MALAYSIAN SHIPBUILDING/ SHIP REPAIR INDUSTRY REPORT 2025/2026

KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI
MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION

MINISTRY OF INVESTMENT, TRADE AND INDUSTRY

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Malaysian Industry-Government Group for High Technology

AMIM

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MALAYSIAN SHIPBUILDING/ SHIP REPAIR INDUSTRY REPORT 2025/2026

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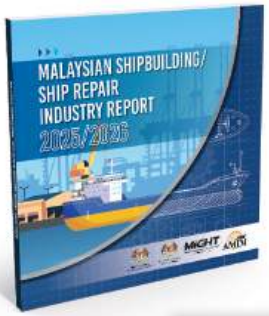

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WHAT'S INSIDE

MARITIME RESILIENCE FOR NATIONAL SOVEREIGNTY

FOREWORD FROM THE PRIME MINISTER

As a nation with a proud maritime heritage, Malaysia was renowned for its vibrant international ports, serving as vital hubs for global trade. By leveraging on this legacy, we will effectively harness our resources and position our maritime industry as a global leader.

Now more than ever, we must strengthen our competitiveness and take decisive steps to ensure that the shipbuilding and ship repair (SBSR) sector becomes a key driver of economic growth and global influence with their niche capabilities.

I call upon the relevant ministries to provide unwavering support and commitment to this industry. At the same time, industry players and policymakers must work hand in hand to overcome challenges and seize emerging opportunities. Through collaboration and strategic action, we can elevate Malaysia's maritime sector and secure its place as a powerhouse on the global stage.

YAB DATO' SERI ANWAR IBRAHIM
Prime Minister of Malaysia

CHARTING MARITIME INNOVATION

MESSAGE FROM THE MINISTER OF SCIENCE TECHNOLOGY AND INNOVATION

Technology is a game changer across industries, with sustainable innovations shaping the future. In the maritime sector, key advancements such as environmentally friendly ship designs, renewable energy integration, and green vessels are no longer optional—they are essential for sustainability, efficiency, and global competitiveness.

Malaysia must embrace these advancements boldly to position itself as a global maritime leader. By adopting cutting-edge technologies, the SBSR industry can enhance its capabilities while supporting the nation's long-term economic and environmental objectives. This transformation demands strong support through research grants, public-private partnerships, and talent development programs.

Collaboration between ministries, industry leaders, and academia is crucial to accelerating this transformation. By working together, we can fast-track technology adoption and position Malaysia's SBSR industry as a global leader in innovation, sustainability, and national progress. Let us seize this opportunity to create a brighter, more sustainable maritime future.

YB CHANG LIH KANG
Minister of Science, Technology and Innovation

DRIVING MARITIME GROWTH

MESSAGE FROM THE MINISTER OF INVESTMENT, TRADE & INDUSTRY

Malaysia's Shipbuilding and Ship Repair (SBSR) is a strategic service pillar of the nation's maritime, industrial and trade sectors. The government recognises the need to prioritise the industry's development by fostering both local and foreign investments in advanced technologies, facilitated by sound policy support. These will accelerate the production of high-value vessels, elevate Malaysia's competitiveness in the global export market, and contribute significantly to long-term economic growth.

The SBSR industry's performance is promising. In 2023, the sector recorded RM4.4 billion in revenue, with contributions spanning shipyards, marine manufacturing, MRO services, as well as design and classification. Particularly noteworthy is the shipyard segment, which boasts a robust order book valued at RM12 billion for shipbuilding and RM1 billion for ship repair—reflecting market confidence and future opportunities.

This report serves as a timely platform to bring together key stakeholders to chart a forward-looking path for SBSR. I commend the collaborative efforts in driving innovation, sustainability, and strategic development within the sector. MITI remains committed to supporting this industry, with its immense potential. MITI also believes it has the capabilities and capacity to navigate the challenges and harness new opportunities for national prosperity.

YB SENATOR TENGKU DATUK SERI UTAMA ZAFRUL TENGKU ABDUL AZIZ
Minister of Investment, Trade & Industry

NAVIGATING FORWARD TOGETHER

MESSAGES FROM THE JOINT CHAIRS & PRESIDENT & CEO OF MIGHT

The shipbuilding and ship repair (SBSR) industry is a cornerstone of national development, driving economic growth through its critical contributions to the national maritime sector. The industry underpins global and regional supply chains, supporting the resilience of trade and logistics. However, the sector faces unique challenges as it adapts to rapidly evolving global market dynamics, technological advancements, and the demands of sustainability.

Although reforms are underway, the results thus far have not adequately reflected the sector's performance and revenue. A pressing gap remains between the industry's achievements and its financial outcomes, underscoring the need for better alignment between policy frameworks and practical realities. Bridging this gap will require collaborative efforts to overcome structural challenges and capitalise on emerging opportunities in the commercial maritime space. Open conversation, collaboration, and co-creation among stakeholders will be essential to shaping the industry's future.

Despite these obstacles, we are confident in the industry's resilience and its vital role in shaping national and economic progress. While the commercial contributions of the sector remain its primary focus, its strategic importance within the broader defence and security ecosystem cannot be overlooked. With sustained reforms, innovation, and unified efforts from all stakeholders, the shipbuilding and ship repair industry is poised to grow as a dynamic and indispensable force on the global stage.

“Despite these obstacles, we are confident in the industry's resilience and its vital role in shaping national and economic progress.”

PROFESSOR EMERITUS TAN SRI DR ZAKRI ABDUL HAMID, FASc
Joint Chairman (Government)

TAN SRI DATUK DR. IR. AHMAD TAJUDDIN ALI, FASc
Joint Chairman (Industry)

RUSHDI ABDUL RAHIM
President &
Chief Executive Officer

NAVIGATING FORWARD TOGETHER

REMARKS FROM THE INDUSTRY ASSOCIATION

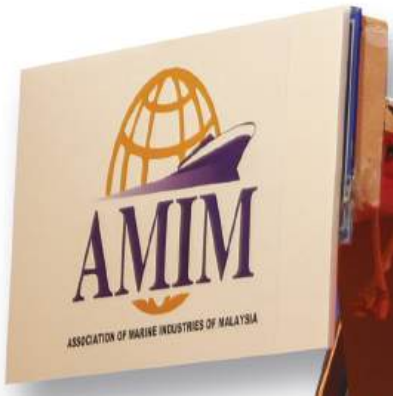
On behalf of the Association of Marine Industries Malaysia (AMIM), I would like to express our sincere gratitude to the Malaysian Industry-Government Group for High Technology (MIGHT) for publishing the Shipbuilding and Ship Repair (SBSR) Industry Report 2025/2026. This timely and comprehensive report is an invaluable resource for the development and growth of Malaysia's SBSR sector.

The SBSR Industry Report offers a detailed overview of the sector's current state, highlighting key industry challenges, emerging opportunities, and areas of potential growth. Its well-researched insights will support strategic planning and policy development, guiding industry stakeholders toward sustainable development and global competitiveness.

The data and recommendations will help stakeholders identify priorities, streamline operations, and strengthen industry capabilities. This will enable the sector to remain resilient in a dynamic global market while contributing significantly to Malaysia's economic development.

AMIM is committed to fostering stronger collaboration among key players, including government agencies, industry leaders, and academic institutions. Through shared efforts and strategic partnerships, we can ensure the SBSR sector evolves as a vital pillar of the national economy.

Once again, we extend our deepest appreciation to MIGHT for this important contribution. Together, we can advance Malaysia's SBSR industry to meet international standards.



> **AMIM is committed to fostering stronger collaboration among key players, including government agencies, industry leaders, and academic institutions.**

ADREN SIOW
President Association Of Marine Industries Of Malaysia (AMIM)

INDUSTRY ENGAGEMENTS


TEGAS MADANI
SAFINA PHASE I


SAMUDRA

MiGHT

Malaysian Industry-Government Group for High Technology

Malaysian Industry-Government Group for High Technology (MIGHT), operates as a strategic think-tank, guiding industry development through the application of science and technology for socio-economic growth. Acting as a liaison between private and public sectors, MIGHT fosters partnerships, offers strategic counsel, and shapes high technology initiatives through market intelligence and foresight practices. Governed by a board led by private sector figures and senior government officials, MIGHT collaborates with local and international industry, government, and academic partners to enhance Malaysia's high technology ecosystems, focusing on capacity building, R&D localisation, and talent development.

CHAPTER 1
Global SBSR Industry Scenario

GLOBAL SCENARIO:

WORLD SEABORNE TRADE SCENARIO

Approximately

80% of global trade volume is carried via sea routes and managed through seaports around the world.

According to UNCTAD data, the volume of goods transported by waterways has steadily increased, reaching

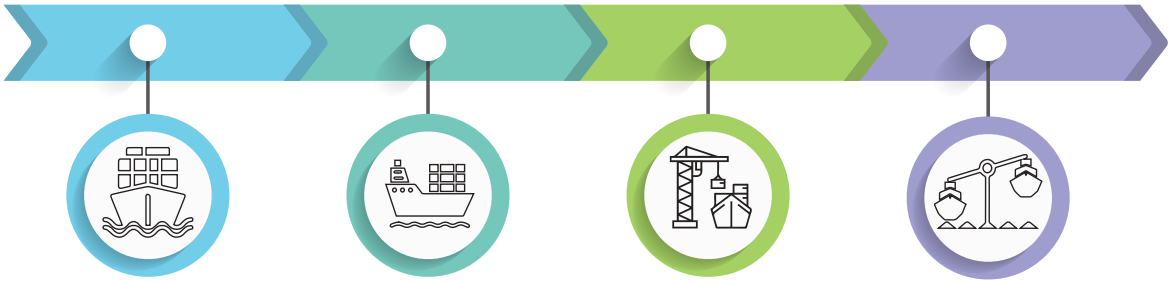
10,303 million tonnes in 2016,

11,055 million tonnes in 2019, and

10,631 million tonnes in 2020.

Additionally, the ongoing expansion of international seaborne trade is expected to drive demand for **tankers**, **cargo ships**, and **bulk carriers**, further strengthening the positive outlook for the shipbuilding industry.

Below are some key facts and figures for the transportation industry:



2021
11 billion tonnes of goods traded was **transported by sea**

From 2011 - 2021
92% of the volume growth came from **dry cargo**

Developing Asia accounts for **50% of all goods discharged** and **35% of all goods** loaded in seaports.

2021
The **seaborne trade balance** for **developing economies** was **648 million tonnes**

Source(s): UNCTAD

NamCheong®

Quality. Reliability. Delivery

Nam Cheong Secures Multi-Year OSV Charter Contracts worth up to RM 1.22 Billion

Established in Sarawak, Nam Cheong is a global offshore marine group specialising in building and chartering OSVs. Since its humble beginnings in 1968, when it built only fishing vessels, the Group is now Malaysia's largest OSV builder.

Nam Cheong focuses on the construction and engineering of sophisticated, environmentally friendly, and quality OSVs equipped with the latest technology used in the offshore oil and gas exploration and production ("E&P") and oil services industries. Customers come from Malaysia, Southeast Asia, the Middle East, West Africa, Latin America, Europe, and the United States.

Since 2007, the Group has delivered over 140 vessels, including anchor handling towing supply ("AHTS") vessels, platform supply vessels ("PSVs"), accommodation work boats, and accommodation work barges.

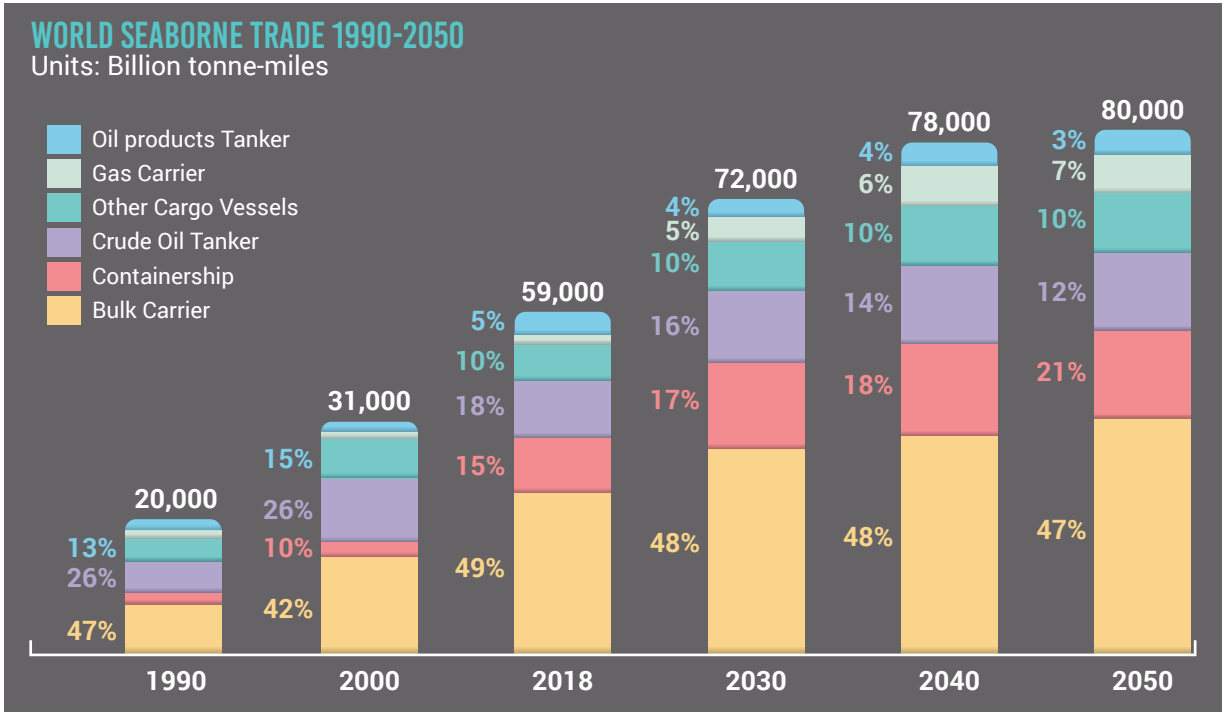
Beyond building some of the most sophisticated OSVs, Nam Cheong is expanding its vessel chartering operations -- Group's chartering fleet of over 30 vessels.

At the end of 2024, Nam Cheong secured multi-year OSV charter contracts worth up to RM1.22 billion, significantly extending its revenue visibility. These secured 12 vessels chartering on 3-year contracts beginning in 2025, with options for extensions from regional and international oil majors. This deal reinforces Nam Cheong's strong presence in Southeast Asia's OSV market and provides the Group a steady revenue visibility.

GLOBAL SCENARIO: SHIPBUILDING MARKET

While all segments of the carrier industry are expected to grow steadily, the growth will vary across different segments.

Between 2018 and 2050, **seaborne trade** is expected **to grow by 35%**, as transportation demand surpasses efficiency improvements in nearly all shipping segments. Most of this growth will happen by **2035**, with **seaborne trade rising by 29%**. After the mid-2030s, growth will slow, with seaborne trade stabilising at 80,000 billion tonne-miles by 2050.



Source(s): Clarkson Research

NamCheong®

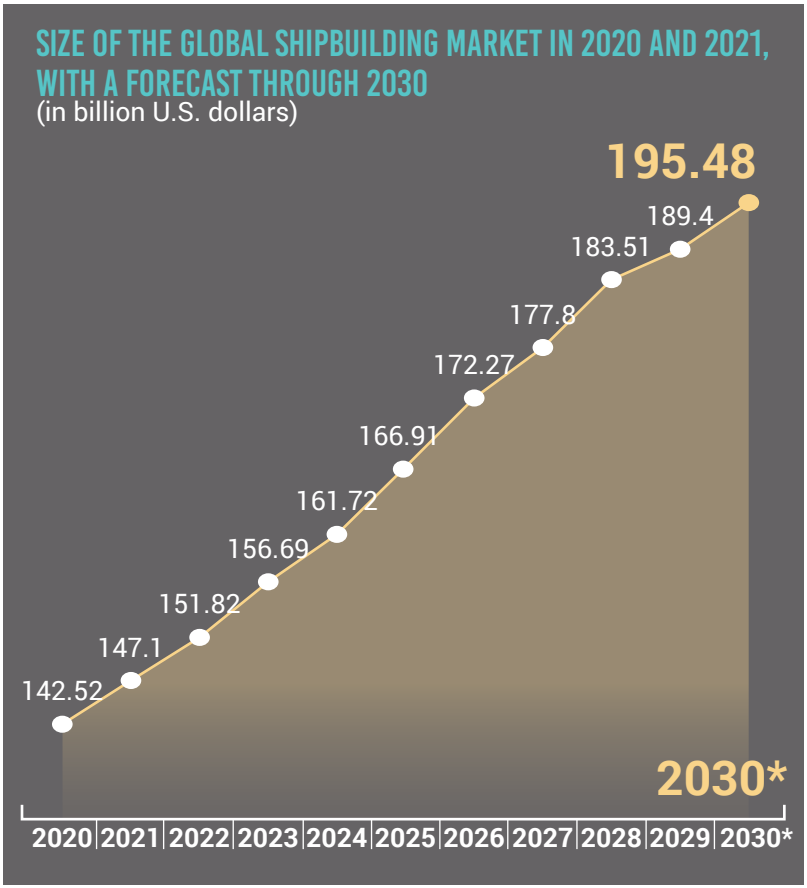
Nam Cheong Dockyard Sdn. Bhd.

