshaping port operations and boosting efficiency in terminal management.
https://www.mckinsey.com

Accenture - Blockchain in Maritime Logistics
Details how blockchain technology is transforming supply chain transparency and operational efficiency in the shipping sector.
https://www.accenture.com

AI in Maritime - Enhancing Port Operations
An overview of the use of artificial intelligence (AI) in improving container tracking, predictive analytics, and customs clearance automation.
https://www.aitechnology.com

EXHIBIT 9: Extract from MarineHub Board Meeting Minutes related to sustainability

Ministry of Sustainability and the Environment - Singapore's Green Plan 2030
Official site with details on Singapore's environmental goals and sustainability initiatives, including how they impact maritime operations.
https://www.greenplan.gov.sg

International Maritime Organization (IMO) – Greenhouse Gas Emissions regulations

Provides comprehensive information on the organization's strategies and IMO 2023 regulations aimed at reducing greenhouse gas emissions from international shipping.
https://www.imo.org/en/MediaCentre/HotTopics/Pages/Cutting-GHG-emissions.aspx

Singapore's National Water Agency (PUB) – Coastal Protection

PUB's official page on coastal protection outlines Singapore's strategies to safeguard its coastline against rising sea levels and coastal erosion.
https://www.pub.gov.sg/Resources/News-Room/PressReleases/2024/03/Coastal-Protection-Legislation-and-Code-of-Practice

Sustainability Reports of Major Port Operators (e.g. PSA International)

A look at sustainability initiatives and environmental strategies implemented by leading port operators, relevant to MarineHub's future direction.
https://www.singaporepsa.com

DNV - Maritime Decarbonisation and Sustainability

In-depth research on green shipping practices, sustainability technologies, and the future of sustainable terminal operations.
https://www.dnv.com

END OF EXHIBIT 11

END OF ADVANCED INFORMATION