Quality. Reliability. Delivery

- Malaysia's largest OSV shipbuilder
- One of largest shipbuilding yards in Malaysia
- Delivered 140 vessels since 2007
- Built AHTS, PSV, AWB, SSV, GPV, LCT, FCB
- Custom-build OSVs
- In 2025, newly delivered 28-knots fully aluminium Fast Crew Boats

GLOBAL SCENARIO: SHIPBUILDING MARKET

Despite some industry challenges, the global SBSR Industry is projected to grow to over $195 billion U.S. dollars by 2030, showing a promising outlook.



The **global shipbuilding** market was valued at **$142.52 billion** in **2020** and is expected to grow at a compound annual growth rate (CAGR) of around **3.2%** between 2020 and 2030. The market, which reached nearly $152 billion in 2022, is projected to exceed $195 billion U.S. dollars by 2030.

CAGR (2020-2030)

3.2%

Fastest Growing Market

ASIA PACIFIC

Largest Market

ASIA PACIFIC

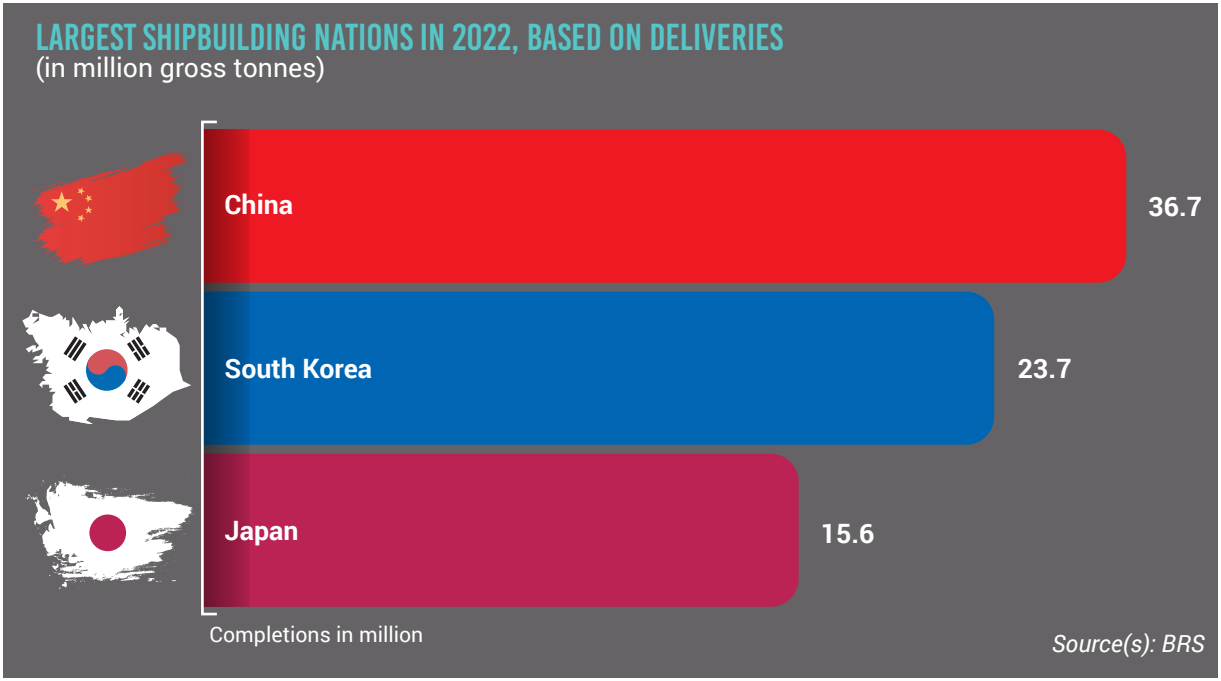
Source(s): Allied Market Research; Statista, Mordor intelligence

GLOBAL SCENARIO: LARGEST SHIPBUILDING NATIONS

China, South Korea, and Japan remain the leading nations in shipbuilding.

In 2022, China, South Korea, and Japan emerged as the foremost shipbuilding nations, with China alone completing the construction of ships totalling approximately 36.7 million gross tonnage. Leading China's shipbuilding efforts is the China State Shipbuilding Corporation (CSSC).

Together, these three nations accounted for around 85% of global shipbuilding activity. They also dominated the maritime ship supply market, holding a 94% share in 2022. While shipbuilding in China grew by 15.5% and by 8.3% in South Korea, it declined by 16.4% in Japan.



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    up to 300 Tons or 140 Footer
- **Facilities**
  - **Dry Berth x 200**
  - **Wet Berth x 6**
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LONGITUDE 100°64.23'E

GLOBAL SCENARIO: DELIVERIES OF NEW VESSEL

The substantial output and delivery of bulk carriers and oil tankers underscore the industry's capacity and its critical role in global trade

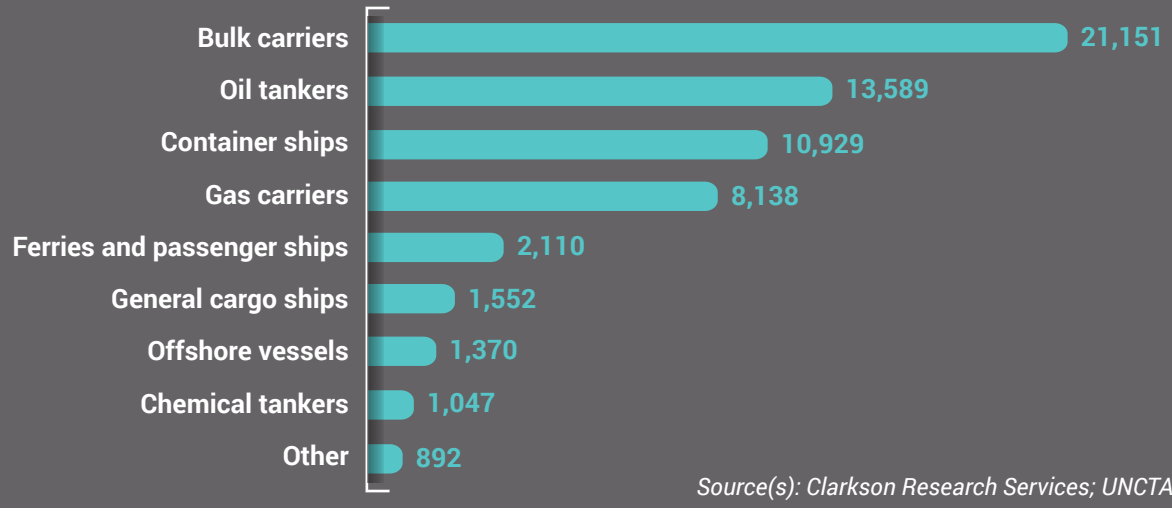
In 2021, bulk carriers accounted for 35 percent of the shipbuilding industry's total output, totalling nearly 60.8 million gross tonnes. With nearly 13.6 million gross tons delivered that year, oil tankers accounted for 22 percent of the global shipbuilding industry's production.

Bulk carriers are the largest segment by tonnage, with around 13,000 vessels in the world merchant fleet as of January 2022.

The industry completed bulk carriers with a combined gross tonnage exceeding 21 million in 2021, making them the largest category of vessel delivered by gross tonnage.

WORLDWIDE NEW VESSEL DELIVERIES BY TYPE IN 2021

(in 1,000 gross tonnes)

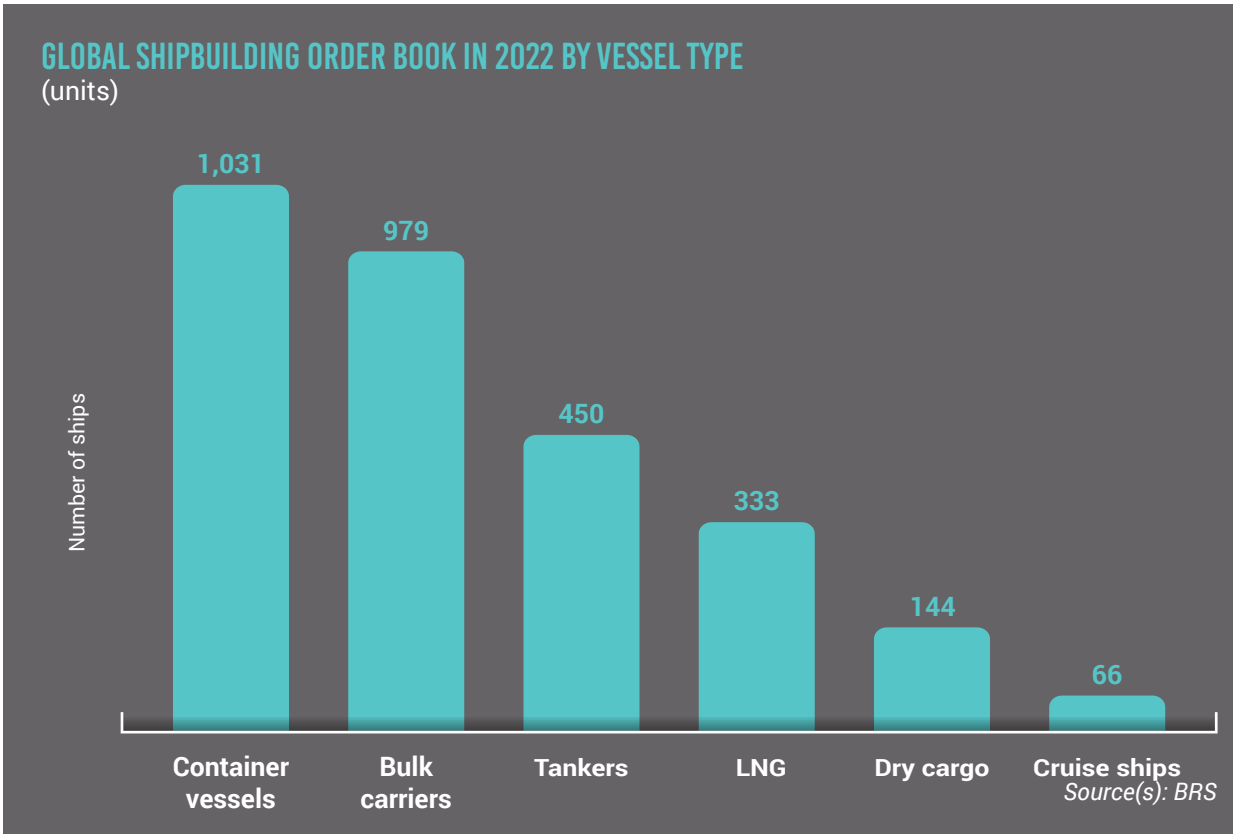


Source(s): Clarkson Research Services; UNCTAD

GLOBAL SCENARIO: DELIVERIES OF NEW VESSEL

Container ships emerged as the most in-demand type of vessel.

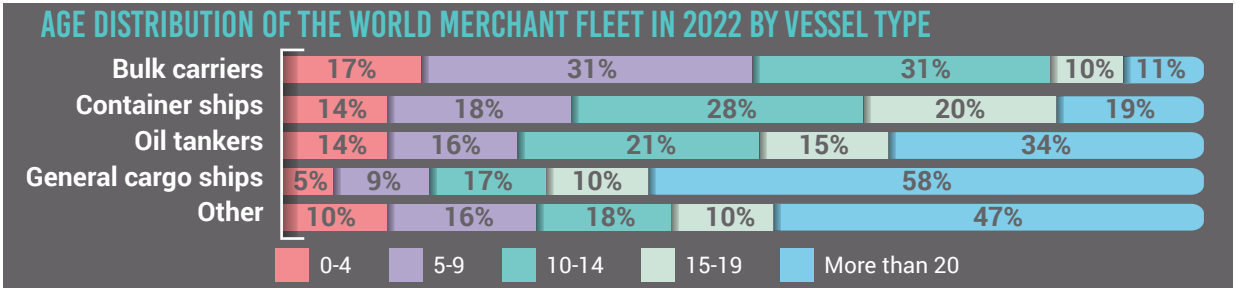
In 2022, container ships became the most in-demand vessel type, with approximately 1,031 ships on order worldwide, mostly commissioned in China. Although the number of tankers in the global order book declined from 2021 to 2022, orders for container ships increased by nearly 37%.



GLOBAL SCENARIO: MERCHANT FLEET

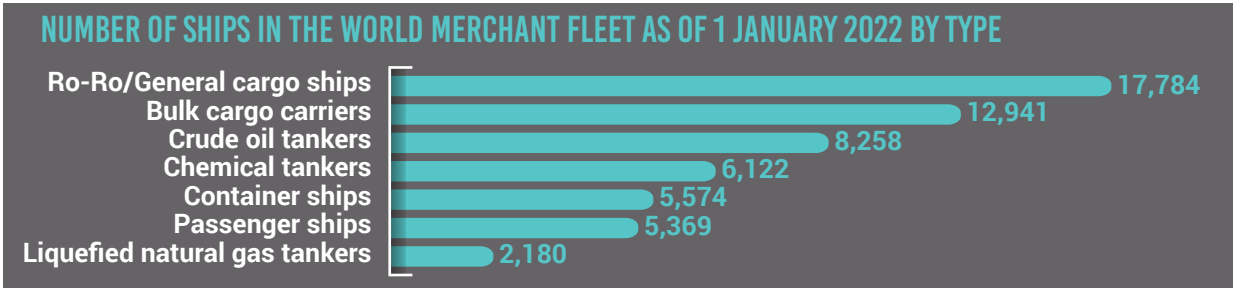
The merchant fleet is aging, with cargo ships leading in both average age and total numbers worldwide.

As of 2022, the average age of all ships in the global merchant fleet was just over 20 years. General cargo ships were the oldest type, with an average age of around 27 years. About 68% of the world's cargo ships were over 15 years old, compared to approximately 21% of bulk carriers.



Source(s): Clarkson Research Services, UNCTAD

As of January 1, 2022, out of approximately 58,000 merchant ships engaged in international trade, around 17,800 were classified as Ro-Ro/general cargo ships. This segment made up nearly 31% of the global merchant fleet.



Source(s): ISL, Marine Flottenkommando

SHAPING A BETTER MARITIME WORLD

Bureau Veritas Marine & Offshore is a **leading classification society** and **offshore verification body.**

We're by our clients' side with practical advice, tools and technology to help run safe, sustainable and high performing maritime businesses.

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GLOBAL SCENARIO: MERCHANT FLEET

Top 9 Shipbuilding Trends & Innovations to propel industry's growth based on the survey by StartUs Insights in August 2024.

		ADVANTAGES	EXAMPLE
Advanced Robotics	22%	Mitigate injury risk and improve efficiency in the shipbuilding process.	▸ Robotic 3D Printing ▸ Surface Preparation Robots
Immersive Technology	19%	Optimises delivery time and quality and enhances communication between teams.	▸ Digital Twin Technology ▸ Extended Reality (XR)-powered CAD
Green Ships	19%	Enhance energy efficiency by using propeller optimisations in green ships	▸ Carbon-Free Ammonia Fuel ▸ Electric Container Ships
Additive Manufacturing	10%	Ability to print parts and components on demand, reducing inventory costs.	▸ Continuous Fibre Manufacturing ▸ 3D-Printed Customisable Boats
Advanced Materials	7%	To harness the full potential of sustainable and alternative polymers and composites, contributing to vessel longevity.	▸ Glass-fiber Reinforced Plastic ▸ Toughness of epoxy resins
Artificial Intelligence	7%	Enhances construction efficiency, leading to the creation of ships that are smarter, safer, and more environmentally friendly.	▸ Location Intelligence Platform ▸ Self-Driving Boats
Cybersecurity	7%	Includes securing the ship's hardware and software systems, as well as training crew members in cybersecurity practices.	▸ Cyber Security-as-a-Service ▸ Maritime Cybersecurity Platform
Design Optimisation	5%	More efficient and cost-effective building processes enable the modular construction of ships.	▸ Cloud-based Ship Designing Platform Ship Propulsion Systems ▸
IoT	4%	Enhances efficiency & safety in shipbuilding by providing visibility into a wide range of processes.	▸ Worker Safety Wearables ▸ Below Deck Connectivity

Source(s): StartUs Insights

建全造船厂有限公司(Co. 143307-T)

KIAN JUAN DOCKYARD SDN. BHD.

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Email: kianjuan2042@gmail.com

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AMIM

ASSOCIATION OF MARINE INDUSTRIES OF MALAYSIA

POWERING MALAYSIA'S MARITIME INDUSTRY

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- *Policy Advocacy & Influence*
- *Professional Skills Development*

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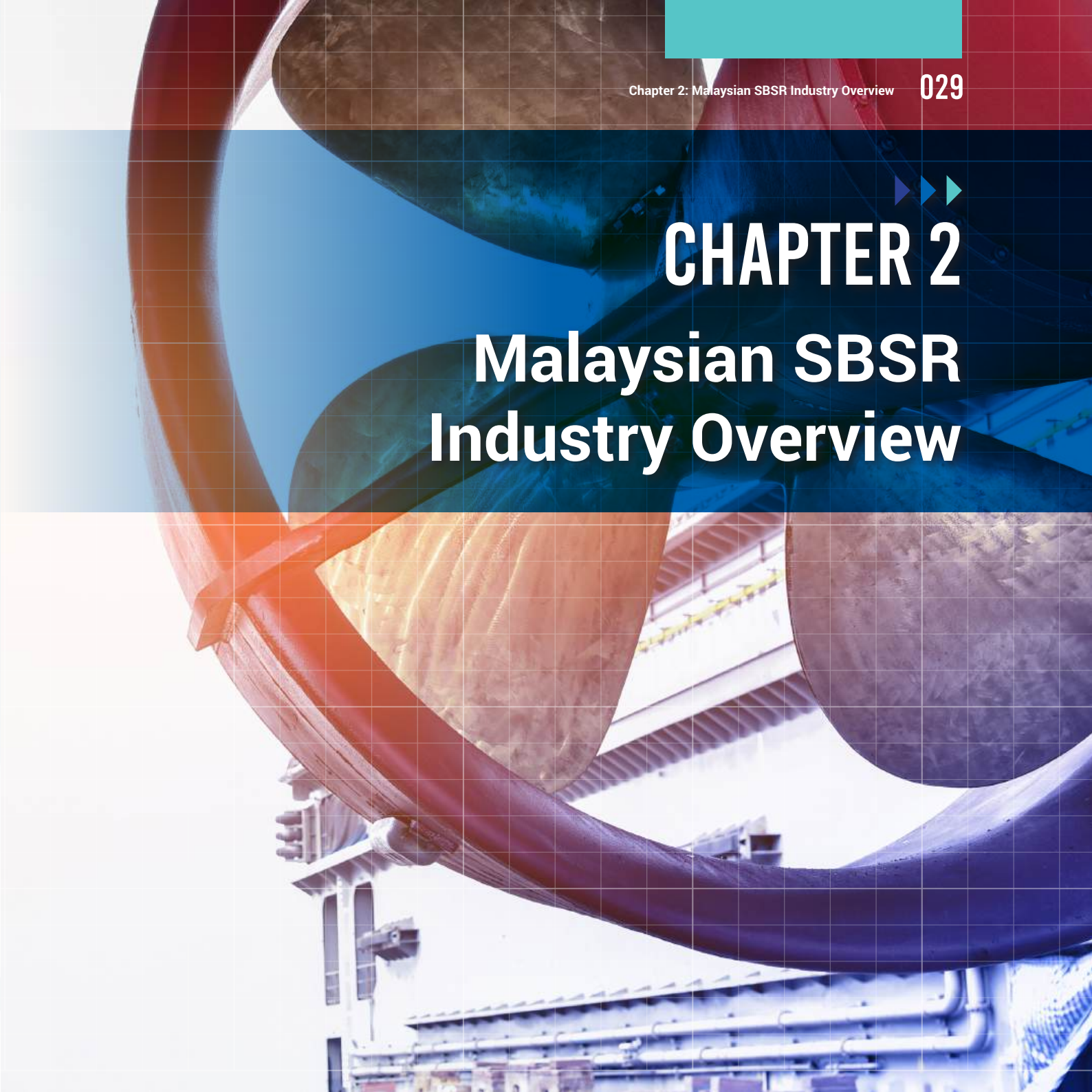
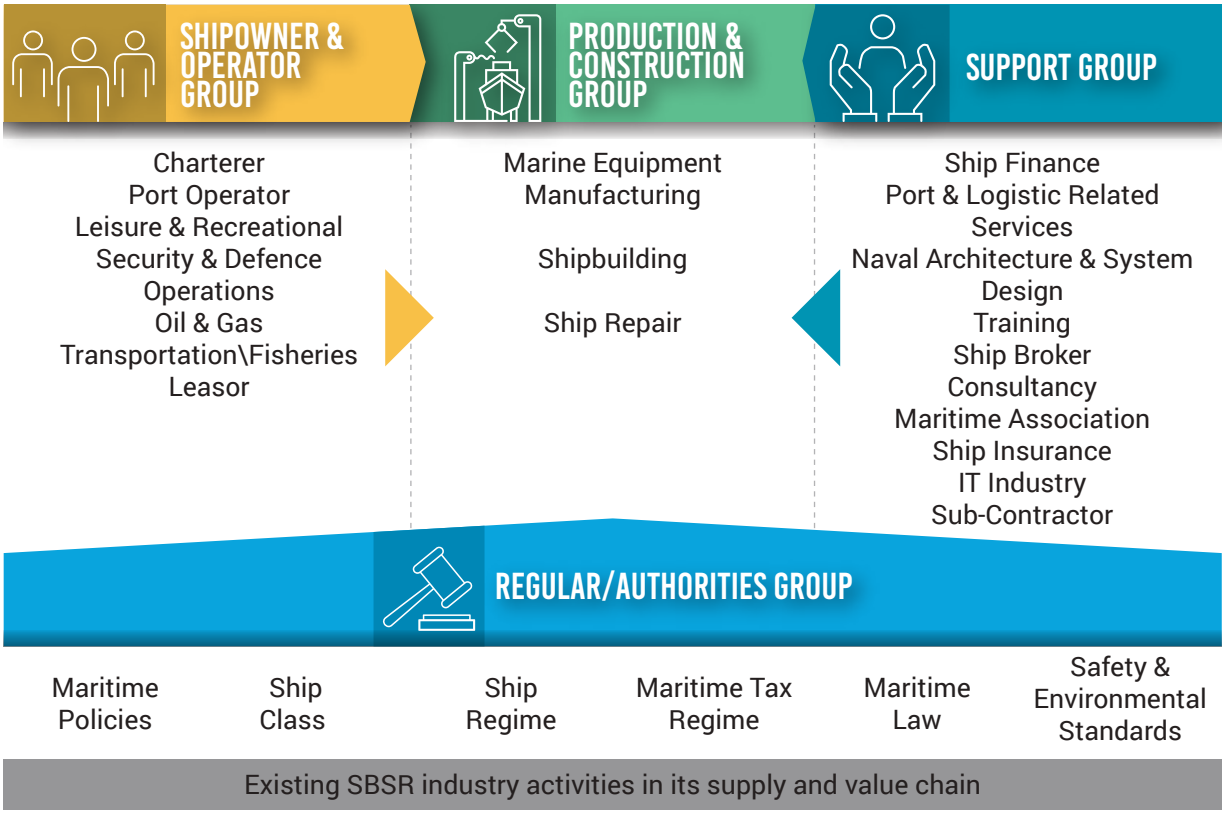


CHAPTER 2
Malaysian SBSR Industry Overview

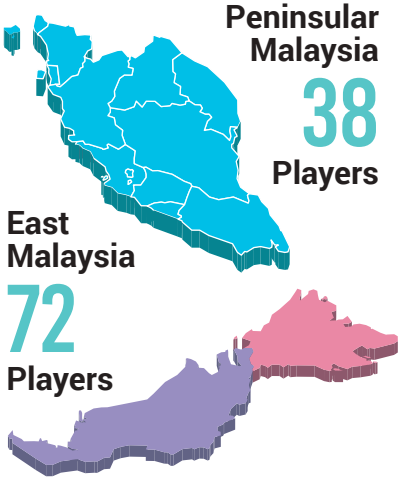
MALAYSIAN OVERVIEW:

SBSR INDUSTRY ACTIVITIES

The flowchart outlines the supply and value chain of the Shipbuilding and Ship Repair (SBSR) industry, highlighting key stakeholders



MALAYSIAN OVERVIEW:
LOCAL LANDSCAPE



As per MIGHT's database in 2024, Malaysia has more than 100 shipyards and more than 100 SBSR industry-related players including Marine parts and component manufacturers, maintenance, repair and operations (MRO), designers, and classification companies.

KEY PLAYERS IN MALAYSIA'S SBSR INDUSTRY ECOSYSTEM

Shipyards

Marine Equipment & Manufacturing

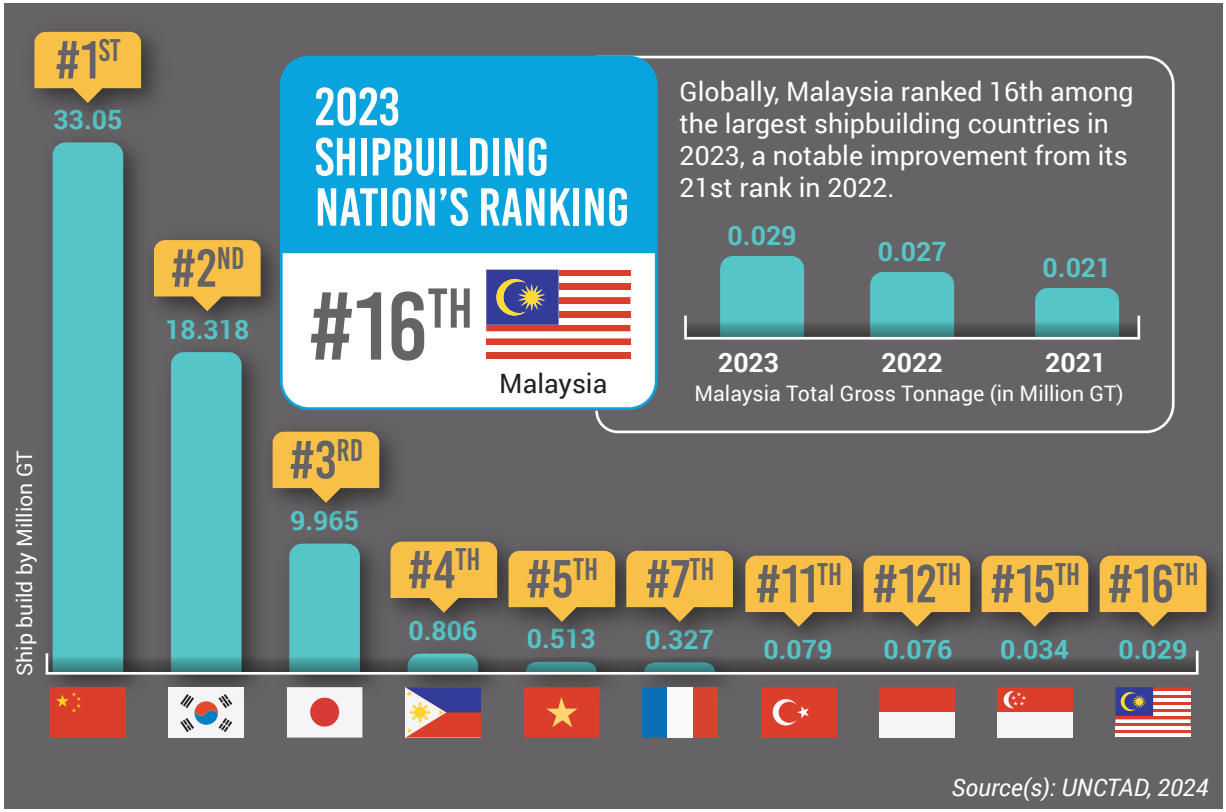
Support Services

Design Houses

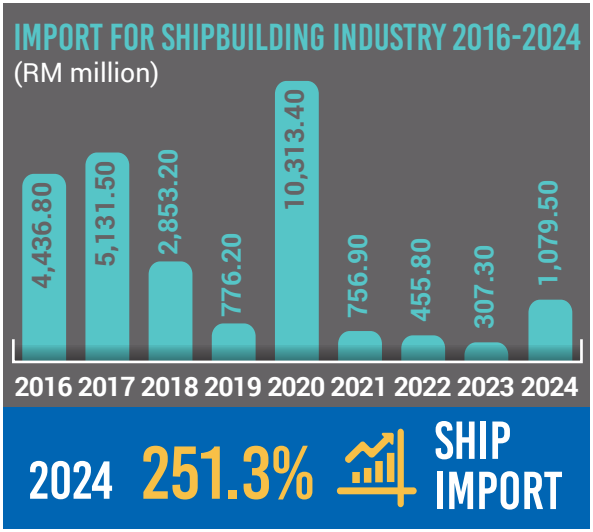
MALAYSIAN OVERVIEW:

GLOBAL RANK

Malaysia's shipbuilding output has significantly improved, highlighting its growing prominence in the global maritime industry.



MALAYSIAN OVERVIEW:
INDUSTRY IMPORT & EXPORT



Highest import countries for Malaysian Shipbuilding Industry, 2024

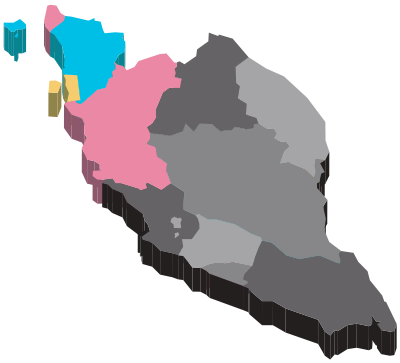
In 2024, Malaysia saw a significant 251.3% increase in ship imports, reaching RM1,079.5 million, up from RM307.3 million in 2023. The main items imported include light vessel, fire float, floating crane and dredger. Notably, Indonesia, Vietnam, China and United Kingdom were the leading source countries for these imports.

Highest export countries for Malaysian Shipbuilding Industry, 2024

In 2024, Malaysia saw a remarkable 109.7% increase in ship exports, reaching RM1,969.3 million, up from RM939.03 million in 2023. The primary exports include tugs, pusher craft, yachts and pleasure vessel with India, Indonesia, United States and Singapore being the leading export destinations.

MALAYSIAN OVERVIEW:
NORTHERN CLUSTER

THE STAKEHOLDERS



KEDAH/PERLIS

- Lunas Langkawi Shipyard
- Northern Shipyard
- Asia Slipway & Engineering
- Seng Huat Slipway & Engineering
- Perlis Marine Engineering

PULAU PINANG

- Limbungan Batu Maung

PERAK

- Lumut Naval Shipyard (LUNAS)
- Lumut Lee Marine Engineering
- Grade One Marine Shipyard
- Samudra Shipyard
- Jicore Group Incorporated (M)
- CKG Marine Shipyard
- UniKL Resources
- Navamas Engineering
- Banjasan Dockyard
- Kilang Bot Kok Wai
- Sumber Samudra
- Candice Yacht

The SCENARIO over there

- Activities in the shipyards vary, ranging from building navy ships, repairing government vessels, and servicing fishing vessels to providing yacht services and berthing.
- One shipyard has successfully built a patrol vessel for a foreign country's navy.
- The majority of the shipyards are small, with the exception of Lunas Naval Shipyard.

OPPORTUNITIES & MARKET

- Some of the players still have ample waterfront areas, which they utilise for ship parking and yacht berthing.
- The development of the Lumut Maritime Industrial Cluster (LUMIC) is expected to open more opportunities in the SBSR sector by providing additional infrastructure for shipbuilding and repair.
- Shipyards focusing on fishing vessels experience steady business every year.

MALAYSIAN OVERVIEW: EASTERN CLUSTER

THE STAKEHOLDERS

KELANTAN

- Tok Bali Dockyard
- Koperasi Alumni SML 73-35

PAHANG

- Kuantan Slipway
- Prospect Dockyard

TERENGGANU

- MSET Shipbuilding Corporation
- MSET Inflatable Composite Corporation
- OBM Technic
- CTG Marine & Services
- Sulong Marine Slipway
- Geliga Slipway

The SCENARIO over there

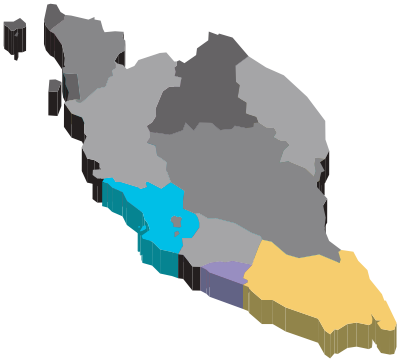
- Shipyards in this area are primarily categorised as small, with the exception of MSET Shipbuilding.
- The majority of business stems from government procurement and repair contracts, including the maintenance of MMEA boats, Navy refit programmes, police marine boats, and vessels for the Department of Fisheries.
- A few shipyards specialise in repairing fishing vessels, which provides a consistent market, particularly during the monsoon season.

OPPORTUNITIES & MARKET

- The OSV repair market is a high-revenue stream for the industry.
- However, fishing vessels remain the core focus for the majority of shipyards in the region.
- All shipyards in the Eastern Cluster are also primarily focused on serving the government market.

MALAYSIAN OVERVIEW: CENTRAL & SOUTHERN CLUSTER

THE STAKEHOLDERS



SELANGOR

- LKC Dokcyard
- Muhibbah Marine Engineering
- Evosun
- HIM Marine

JOHOR

- Malaysia Marine and Heavy Engineering Holdings Berhad (MHHE)
- Grand Banks Yachts
- Dalac Marine Engineering
- Wood Matters

MELAKA

- Team Marine Shipyard
- UES International

The SCENARIO over there

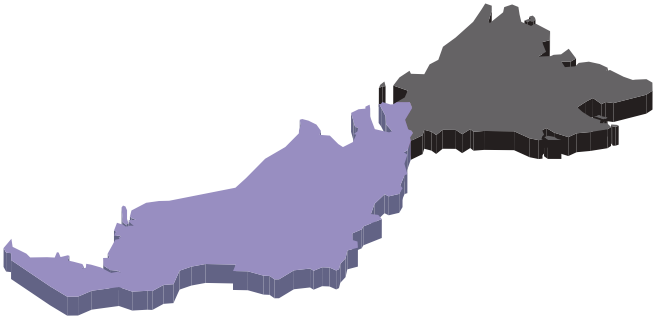
- All shipyard clusters in the Central and Southern regions consist primarily of small to medium-sized shipyards, with the exception of MMHE.
- MMHE is the only renowned and established shipyard, specialising in conversion, ship repair, and the fabrication of oil and gas platforms.
- Grand Banks is the sole shipyard involved in yacht construction and export to international markets.
- Muhibbah Marine Engineering has the capability to build Offshore Support Vessels.

OPPORTUNITIES & MARKET

- They can leverage the world's busiest straits, and importance ports namely Port Klang, Tanjung Pelepas & Kuala Linggi International Port
- The development of Melaka Straits Industrial Port (MSIP) , a free trade zone area that is expected to open more opportunities in the SBSR sector by providing additional infrastructure for shipbuilding and repair.
- The area requires substantial new investment to capture both the repair and new building markets, particularly for larger vessels.

MALAYSIAN OVERVIEW: KUCHING CLUSTER

THE STAKEHOLDERS



KUCHING

- Brooke Dockyard & Engineering Works Corporation
- Ironwoods Shipyard
- Lai Chin Hin Dockyard
- Robin Dockyard & Engineering

The SCENARIO over there

- Brooke Dockyard began the history of SBSR industry in Malaysia in 1912. Now primarily focused on the Oil & Gas market, with only a small segment dedicated to SBSR.
- Other shipyards in Kuching, such as Robin Dockyard and Ironwoods Shipyard, specialise in repairing government vessels, tugboats, barges, and yachts.
- These shipyards in Kuching rely on the local market, concentrating on repairs for government vessels to meet local demand.

OPPORTUNITIES & MARKET

- The potential market for shipbuilding and repair in Kuching is robust, driven by the increasing demand for various vessel types, including fishing boats, coastal cargo vessels, passenger ferries, and specialised vessels for the offshore oil and gas industry.
- Additionally, Kuching's strategic location along major shipping routes positions it as an ideal hub for ship repair and maintenance services, catering to both local and international maritime traffic.

MALAYSIAN OVERVIEW: SIBU CLUSTER

THE STAKEHOLDERS

- Airmark
- Berjaya Dockyard (Sibu)
- Capricon Central Shipbuilding
- East Asia Marine Engineering
- Eastern Marine Shipbuilding
- East Oceanic Shipyard
- Far East Shipyard Company
- Forward Marine Enterprise
- Gimhwak Marine Industries
- Gimhwak Shipbuilding
- Gimhwak Shipyard
- Golden Allrich
- Haplee Shipbuilding
- Hiap Tye Shipbuilding Industry
- Hung Seng Shipbuilding (M)
- Kaibuok Shipyard (M)
- Kemudi Santun
- Kiong Nguong Shipyard
- Lighthouse Marine Shipbuilding
- Moxen Shipyard
- Natah Shipyard
- Ngie Lee Dockyard
- Rajang Maju Shipbuilding
- San Shun Shipbuilding And Repair
- S. C. Yii Brothers Shipyard Company
- Sapor Shipyard
- Sibu United Shipbuilding
- Sing Kiong Hong Dockyard
- Sky-E Marine
- Sung Fatt Shipyard
- Tai Tung Hing Marine
- Tang Tiew Hee & Sons
- Tuong Aik Shipyard
- Vitawani Shipbuilding
- Yong Choo Kui Shipyard
- YCK Shipbuilding
- Young Hiin Shipyard

The SCENARIO over there

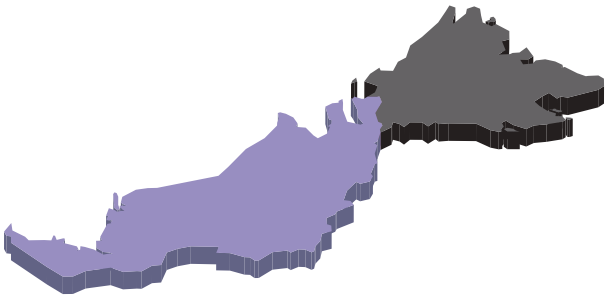
- The largest cluster in Malaysia with more than 35 shipyards.
- The main area for shipyard is in Sungai Bidut, Rantau Panjang and Tanjung Manis.
- These shipyards specialise in steel and aluminium boats.
- Building variety of vessels i.e tug boat, fast crew boat, landing craft, barge, ferries and fishing vessel etc.
- Most of the new builds and current order books are concentrated in this region.

OPPORTUNITIES & MARKET

- Shipyards in Sibu focus on the foreign market, exporting Malaysian-built vessels worldwide.
- The majority of their exports consist of tugboats, primarily shipped to Indonesia for transporting coal and lithium.
- They also export other vessels, such as fishing boats, landing craft, OSV, and harbour tugs to Middle Eastern countries and Australia.

MALAYSIAN OVERVIEW: MIRI CLUSTER

THE STAKEHOLDERS



- Berjaya Dockyard
- Cougar Shipyard & Engineering
- Kian Juan Dockyard
- Laju Kurnia Maju Shipyard
- Ming Seng Shipbuilding
- Nam Cheong Dockyard
- Piasau Slipways
- Sarawak Slipways
- Asia Sealink Shipyard
- Shin Yang Shipyard

The SCENARIO over there

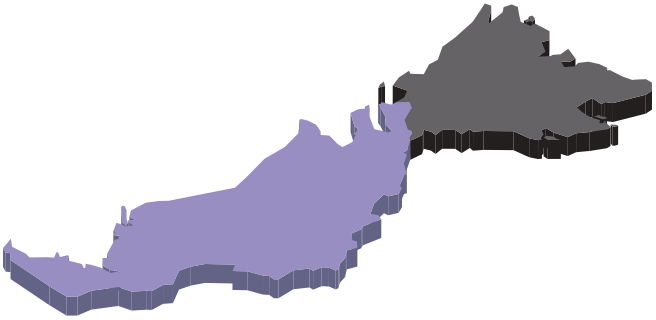
- Along the Kuala Baram, around 10 shipyards are registered under the Miri Shipyard Association, primarily focusing on the new building market
- These shipyards export various types of newly built vessels, including cargo ships, anchor handling tugs, fast crew boats, landing crafts, military training vessels, and fishing boats.
- Some shipyards also cater to the repair market for shallow draft and smaller vessels.
- Shin Yang is equipped with floating docks, making it the only shipyard capable of docking larger navy ships.

OPPORTUNITIES & MARKET

- The potential market for shipyards in Miri is diverse and promising, spanning key industries such as oil and gas, marine tourism, fishing, commercial shipping, and government contracts.
- By leveraging its strategic location, existing infrastructure, and supportive economic policies, Miri can develop a robust shipyard industry that serves both local and regional markets.
- The shipyards are also start venturing into the production of aluminium boats for local and export markets.

MALAYSIAN OVERVIEW: BINTULU & LIMBANG

THE STAKEHOLDERS



BINTULU

- Borneo Shipping & Timber Agencies
- Shin Yang

LIMBANG

- Sin Matu Shipyard

The SCENARIO over there

- Borneo Shipping & Timber Agencies focuses on the construction and repair of coastal cargo vessels, such as barges and tugboats.
- Sin Matu caters to various market segments, including repairs for government vessels, fishing boats, passenger ferries, and coastal cargo vessels.
- These shipyards primarily rely on local market demand for both repairs and new vessel builds.

OPPORTUNITIES & MARKET

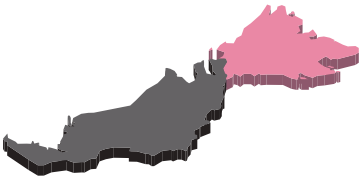
- The shipyard in Limbang, located close to Brunei, has the opportunity to tap into the Brunei market, particularly for Offshore Support Vessels (OSVs).
- The shipyard in Bintulu benefits from its strategic location near major shipping routes and well-developed port infrastructure.
- Bintulu Port, one of the largest ports in East Malaysia, serves as a key hub for the export of liquefied natural gas (LNG) and other goods.

MALAYSIAN OVERVIEW: LABUAN & SABAH CLUSTER

THE STAKEHOLDERS

LABUAN

- Labuan Shipyard & Engineering (LSE)
- Preston Shipyard



KOTA KINABALU

- Kinabalu North Shipyard & Maritime
- Kaya Shipyard
- BHIC Submarine Engineering Services

LAHAD DATU

- Sapangar Shipyard

SANDAKAN

- Pleasant Engineering
- Sandakan Jaya Teknik
- Weldan Marine Services
- Pengangkutan Kekal

TAWAU

- Syarikat Bengkel & Limbungan Majulah

The SCENARIO over there

- Shipyards in Sabah primarily focus on repairing government vessels, fishing boats, and yachts.
- Most of these shipyards are currently operating at full capacity and are planning expansions to accommodate the growing demand in the local market.
- LSE specialises in building and maintaining a diverse range of vessels, from private yachts to commercial and naval ships.

OPPORTUNITIES & MARKET

- The Palm Oil Industrial Cluster (POIC) Lahad Datu industrial park is a key development area, with investments exceeding RM3.5 billion. The park provides expansive industrial and shore-side land suitable for port and industrial investments.
- The Sabah government is actively encouraging both local and foreign investors to take advantage of these incentives and infrastructure developments, aiming to enhance capabilities and capacity within the shipbuilding and ship repair industry.
- Given the current capacity limitations, there is a clear need for upgrading and expanding shipyard facilities to accommodate larger vessels and more complex repair projects.

Muhibbah Marine Engineering Sdn Bhd (MME) is strategically located at Telok Gong next to South Port in Port Kelang, Malaysia. The shipyard with total land area of 31 acres has an approximately 850 meters water frontage with depth of up to 18 metres.

SERVICES	Ship Building	Ship Repair	Ship Conversion	Marine Engineering






As one of the leading shipyard in Malaysia, MME successfully built and delivered more than 100 vessels to our clients both locally and overseas. The vessels include offshore support vessels, anchor handling tug / supply vessels, utility tugs, accommodation work boats, diesel electric propulsion platform supply vessels, chemical tankers, oil product tankers, government vessels, buoy tender vessels, tugs and barges.

Lot 923, Telok Gong, Mukim Selat Lumut
42000 Port Kelang, Selangor, Malaysia
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www.muhibbah.com

CHAPTER 3
Malaysian SBSR Industry Outlook

MALAYSIAN OUTLOOK:
INDUSTRY PERFORMANCE FOR SHIPYARD

Although the industry's revenue is still considered low, it is on the rise, indicating that it is in recovery mode compared to the pre-pandemic average revenue of 5 to 6 billion for the shipyard segment.

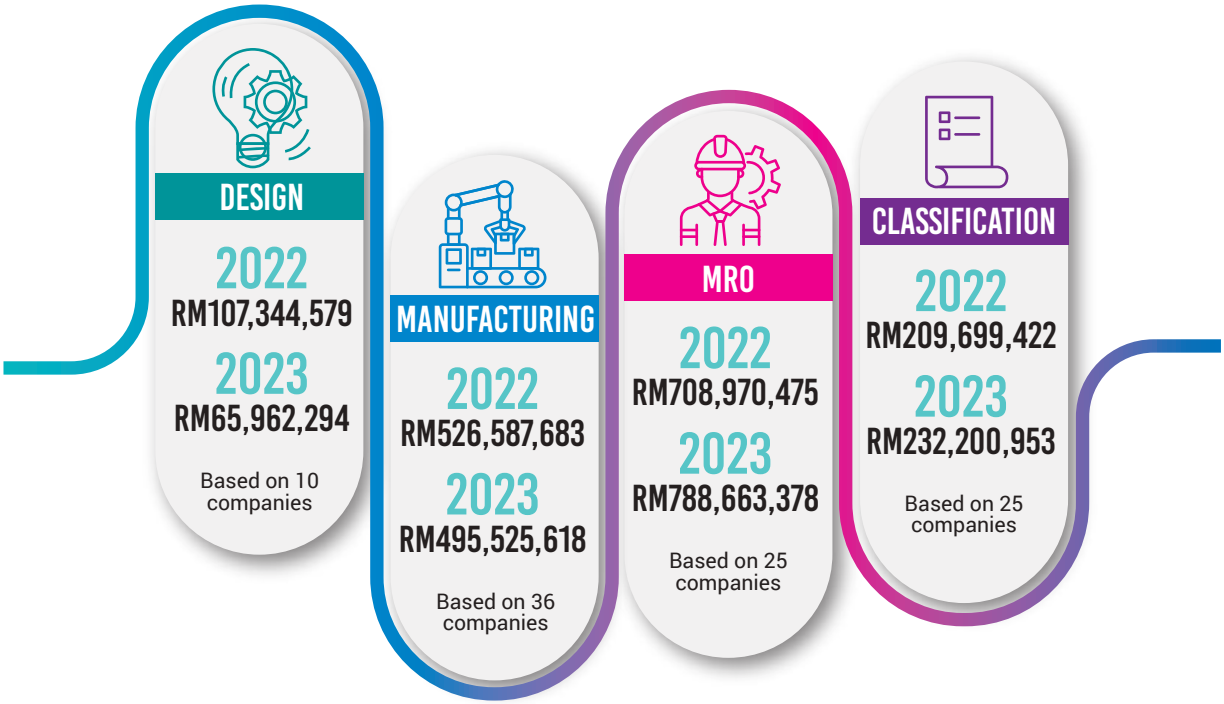
		SHIPBUILDING	SHIP REPAIR	SHIP CONVERSION & OTHERS
2021 RM 2,135,538,160	Total Shipyard Revenue	RM 1,000,286,074	RM 1,113,042,489	RM 22,209,597
	Percentage % Commercial (C) Government (G)	C : 38.13% G : 61.87%	C : 57.50% G : 42.50%	C : 100%
2022 RM 2,233,772,170	Total Shipyard Revenue	RM 968,116,858	RM 1,231,701,974	RM 33,953,337
	Percentage % Commercial (C) Government (G)	C : 63.63% G : 36.37%	C : 66.09% G : 33.91%	C : 100%
2023 RM 2,777,036,286	Total Shipyard Revenue	RM 1,055,273,789	RM 1,666,221,771	RM 55,540,726
	Percentage % Commercial (C) Government (G)	C : 63.78% G : 36.22%	C : 57.93% G : 42.07%	C : 100%

*Total revenue from 103 companies

Source(s): MIGHT Analysis, SSM data & AMIM

MALAYSIAN OUTLOOK:
INDUSTRY PERFORMANCE FOR SBSR RELATED COMPANIES

The supporting industries are also facing a similar situation, with revenue levels still significantly lower than they were before the pandemic.



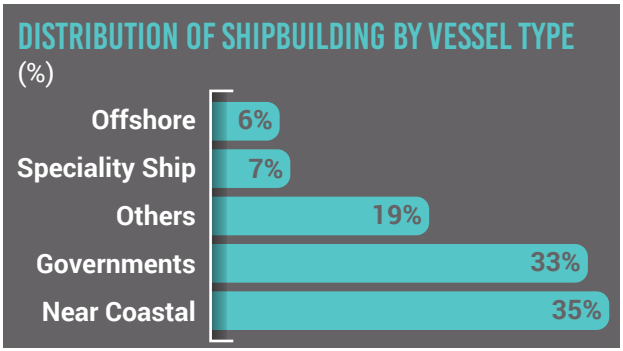
Source(s): Estimated MIGHT Analysis, SSM data

MALAYSIAN OUTLOOK: SHIPBUILDING & REPAIR ORDERBOOK

The data is based on **shipbuilding** projects that began construction in 2023 at shipyards in Malaysia.

Quantity of Ships	Value (estimate)	No. of Clients	Total GT (estimate)
323	RM12.267 Billion	71% + 29% (Local + Foreign)	57,235

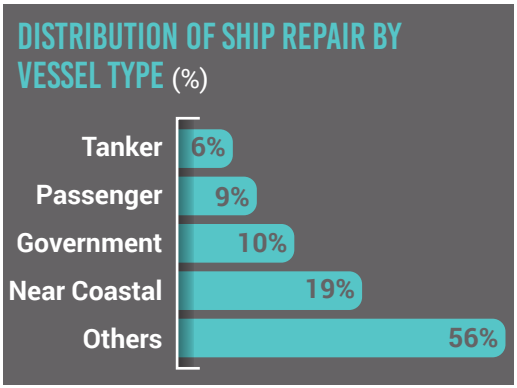
Information above are based on 38 shipyards



The data is based on **ship repairs** conducted in 2023 at shipyards in Malaysia.

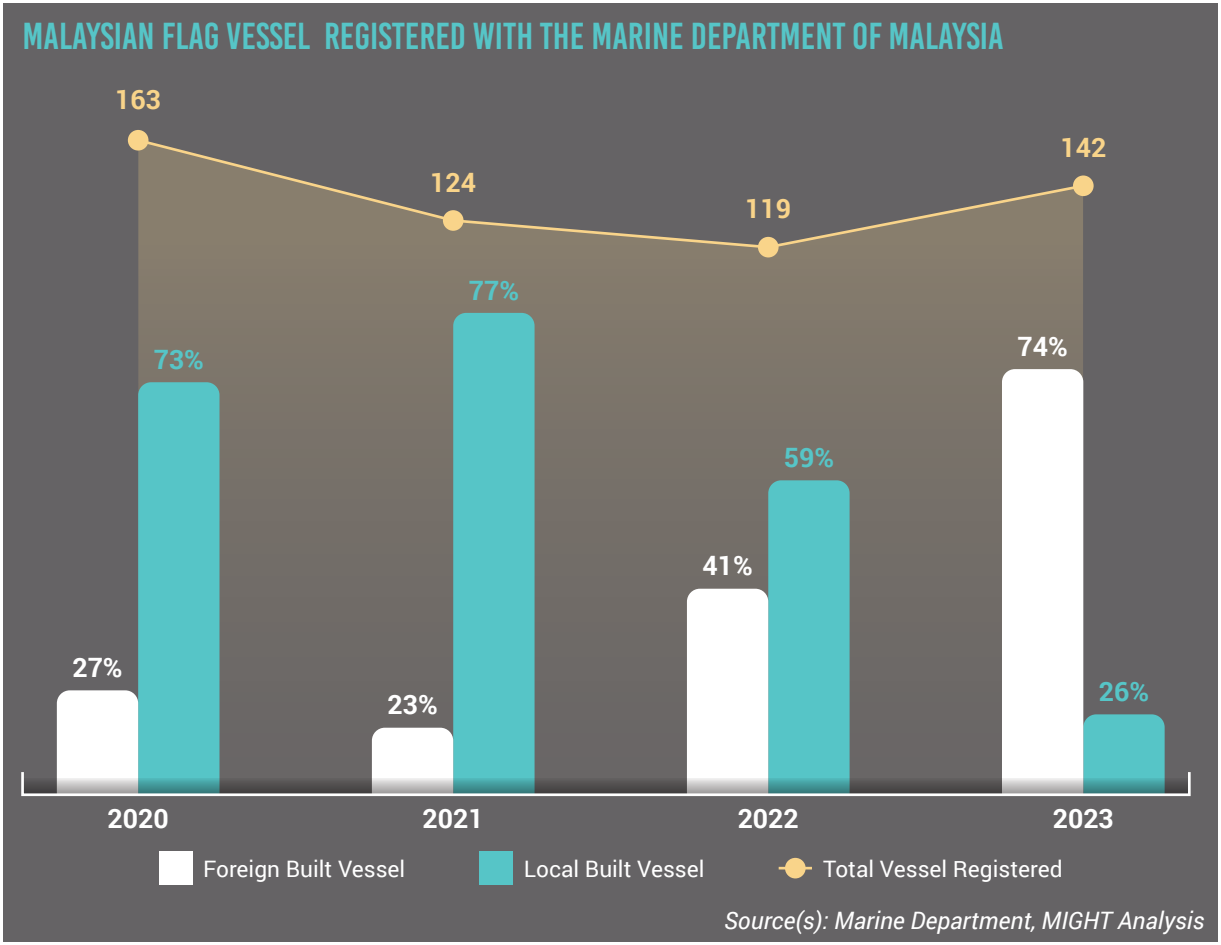
Quantity of Ships	Value (estimate)	No. of Clients	Total GT (estimate)	Total Conversion
938	RM1.066 Billion	86% + 14% (Local + Foreign)	10,000,411	RM9.877 Million

Information above are based on 38 shipyards



MALAYSIAN OUTLOOK: INDUSTRY PERFORMANCE

The data presented shows an increase in the number of vessels registered from 2020 to 2023.



MALAYSIAN OUTLOOK: INDUSTRY PERFORMANCE

VESSEL TYPE BREAKDOWN

Registration Year with the Marine Department	2020	2021	2022	2023
Type of Vessel	Year of Built (new)			
	2018-2020	2019-2021	2020-2022	2021-2023
Tanker	-	3	2	1
Bulker	-	-	-	-
Specialty Ship	5	4	1	4
Passenger	12	4	1	-
Offshore	1	4	3	8
Government Vessel	3	-	6	-
Near Coastal	12	13	8	4
Others	5	-	-	1
Total Local New Built Vessel	**38**	**28**	**21**	**18**
Built in Sarawak	**68%**	**86%**	**89%**	**89%**

The data on locally newly built vessels indicates that most were constructed in Sarawak.

Source(s): Marine Department, MIGHT Analysis

MALAYSIAN OUTLOOK: CAPACITY & CAPABILITY

The average docking capacity in Malaysia ranges from 300 DWT to 10,000 DWT.

Largest Dry Dock:
450,000 DWT + 400,000 DWT + 140,000 DWT
Malaysia Marine and Heavy Engineering Sdn Bhd
Dock: 385Mx80M, 350Mx80M, 270Mx46M

Largest Synchro Lift:
50,000 DWT
Malaysia Marine and Heavy Engineering Sdn Bhd
Berth: Length 188m, Width: 33.8m

Largest Floating Dock:
13,500 DWT + 2,500 DWT
Shin Yang Shipyard Sdn Bhd
Berth: 160Mx48.1M, 54.864Mx23.008M

Largest slipways:
4,250 DWT + 3,000 DWT + 500 DWT
Nam Cheong Dockyard Sdn Bhd
Ship size: 85Mx40M, 85Mx40M, 47Mx12M

Largest Travel Lift:
700 TONNE
Grade One Marine Shipyard Sdn Bhd

Largest Goliath Crane:
600 TONNE
Malaysia Marine and Heavy Engineering Sdn Bhd

Largest Rubber Tyred Gantry Crane:
300 TONNE
Lumut Naval Shipyard Sdn Bhd

MALAYSIAN SHIPYARD LIFTING CAPACITY

Dead Weight Tonne (DWT)	
<500	20
500-1,000	9
1,000-5,000	20
5,000-10,000	2
>10,000	7
TOTAL	58

(out of 50 companies)

Information above are only based on 50 shipyards.

MALAYSIAN OUTLOOK: HUMAN CAPITAL

The post-pandemic situation also shows a significant decline in industry employment.

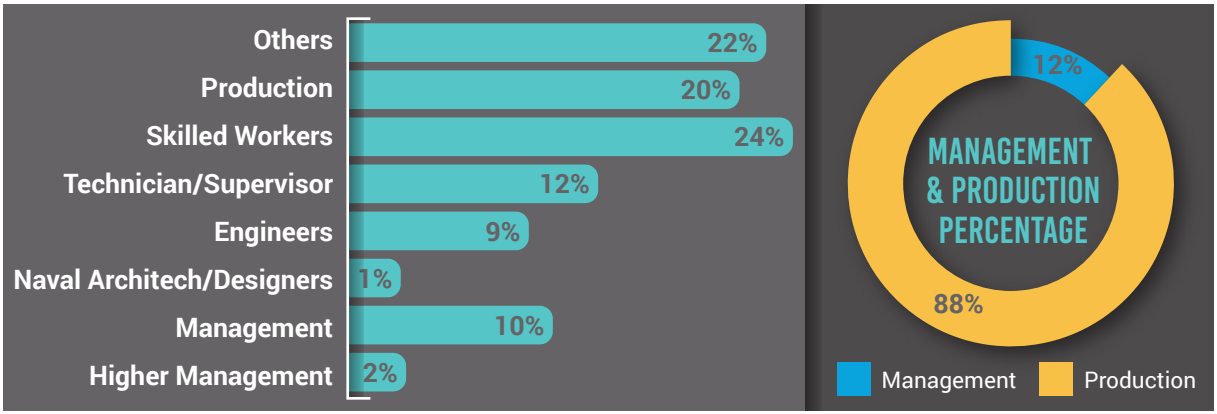
HUMAN CAPITAL IN THE MALAYSIAN SBSR INDUSTRY

2024

Direct employment from shipyards totals **5,837** across **61 shipyards**. This data **excludes marine manufacturing**, **MRO**, and **subcontractors**.

SHIP FACTS

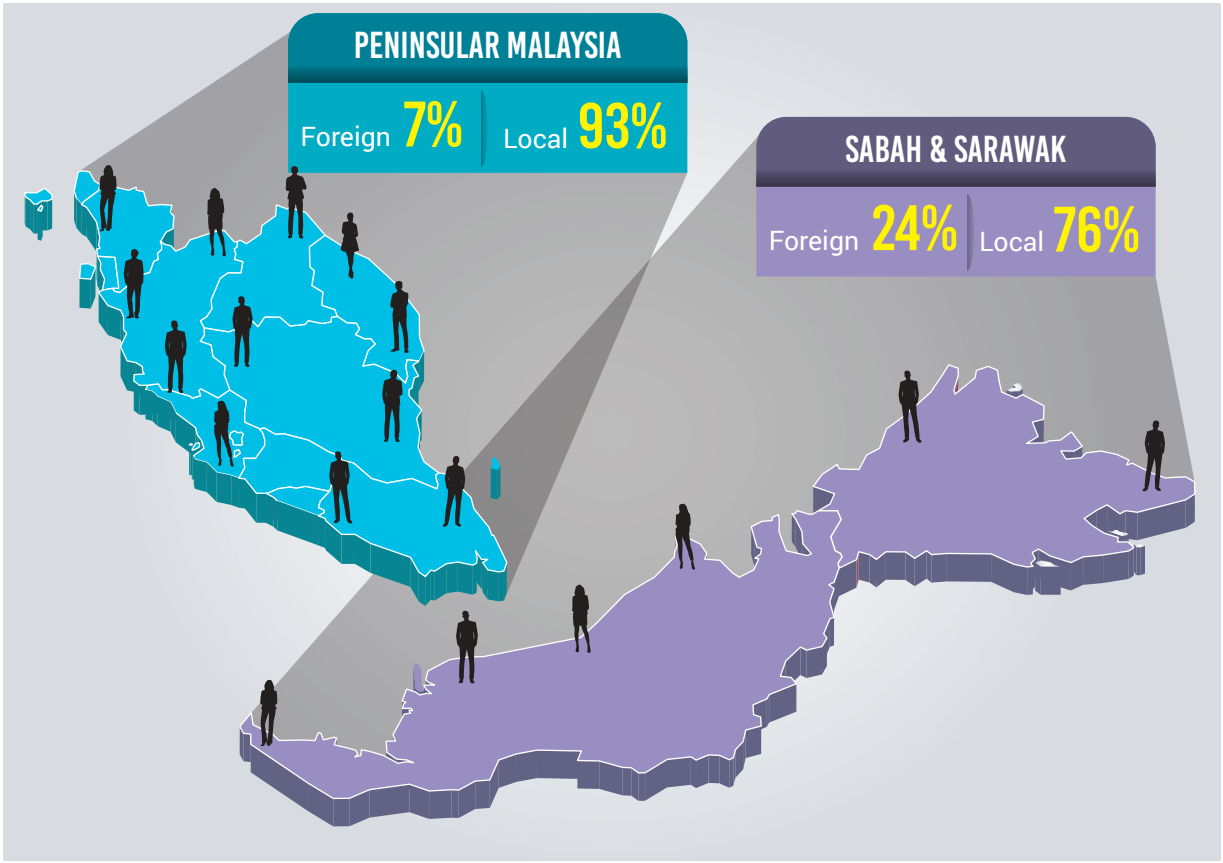
Did you know that some shipyards subcontract up to 90% of their manpower? This means that while they may have only 70 permanent staff, they can have as many as 700 subcontractors working at once.



In this industry, management is divided into higher management and mid-level roles, which represent a smaller percentage of the workforce. The majority of employees are involved in production roles, including naval architects/designers, engineers, technicians/supervisors, skilled workers, and others, primarily focused on tasks related to building and repairing vessels.

MALAYSIAN OUTLOOK: HUMAN CAPITAL

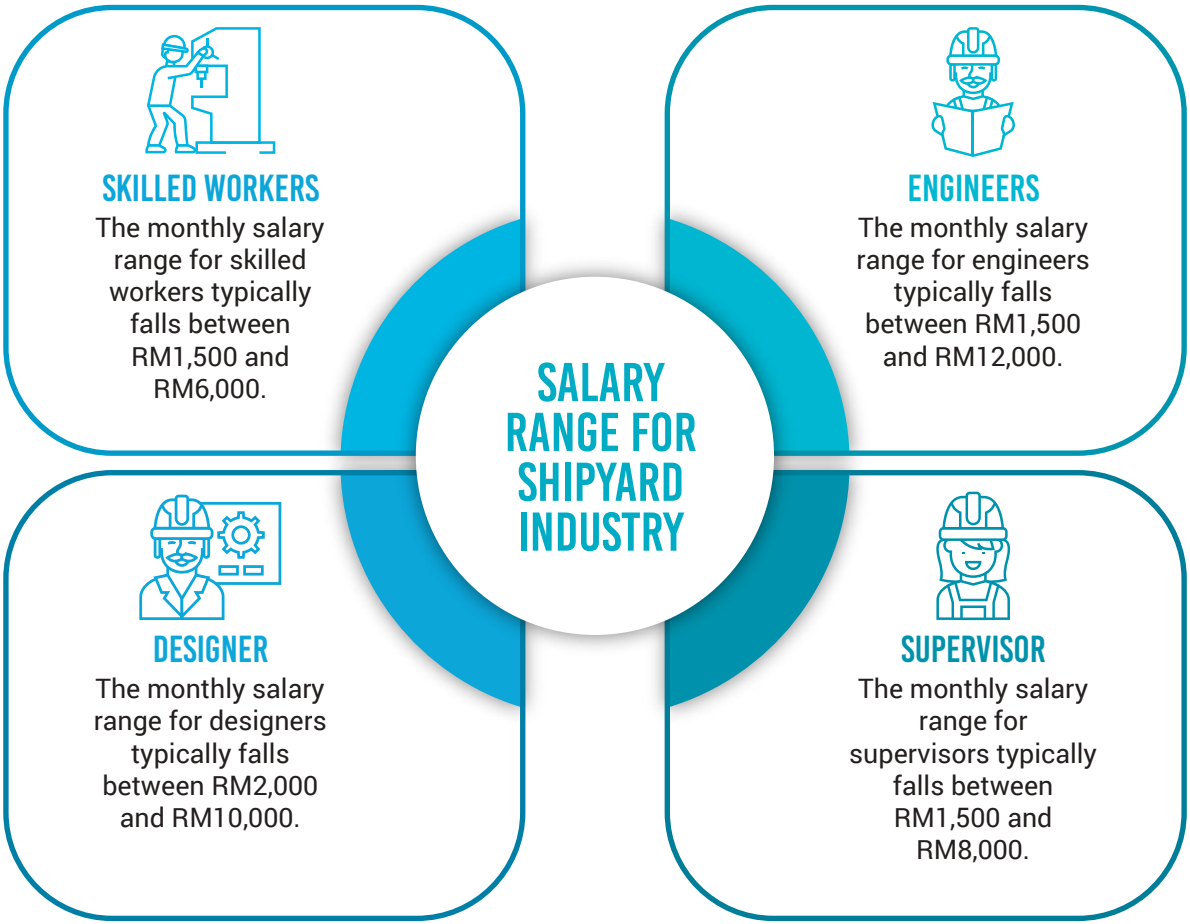
Workforce Composition of Local and Foreign Workers in the Industry



Local shipyards rely on foreign workers to fill skill gaps and meet the high workforce demands for production and repair, which cannot be fully met by local labour.

MALAYSIAN OUTLOOK: HUMAN CAPITAL

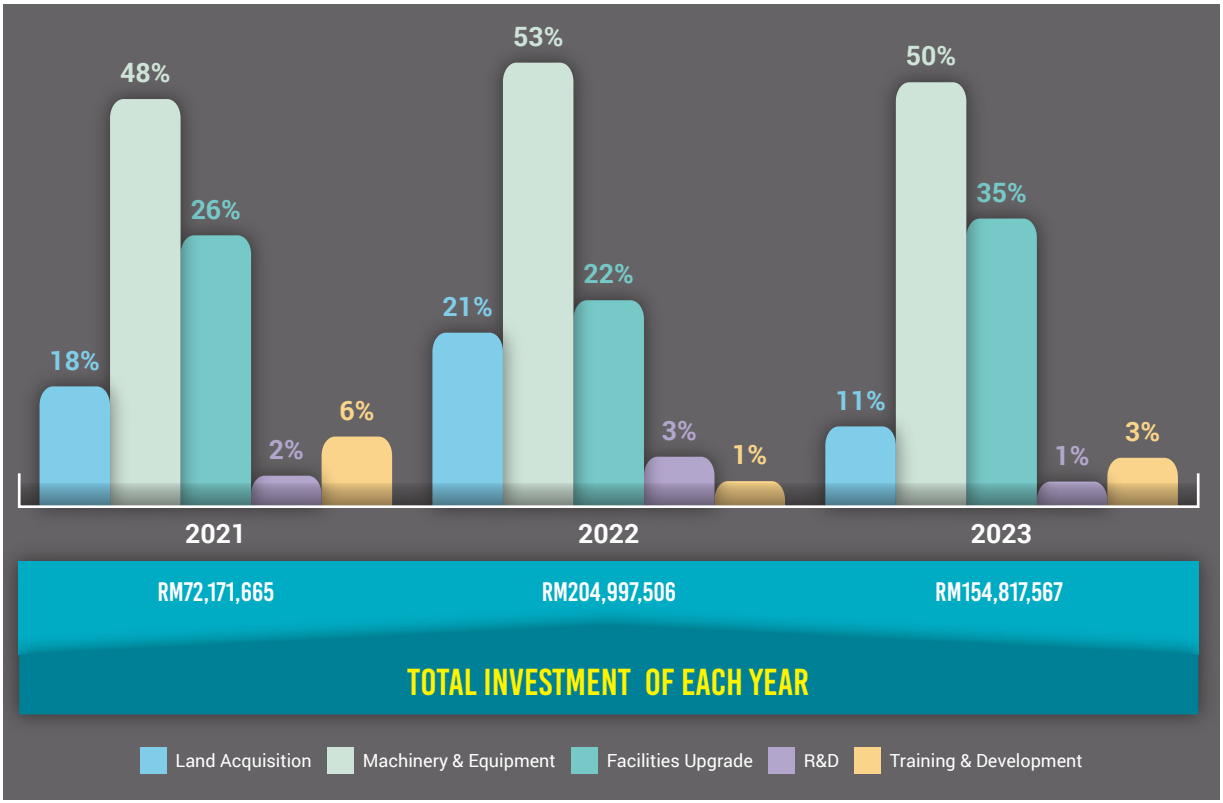
The salary range in the local shipyard industry typically depends on years of experience and skill level.



*Based on 38 companies

MALAYSIAN OUTLOOK: CAPITAL EXPENDITURE/INVESTMENT

From 2021 to 2023, total capital investment reached RM431,968,761, demonstrating the industry's commitment to upgrading its capabilities.



Over the three-year period, machinery and equipment accounted for the largest percentage of capital expenditure, reflecting a strategic focus on expanding physical assets.

MALAYSIAN OUTLOOK: CAPITAL EXPENDITURE/INVESTMENT

As a comparison, below are the approved incentive packages for the SBSR industry provided by MIDA. The industry needs to utilise the advantages they have by applying for the relevant incentives offered by MIDA.

Since 2018, until 2024,

96%
value is domestic investment

ALMOST 1 BILLION APPROVED INVESTMENT SINCE 2018 UNDER MIDA

Source(s): MIDA

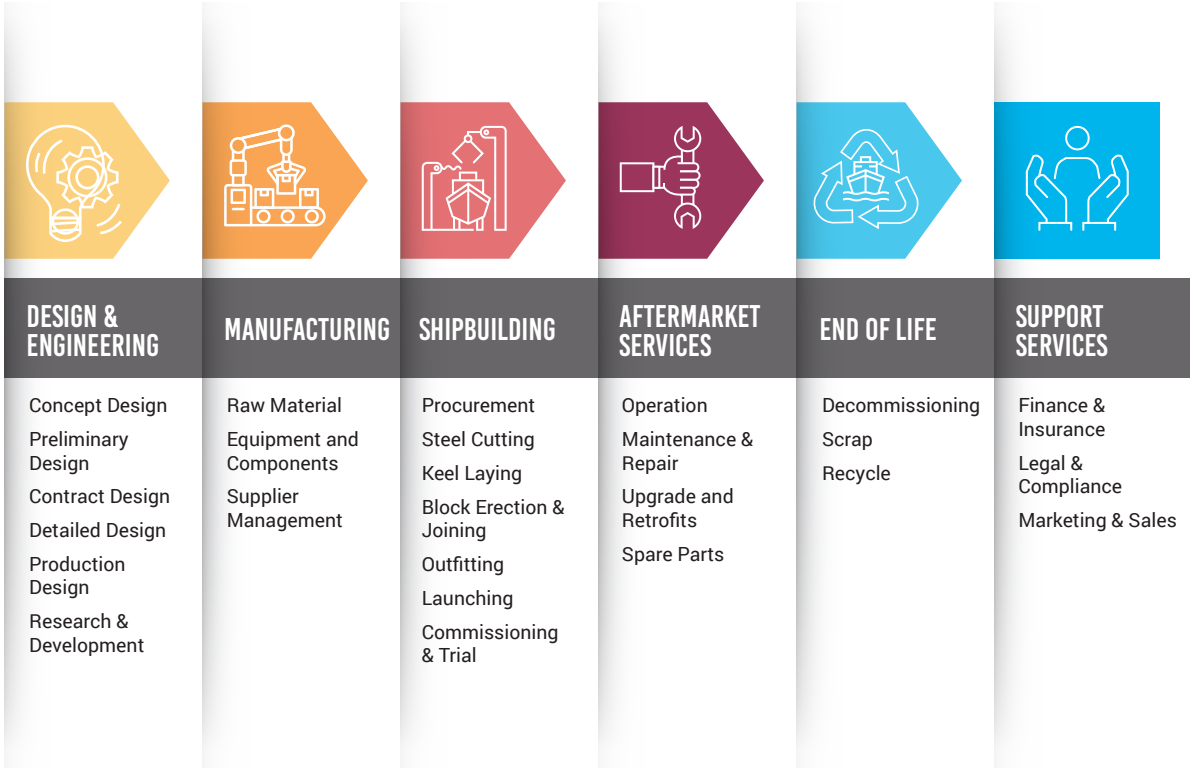
Shipbuilding, Ship Repair and Engineering

The Guarantee of Quality
with over 400 ships delivered

Piasau Slipways Sdn Bhd
Shin Yang Shipyard Sdn Bhd
(a member of Shin Yang Group Berhad)
Sub Lot 153 (Parent Lot 70), Jalan Kuala Baram,
Kuala Baram, 98100 Miri, Sarawak, Malaysia.
Tel : +60 85-428 399 Fax: +60 85-435 505, 435 506
Email: newbuild.sygroup@shinyang.com.my
Website : www.shinyanggroup.com.my

MALAYSIAN OUTLOOK: DESIGN AND ENGINEERING IN THE SHIPBUILDING VALUE CHAIN

Design plays a critical role across the entire shipbuilding value chain, from initial concept to end-of-life. Additionally, support services such as insurance rely on approved designs to ensure vessel safety, quality, functionality, and effective risk management.



MALAYSIAN OUTLOOK: DESIGN AND ENGINEERING IN THE SHIPBUILDING VALUE CHAIN

In Malaysia, local design house encounter challenges stemming from unequal growth opportunities:

CHALLENGES

- They are pressured to offer low prices with thin profit margins, limiting their ability to invest in innovation
- The preference for foreign designs over local expertise limits the growth of homegrown capabilities
- In some cases, foreign designers subcontract work back to local firms
- A skill mismatch exists as graduates from naval architecture programmes often lack the specific skills required to work effectively in design houses
- The government has implemented a rating programme; however, the industry perceives it as offering little to no advantage in securing government projects

WHAT CAN WE DO TO SUPPORT AND IMPROVE THIS SUB-SECTOR?

- **Higher exposure for potential graduates:** Practical experience and exposure to the real-world design working culture
- **Reliance on local capabilities:** Endorsement and support from the government to enhance credibility
- **Develop industry-specific financial solutions:** Develop financial products tailored specifically for shipbuilding design houses
- **Industry-specific incentive:** Offer incentives to companies for successful innovations while ensuring acceptable profit margins, particularly for government projects, with standardised or guideline rates based on project value

MALAYSIAN OUTLOOK: LOCATION OF MARITIME INSTITUTION

Malaysia has numerous maritime institutions offering both blue-collar and white-collar courses to provide the industry with relevant skills.

Northern Cluster

- Malaysian Institute of Marine Engineering Technology (UniKL MIMET)
- National Youth Training Institute Kuala Perlis (IKBN)
- Penjana Ilmu Sdn Bhd
- Polaris Maritime Training Academy Sdn Bhd
- Politeknik Bagan Datuk/ Maritime Technology Academy
- Politeknik Ungku Omar (PUO)
- Institut Kemahiran Mara Beseri Perlis (IKM Beseri)
- Institut Kemahiran Belia Negara Kuala Perlis (IKBN)

Central Cluster

- Centre of Maritime Excellence Sdn Bhd (CME)
- International Islamic University Malaysia (IIUM)
- Universiti Teknologi MARA (UiTM) Malaysia
- National Defence University of Malaysia (UPNM)
- Pelita Akademi Sdn Bhd
- Pelorus Intelligence & Technology Academy Sdn Bhd
- All Field Maritim Sdn Bhd
- Star Marine Academy (STMA)

*This list is not exhaustive

MALAYSIAN OUTLOOK: LOCATION OF MARITIME INSTITUTION

Southern Cluster

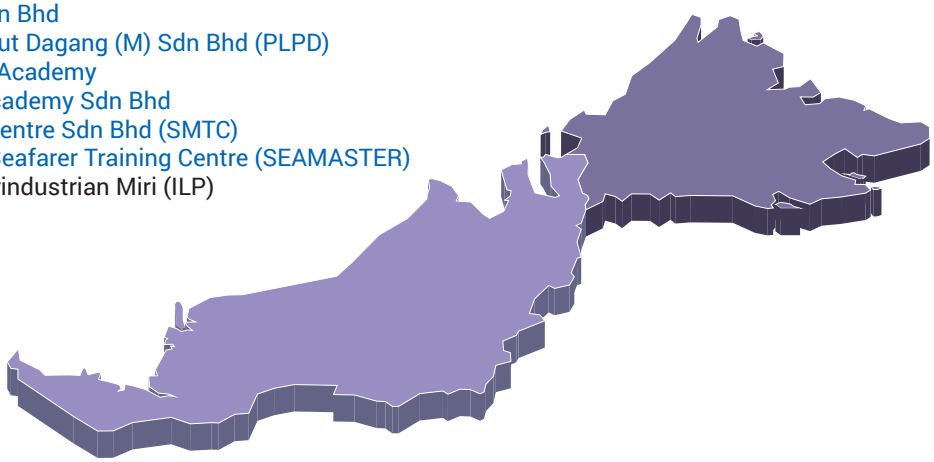
- Malaysian Maritime Academy (ALAM)
- Maritime Safety & Training Services (MSTS) Asia Sdn Bhd
- Netherlands Maritime Institute of Technology (NMIT)
- University of Technology Malaysia (UTM)
- Industri Latihan Perindustrian Pasir Gudang (ILP)

Eastern Cluster

- Universiti Malaysia Terengganu (UMT)
- Ranaco Marine Sdn Bhd
- Terengganu Safety Training Centre Sdn Bhd (TSTC)

Sabah & Sarawak Cluster

- Innatech Sdn Bhd
- Pelita Mas Laut Sdn Bhd
- Pusat Latihan Pelaut Dagang (M) Sdn Bhd (PLPD)
- Sarawak Maritime Academy
- Sastra Maritime Academy Sdn Bhd
- Sri Bima Training Centre Sdn Bhd (SMTC)
- Sealestial Marine Seafarer Training Centre (SEAMASTER)
- Institut Latihan Perindustrian Miri (ILP)



Private institution

Public institution

MALAYSIAN OUTLOOK: SNAPSHOT OF THE MAIN INSTITUTIONS

Polytechnic Bagan Datuk

- The only polytechnic that focuses solely on the maritime sector.
- Since December 2023, they have operated on their main campus at Bagan Datuk.
- They are running two new programmes – **Diploma in Marine Construction Engineering Technology** and **Marine Electrical Engineering Technology**.
- The ongoing programme at present is a **Diploma in Naval Architecture**

Polytechnic Ungku Omar

- They are appointed as **Centre of Technology in Marine Engineering (CTME)** and **Malaysia Marine Engineering & Technology TVET Collaboration Hub (MaRETeCH)**.
- Offers a courses and syllabus that that complied with ETAC and IMO Model Course 7.04 Operational Level for Diploma and 7.02 Management Level for Degree.

Universiti Malaysia Terengganu (UMT)

- Offering various courses related to maritime courses
- Among the programme is the **Bachelor of Mechanical Engineering Technology (Naval Architecture) with Honours**. The programme provides professional knowledge and skills for jobs in the marine-engineering related field, including oil and gas industry

UNIKL MIMET

- UNIKL MIMET is the private universities under MARA that offers programme specifically for maritime industry.
- They have their shipyard and workshop facilities to cater commercial work out of their teaching scope.
- The **Asian Marine Design Centre (AMDeC) at this campus is a national centre of excellence in ship design**

University of Technology Malaysia (UTM)

- Provides a **Bachelor of Engineering in Naval Architecture and Offshore Engineering**, which combines elements of mechanical engineering with specialised knowledge in maritime and offshore engineering.
- UTM's Marine Technology Centre have **Towing Tank Facilities** used for hydrodynamics and ship stability tests

SHIP FACTS

Universiti Malaysia Terengganu (UMT) Sailing Centre offers various types of boats and vessels, which are used not only for educational and training purposes but also to generate revenue for the university.

List of boat/vessel
1. UMT Sailing 1 & 2 (Sailing boats)
2. UMT Sailing 3 & 4 (Safety boats)
3. Discovery I & II (Cargo fishing & trawler)
4. Discovery III – IX (Passenger boats)
5. RV Discovery (Research Ship)

MALAYSIAN OUTLOOK: MARINE MANUFACTURER

The shipbuilding industry involves assembling hundreds of types of equipment and materials. The proportion of equipment and materials in the total cost of shipbuilding varies, typically ranges between 55% and 60%, depending on the type and size of the ship.

We have several manufacturers of marine parts and components, primarily focusing on deck machinery, auxiliary systems, and outfitting and furnishings.

From our database, components such as watertight doors/ windows and propellers take up the most of local content as we have local manufacturers in Johor that also export their products to international markets, including countries across Asia and the Middle East.

TROPICAL CHARTERS LANGKAWI

Tropical Charters Sdn Bhd (TCSB) is an integrated travel and tourism company based in Langkawi, with more than 16 years of experience in the world of tourism.

Our Services :
- **Private/Sharing Cruise**
- **Day/Sunset Cruise**

We are also an MOT Minister's Appointed LIYR Registry Agent.

LIYR Registry has evolved and transformed into a **full ECO-SYSTEM registry services** specifically for yacht's since 2022 that covers:

- **Yacht Flag Registry & Administrations**
- **RO Yacht Classification Services**

Tropical Charters Sdn Bhd (200901012297)
c/o TC Garden Resort
Lot 39, Kg Padang Ragut, Jalan Ulu Melaka
Mukim Ayer Hangat, 07000, Langkawi

Contact : +604 950 2827 / +6012 316 5466
Email : info@tropicalcharters.com.my

www.tropicalcharters.com.my

YACHTING ENTITY REGISTRATION : 1029-A
LICENSED TRAVEL AGENT (KPL/6570)
MATTA No. 3880

CHAPTER 4
Potential Market For SBSR Industry

POTENTIAL MARKET 1: STRATEGIC IMPORTANCE OF THE MALACCA STRAIT IN MALAYSIA

We are located along a major shipping route, with the Strait of Malacca serving as a critical gateway. The high volume of maritime traffic, including container ships, bulk carriers, oil tankers, and LNG carriers, highlights the strategic importance of the Malacca Strait for global trade.

Number of Ships Reporting Under STRAITREP

Type of Ship	Year									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
VLCC/ Deep Craft	5324	5428	6711	7517	8093	8282	7824	8823	9547	5622
Tanker Vessel	18470	17799	20629	20610	20207	20550	19765	19946	20154	11907
LNG & LPG Carrier	3936	4057	4137	4547	4180	3735	3909	4513	4855	2977
Cargo Vessel	7144	6595	7090	6409	6273	6195	5957	6382	6838	4569
Bulk Carrier	15168	14307	15411	15390	15656	16314	15240	15700	18171	11535
Livestock Carrier	3117	2622	2629	2437	2433	1930	2336	2502	2386	1300
Tug / Tow	925	1125	1776	1969	1593	548	298	663	987	1072
Government Vessel	76	67	50	45	36	27	39	35	26	16
Fishing Vessel	53	23	28	36	67	128	79	54	129	186
Others	803	714	962	825	794	1134	1669	1465	1138	812
Total	**80959**	**76562**	**84456**	**85030**	**83724**	**81380**	**78317**	**82819**	**89390**	**94301**

Source(s): Marine Department updated until December 2024

POTENTIAL MARKET 1: STRATEGIC IMPORTANCE OF THE MALACCA STRAIT IN MALAYSIA

Malaysia must take proactive steps to attract shipping lines for their maintenance needs, reinforcing its position in the regional maritime industry. Strategically located along the Malacca Strait, the country has a unique opportunity to capture a larger share of vessel traffic, fuelling demand for ship repair and maintenance services and driving industry growth.

MALACCA STRAIT ECONOMIC SIGNIFICANT

handles **US$3.5 TRILLION GLOBAL TRADE** yearly

channels **80% OF CHINA'S OIL IMPORTS** from 60% of its entire oil supply

40% OF JAPAN'S MARITIME TRADE & third of all worldwide trade passes through here

MiGHT'S TAKE

How can we encourage more ships whose last port of call is within this region to plan their docking in Malaysia? What strategies can we implement to make Malaysia a preferred port of call for vessel maintenance in the region?

Source(s): MOT, Institute of Supply Chain Management, Socio-Economic Research Centre

POTENTIAL MARKET 2: ANCILLARY SERVICES IN PORT OPERATION

Malaysia's liner shipping connectivity has significantly improved, underscoring its growing prominence in the global maritime industry.

Top 20 Ports under the Container Port Performance Index 2023

Ranked among the world's top 20 ports in terms of cargo volume handled.

12TH PORT KLANG
(14.06 million TEU)

19TH PORT OF TANJUNG PELEPAS
(10.48 million TEU)

Container Port Performance Index (CPPI)

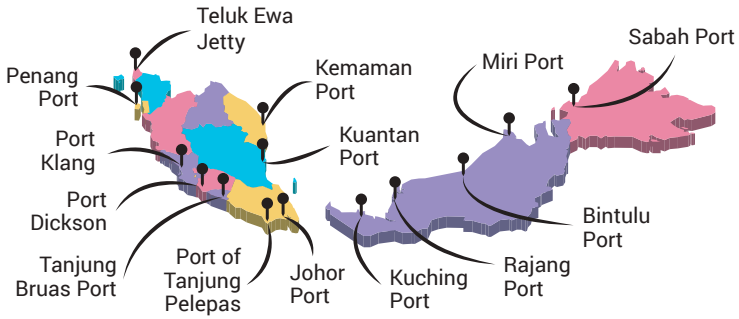
5TH PORT OF TANJUNG PELEPAS

Reinforcing our status as Malaysia's busiest and largest transshipment hub, but also solidifies our position as a vital trade gateway for this entire region.

2023 PORT OPERATION FACTS

56,897 Total no. of Ships Calling by Port Malaysia	**778,708** Total GT

26,452 Foreign Going	**20,286** Coastal	**10,159** Others



Source(s): UNCTAD, World Shipping Council, MMC, MOT

POTENTIAL MARKET 2: ANCILLARY SERVICES IN PORT OPERATION

In the port sector, ancillary services like towage and ship repair offer significant opportunities for the SBSR industry. The implementation of a Green Port Policy could open a new market for environmentally-friendly shipbuilding projects. Additionally, ports may look to replace aging vessels with newer, more sustainable ones aligning with the Green Port Policy.

Below are some Green Port Policy guidelines aimed at reducing greenhouse gas emissions from port operations.

Johor Port /Port of Tanjung Pelepas
To control emission of smoke / plume and to reduce greenhouse gas emission from vessels, trucks and terminal equipment

Kuantan Port
Incentives for ships and machinery that adopt green energy or GHG reduction initiatives, as well as measures to enhance port operations for optimal efficiency

Port Klang
To conserve natural resources, adopt energy conservation measures and promote the use of renewable energy.

Bintulu Port
To protect the community from harmful environmental impacts of port operations, promote sustainability and make the port faster, smarter, and cleaner

Source(s): Johor Port, Authority, Kuantan Port, Port Klang Authority

MiGHT'S TAKE

Green vessels need new investment and the adoption of new technology for the players. How can we facilitate the transition to have more green vessels operating in the ports?

POTENTIAL MARKET 3: OIL & GAS EXPLORATION AND PRODUCTION

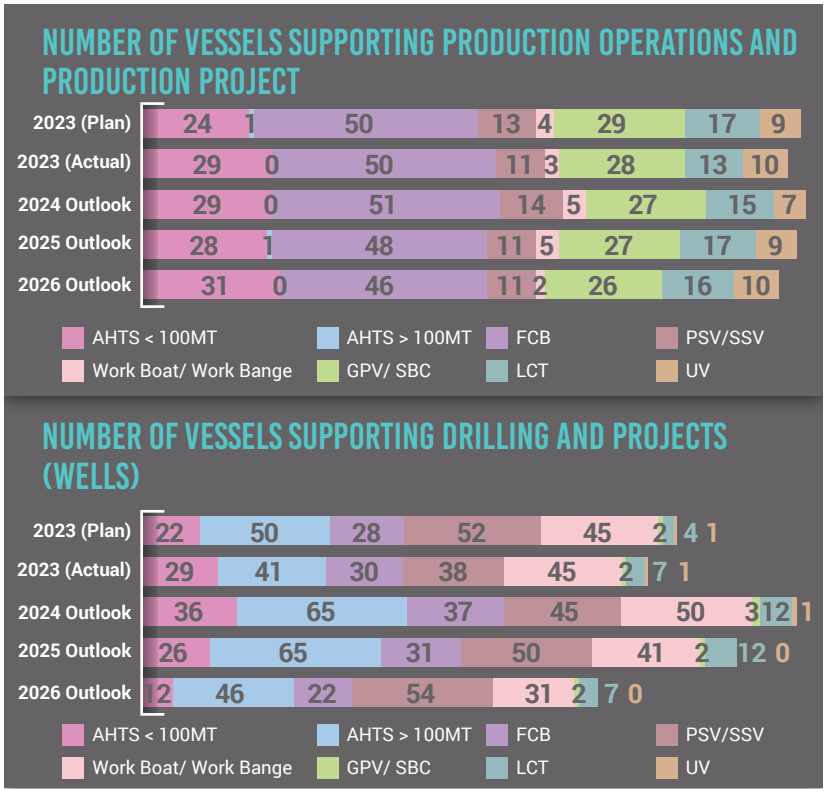
PETRONAS has revised its vessel demand forecast for 2024, increasing it by 19% to 397 vessels, up from the previous projection of 333.

This rise in demand is mainly driven by the need for platform supply vessels (PSVs) and work boats & barges, which are crucial for supporting production operations.

Data sharing by OSV Owners' Association (MOSVA)

- No. of OSV operating in Malaysia - **350**
- Average vessel age in Malaysia – **12.3 years**
  Based on data shared in October 2024
- Investment by MOSVA members – **RM15 billion since 2010** to acquire **new vessel, MRO** and for **IMO requirements compliance**
- Discussion for **older fleet replacement with newbuilds**, is on-going between the stakeholders
- The **next 5 years**, approximately **RM5 billion will be required** by the industry **for new investments**

OSV demand overview for PETRONAS operation as per PETRONAS Activity Outlook 2024-2026, published in December 2023.



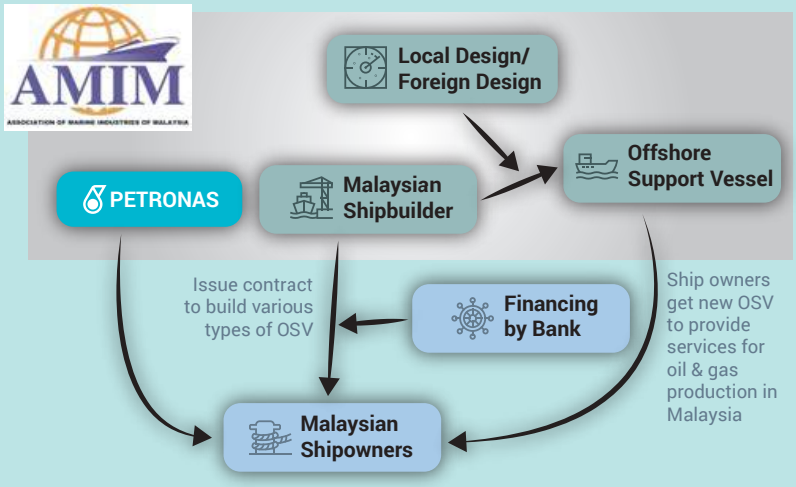
Source : MIGHT, AMIM & MOSVA

Source(s): PETRONAS Activity Outlook 2024-2026

For the latest updates on vessels supporting production operations, drilling, and projects, please refer to the Petronas Activity Outlook 2025 - 2027

CASE STUDY: SAFINA 1 PROJECT WORKS FLOW & IMPLEMENTATION

SAFINA 1 Newbuild Programme a build-to-operate contract award first introduced by Petronas in 2021. Project Safina aim is to build new offshore support vessel replacing the ageing vessel.



Source : MIGHT & AMIM

2021 • 1st Phase

- Long-term charter contract of 7+3+3+2 years (15 years total) awarded
- Locally built vessels - 11

SAFINA 1 Shipyard & Build List

Berjaya Dockyard
4 x General Purpose Vessel
2 x Landing Craft Tank

Sarawak Slipways
2 x Utility Vessels
2 x Fast Crew Boat

Shin Yang Shipyard
1 x Fast Crew Boat

MiGHT'S TAKE

MOSVA requires competitive financing options to acquire new vessels. To make this feasible, charter rates must remain competitive enough to cover both financing and operational costs. Collaboration among all stakeholders, including Malaysian shipbuilders, is essential to ensure the continued growth and success of the industry, ultimately benefiting the Malaysian maritime sector as a whole.

POTENTIAL MARKET 4: YACHT INDUSTRY

KEDAH
Kuala Kedah Marina
Telaga Harbour
Royal Langkawi Yacht Club
Rebak Marina
Awana Resort Marina
Bostead Langkawi Shipyard
BV Marine
Northern Shipyard

PENANG
Batu Uban
Tanjung City
Sri Tanjung Pinang
Straits Quay
Limbongan Batu Maung

PERAK
Samudra Yacht Centre
Pangkor Marina
Navamas Yacht Services
Lumut Naval Shipyard
Grade One Marine Shipyard

SELANGOR
Pulau Indah Marina
Royal Selangor Yacht Club

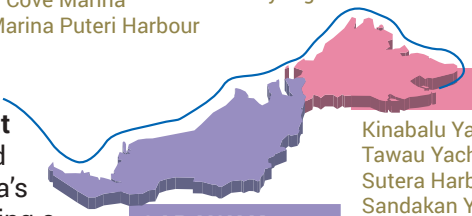
NEGERI SEMBILAN
Admiral Marina
PD World Marina

MELAKA
Melaka Marina

JOHOR
Muar Marina
Tanjung Puteri
Tanjung Pengelih
Danga Bay
MMHE Pasir Gudang
Sebana Cove
Puteri Harbour
Emerald Bay Marina
Senibong Cove Marina
ONE 15 Marina Puteri Harbour

PAHANG
Pulau Tioman
Tanjung Gemok
Prospect Dockyard

TERENGGANU
Kuala Terengganu Marina
MSET Shipbuilding Corp
Duyong Marina



SABAH
Kinabalu Yacht Club
Tawau Yacht Club
Sutera Harbour Marina
Sandakan Yacht Club
Marina Jetty Kudat
Welden Marine
Sapanggar Shipyard
Panuwansa Shipyard
Excel Corporation Shipyard
Kinabalu North Shipyard & Maritime

SARAWAK
Marina Arin
Miri Marina
Kuching Marina
Sarawak Slipway

LABUAN
Labuan Marina
Labuan Shipyard & Engineering

There are **55 marinas & Yacht Services** spread across Malaysia's coastline, creating a favourable ecosystem with abundant cross-sector opportunities. This dynamic environment offers local SBSR and tourism industry players opportunities, including yacht rentals, maintenance, and repair services.

- Marina
- MRO
- Marina & MRO
- Cruising Passage

SHIP FACTS

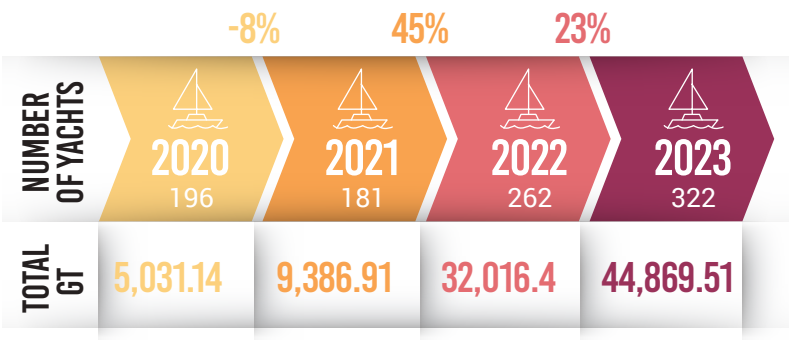
Do you know the difference between Superyacht & Mega yacht?

- **Superyacht** is a yacht longer than **24 meters**
- **Mega yachts** tend to be around **60 meters**
- **Giga yachts**, the largest luxury yachts tend to be **more than 100 meters**

Source(s): MIGHT Analysis, AMIM

POTENTIAL MARKET 4: YACHT INDUSTRY

Registration of Langkawi International Yacht Registry in Malaysia



- The number of yachts in Malaysia increased in 2022 and 2023 but declined in 2021.
- The total Gross Tonnage (GT) rose from 2020 to 2023, partly due to an increase in yacht registrations, including mega yachts and giga yachts.
- Many yacht owners are drawn to registering their yachts under the Langkawi International Yacht Registry (LIYR) because of its positive international reputation.
- Countries registered with LIYR are considered "white-list" flag states, meaning their ships face fewer restrictions when docking at European ports.
- The registration process and costs with LIYR are straightforward and appealing, making it a popular choice for yacht owners.
- After 20 years of operation, the total number of yachts registered under LIYR is 3,024. (as of Nov 2024)
- An estimated 30% of these yachts are owned by Malaysian yacht owners.

MiGHT'S TAKE

The yacht industry offers untapped opportunities for Malaysia's SBSR players, emphasising its potential positive impact on the local economy.

Key strategies to position Malaysia as a global yachting hub while boosting SBSR growth.

Encourage Local Shipyards:
- Promote and incentivise local shipyards to engage in yacht-related activities, whether in yacht building or repair. This can include subsidies, tax breaks, and grants to shipyards specialising in yacht services.

Attract Yachts from Phuket:
- Capitalise on the opportunity to attract yachts from Phuket to Malaysia by offering competitive services, lower costs, and superior facilities.
- Develop marketing campaigns targeting yacht owners in Phuket, highlighting the advantages of Malaysian shipyards and marinas.

Leverage Existing Shipyards and Boatyards that can build international-quality Yacht in Malaysia.

Boost Government Revenue through Langkawi International Yacht Registry: e.g. registration fee, training, selling flag, etc.

Source(s): Marine Department MIGHT Analysis, AMIM

CASE STUDY: YACHT INDUSTRY

Yacht Industry in Phuket

What has Thailand done to develop its yacht industry in Phuket?

1. Infrastructure Development

Marina Expansions: To accommodate the growing number of yachts and superyachts, notable marinas such as Phuket Yacht Haven and Ao Po Grand Marina offer extensive services and amenities for large vessels.

Supporting Facilities: The development of repair yards, refuelling stations, and provisioning services has been prioritised for comprehensive yachts support.

2. Hosting International Events

These events bring together superyacht owners, industry leaders, and luxury lifestyle enthusiasts.

They showcase a wide range of yachts and marine products, attracting thousands of visitors and international exhibitors.

3. Regulatory Improvements

Streamlined Customs and Immigration Procedures: Simplified customs and immigration processes make it easier for foreign yachts to visit and stay in Phuket.

Yacht Charter Licenses: Issuing licenses that allow foreign-flagged yachts to operate as charters in Thai waters.

4. Sustainability Initiatives

Eco-Friendly Practices: Promoting sustainable yachting practices, including the use of eco-friendly technologies and initiatives aimed at protecting marine environments.

Source(s): Yacht Charter Fleet, Sail World

	Main Marinas	Max. handling capacity (vessel)	Berthing capacities (vessel)
1	Phuket Yacht Haven Marina	200	320
2	Ao Po Grand Marina	150	230
3	Royal Phuket Marina	100	100
4	Phuket Boat Lagoon	200	180

Source(s): The Marine Department of Thailand

5. Hospitalities & Entertainment

Key aspects of the hospitality provided is catering to both luxury and adventure seekers:

1. Luxury Yacht Charters:
- Full-Service Charter(spacious cabins, sun decks, jacuzzies, & water sports equipment)
- Tailored Experiences(beach hopping, diving & secluded island visits)

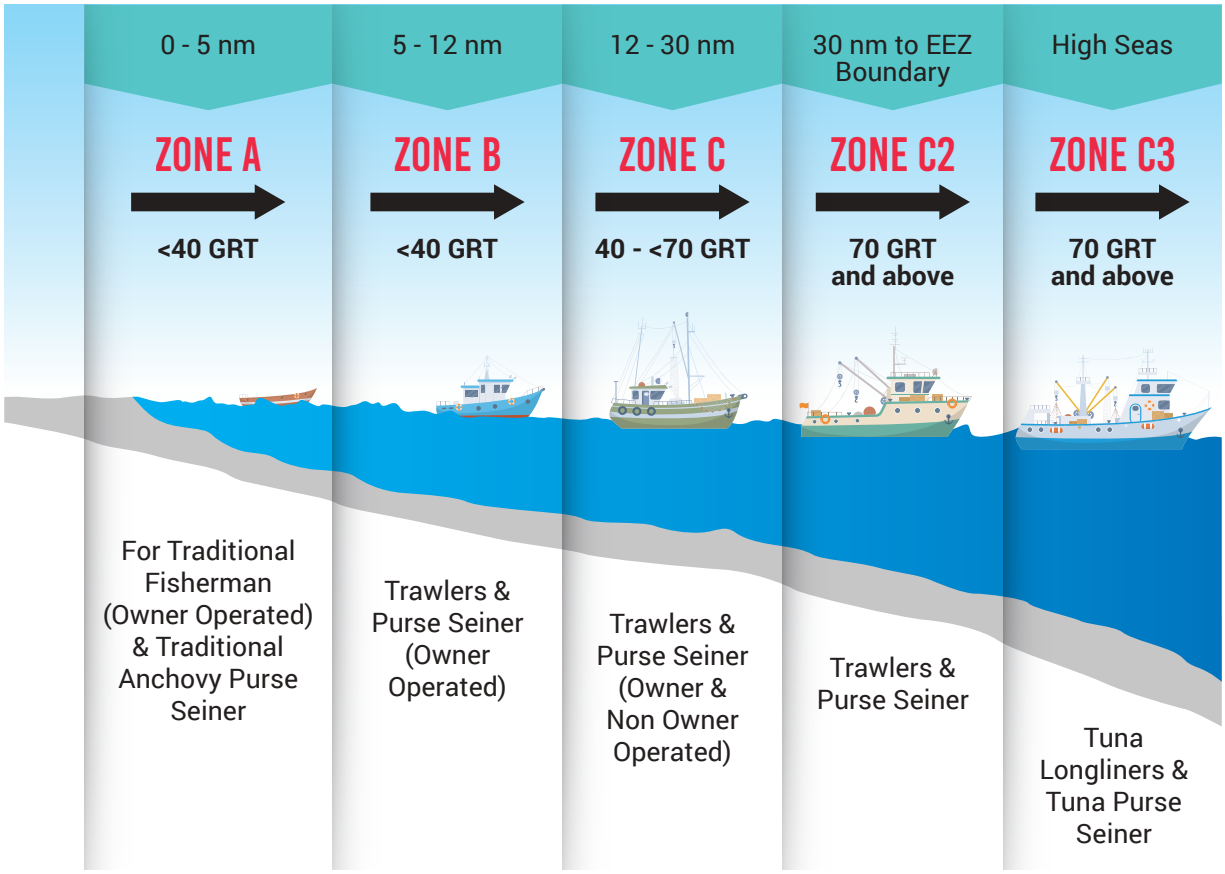
2. Dining and Catering:
- Gourmet Cuisine
- On-Board Catering

3. Professional Crew and Concierge Services

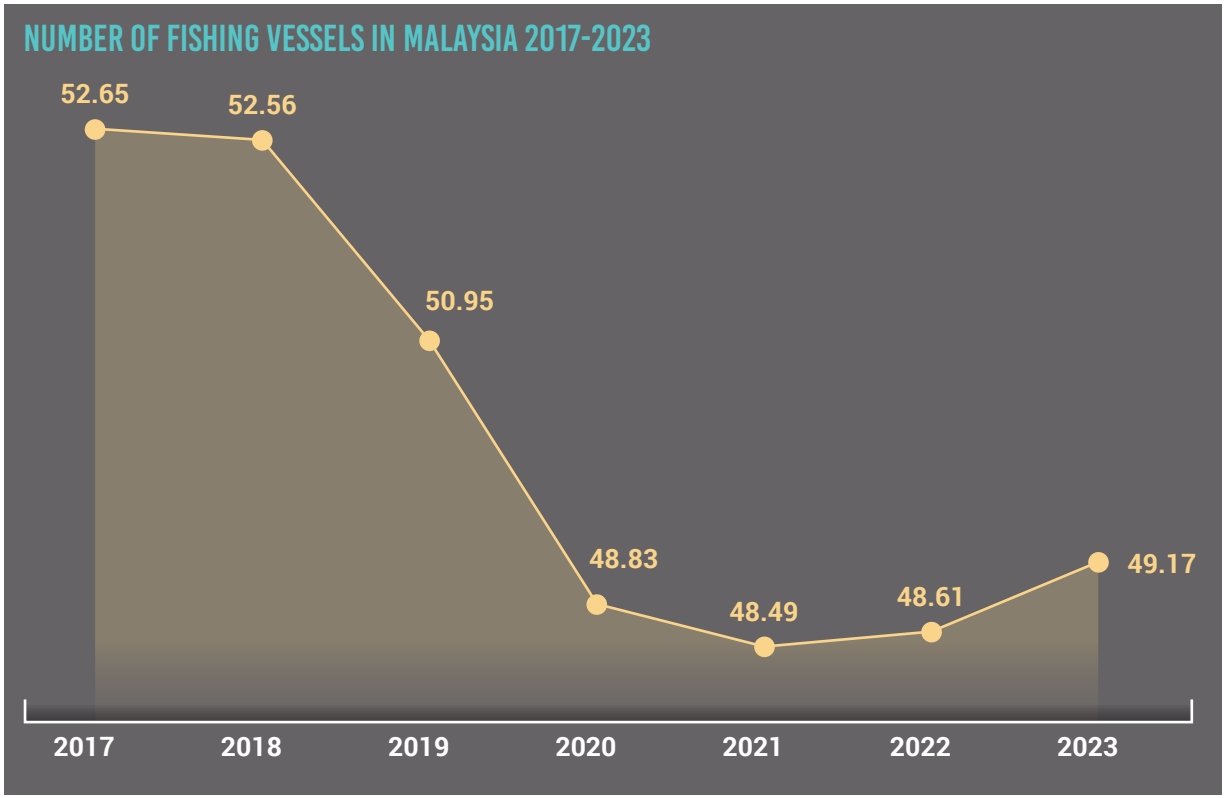
Source(s): Isabella Yacht, Asia Pacific Superyacht, Phuket Thailand Travel

POTENTIAL MARKET 5: FISHING INDUSTRY

The diagram illustrates Malaysia's fishing zones and the types of fishing vessels allowed in each zone, based on the distance from the coastline.



This structure regulates fishing activities by vessel size and type, promoting sustainable fishing practices in Malaysia's waters.



In 2023, Malaysia had approximately 49.17 thousand fishing vessels, a slight increase from around 48.61 thousand vessels in the previous year. However, the total number of fishing vessels has been decreasing since 2017, when it was around 52 thousand.

This decline is mainly attributed to efforts encouraging fishermen to upgrade their boats from type AB to type C and above, allowing them to fish beyond 12 nautical miles from the coastline.

Source(s): Statistics Malaysia; Department of Fisheries Malaysia

POTENTIAL MARKET 5: FISHING INDUSTRY

Technological Advancements

In recent years, there have been significant technological advancements in Malaysian fishing vessel manufacturing.

Innovations include the use of fibreglass and composite materials, which offer greater durability and reduced maintenance compared to traditional wooden boats.

Additionally, there has been an increasing adoption of automation and advanced navigational systems, improving the efficiency and safety of fishing operations.

Key Players

Malaysia's fishing vessel manufacturing industry consists of shipbuilders and manufacturers that range from constructing traditional wooden fishing boats to building larger steel-hulled vessels, utilising both traditional and modern materials.

According to the Department of Marine Malaysia, there are more than 60 shipyards and companies that registered as a fish vessel manufacturers.

SHIP FACTS

The activities of illegal, unreported and unregulated (IUU) fishing result in a **loss** of between **RM3 billion to RM6 billion (in losses) annually to Malaysia** from **980,000 metric tonnes of fish stolen by illegal foreign vessel**.

POTENTIAL MARKET 5: FISHING INDUSTRY

With over 3,700 deep-sea fishing vessels (category C and above), these numbers highlight the significant potential for ship repair services in Malaysia.

Number of Fishing Vessels by State and Zone (C&C2), 2023

State	C	C2
Perlis	100	39
Kedah	333	17
Penang	31	1
Perak	974	290
Selangor	237	
Johor	189	51
Pahang	426	137
Terengganu	191	56
Kelantan	72	86
Sarawak	362	35
Sabah	82	4
TOTAL	**2997**	**716**

MiGHT'S TAKE

Malaysia's declining fishing vessel numbers highlight a shift towards larger, more modern boats, creating opportunities for shipbuilding and ship repair (SBSR) players to focus on vessel upgrades and repairs by leveraging innovations such as composite materials and automation. Local shipyards can align with the growth of the fisheries sector, contributing to food security while tapping into the thriving repair market.

The shipbuilding and fisheries industries are interconnected and should consider the bigger picture from a food security perspective.

Applications for Deep Sea Vessel Permits in Zone C2 are open, but only for operations in the East Coast region of Peninsular Malaysia, Sabah, and Sarawak.

Applications for Tuna Vessel Permits are open for operations in the Indian Ocean, while Tuna Longline licenses are available for W.P Labuan.

Currently, only Penang has C3 vessels, with a total of 17 vessels.

The Department of Fisheries prohibits the acquisition of vessels (new/used) from five countries: China, Vietnam, the Philippines, Taiwan, and Brunei. For Thailand, the acquisition of (new/used) trawl vessels is not permitted for licensing as Zone C2 and C3 vessels.

From SBSR's perspective, this presents a potential opportunity for vessel building and repair businesses, which local shipyards should capitalise on.

The estimated value from repairs alone amounts to RM38 million.

POTENTIAL MARKET 6: NEW SHIPBUILDING MARKET SEGMENTS

KEY TRENDS IN GLOBAL TRADE THAT COULD BENEFIT MALAYSIA MARKET & PLAYERS	WHAT ARE THE OPPORTUNITIES FOR MALAYSIA?
The surge in **EV transportation** using containers has led to increased logistical demands for **transporting vehicles and components**.	**Container ships** offer an immediate solution, leveraging their availability and the global shipping network to transport EVs using specialised containers that securely hold vehicles during transit.
The **Indonesian Government's increased coal and nickel production targets reflect rising demand** from major export partners like India and China, driven by **global demand for refined nickel in EV batteries**. In **June 2024, Malaysia's coal briquette exports** reached MYR12.7M, while imports totalled MYR1.94B. **Bulk carriers** are the primary vessels used for this cargo.	Indonesia's thriving nickel and coal mining has driven increased demand for **Malaysian tugboats**. **Bulk carriers**, though often overlooked, present significant opportunities. They play a crucial role in supporting manufacturing, agriculture, and mining by enabling the import and export of essential raw materials.
Malaysia exported **24.49 million tonnes of palm oil** and **palm-based products in 2023**, generating **RM94.95 billion**. In 2024, export revenue is projected to reach RM110 billion.	**Malaysian-flagged tankers** should be promoted for transporting palm oil and palm-based products. These high-value vessels present opportunities for Malaysian industry stakeholders to own and build.

MIGHT'S TAKE

Consistent demands in logistics and exports offer opportunities for Malaysia to build and own high-value vessels like container ships, bulk carriers, and tankers, boosting Malaysia's role in global maritime industry.

Source(s): MASA, MIGHT Analysis, Safety 4Sea

POTENTIAL MARKET 7: SHIP RECYCLING AND OFFSHORE PLATFORM DECOMMISSIONING

Malaysia has the potential to leverage its strategic location for environmentally friendly and compliant ship recycling and offshore platform operations.

The Scenario

- **Petronas' Decommissioning Milestones:**
  Petronas decommissioned its first asset in 2003, followed by several others in 2017 using the "rigs-to-reef" (RTR) solution.

- **Global Shipbreaking Statistics (2024):** According to the NGO Shipbreaking Platform, 446 ocean-going commercial ships and floating offshore units were scrapped in 2024.

  Of these, 325 tankers, bulkers, floating platforms, cargo, and passenger ships were dismantled on the beaches of Bangladesh, India, and Pakistan, representing over 85% of the gross tonnage dismantled globally.

- **Future Decommissioning Opportunities:**
  By 2030, over 1,500 offshore platforms across Southeast Asia are projected to be decommissioned, presenting a significant market opportunity for the region.

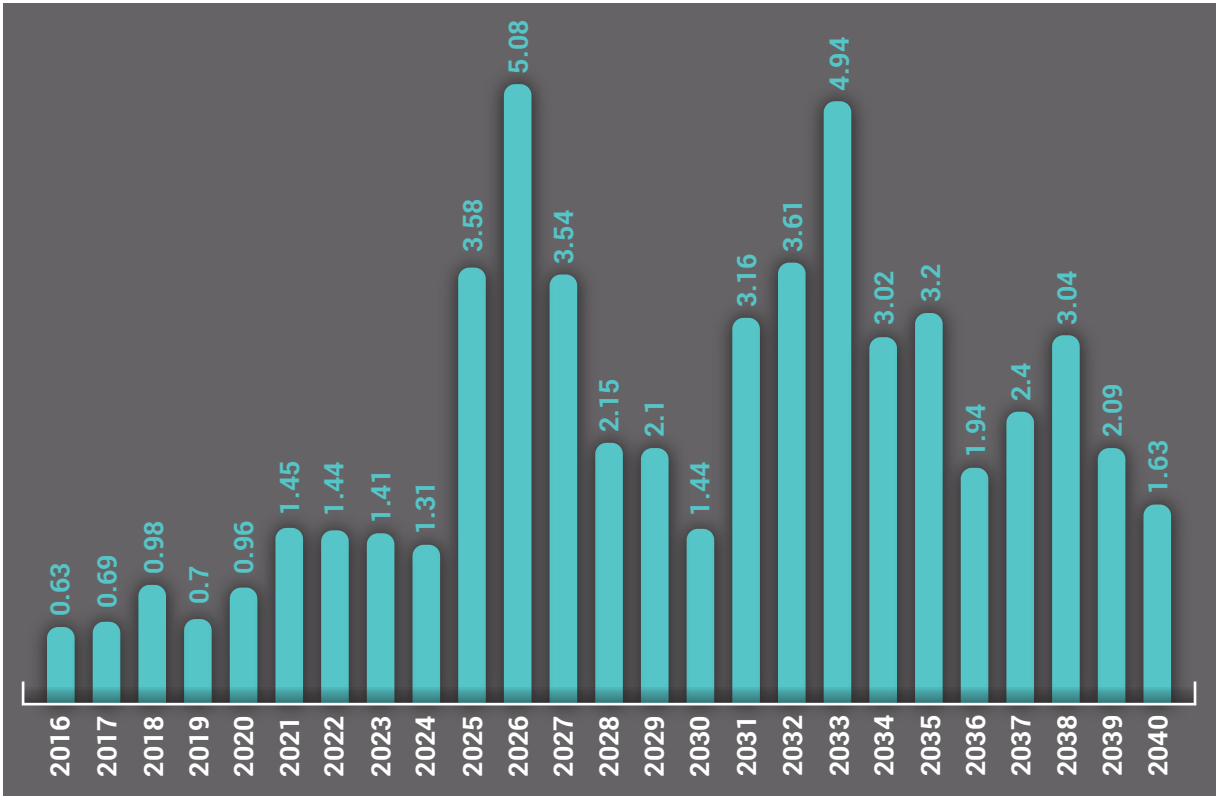
MiGHT'S TAKE

Malaysian shipyards should seize the opportunity, as many still have ample space to explore new markets.

There is potential to attract shipowners from Europe and other regions who prefer facilities that comply with international environmental standards, such as the Hong Kong International Convention.

Source(s): shipbreakingplatform.org

POTENTIAL MARKET 7: SHIP RECYCLING AND OFFSHORE PLATFORM DECOMMISSIONING



This statistic forecasts the costs for oil platform decommissioning in the United Kingdom from 2016 to 2040. The highest expenditures are expected in 2026 and 2033, with a peak of 5.08 billion U.S. dollars projected for 2026. By 2040, decommissioning costs are expected to decrease again.

Source(s): Statista estimates; Offshore Magazine; Westwood Global Energy; 2017

POTENTIAL MARKET 7: SHIP RECYCLING AND OFFSHORE PLATFORM DECOMMISSIONING

SHIP RECYCLING: WHAT YOU NEED TO KNOW

96%
all ship materials are recycled or reused

metal | liquid | furniture | hazardous materials

93% OF WASTE STEEL CAN BE RECYCLED AND WILL HELP REDUCE:

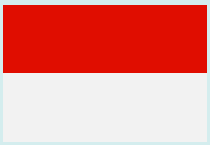
86%	76%	40%
GGHG emission	Water pollution	Water consumption

EVERY 1 KG OF RECYCLED STEEL WILL SAVE:
1.5 KG OF CO2 EMISSIONS AND 1.4 KG OF IRON ORE

Source(s): Bureau Veritas, Remaking steel for a net zero carbon circular economy. University College London, 2021

REGIONAL APPROACHES TO SHIP RECYCLING : INSIGHTS FROM NEIGHBOURING COUNTRIES

Singapore is actively involved in dismantling and recycling offshore structures, oil rigs, and smaller vessels, ensuring compliance with international regulations. The government enforces standards aligned with global conventions, such as the **Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships**.



Indonesia, a major oil and gas producer in Southeast Asia, has over 600 offshore oil and gas platforms, many of which are aging and require decommissioning. By 2030, a significant portion of these platforms will need to be dismantled as they approach the end of their productive life.

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CHAPTER 5

SBSR From Defence , Security & Enforcement (DSE) Perspective

DSE: MINDEF PROCUREMENT & MRO

Shipbuilding and ship repair are critical for Malaysia's security and defense for several reasons, primarily to enhance naval capabilities essential for safeguarding maritime borders and addressing threats such as piracy and smuggling.

The Ministry of Defence (MINDEF) of Malaysia was allocated **RM21.13 billion** in the **2025 Budget**, marking a **7.08% increase** from the previous year. This includes RM5.8 billion for the maintenance, repair, and acquisition of new military assets.

In **2024**, MINDEF received about **RM7.05 billion** for their **Development Expenditure** (DE).

2024 Budget Allocations for MINDEF Procurement & MRO:

- Six Hovercraft Integrated Fast Interceptors
- 45 units of boats
- Refurbishment of two submarine assets

There are **several high-value acquisitions for the Royal Malaysian Navy (RMN)** that are still ongoing and under negotiation.

1. LITTORAL COMBAT SHIP (LCS)

- The Littoral Combat Ship (LCS) project is **progressing rapidly at Lumut Naval Shipyard (LUNAS)**, with the first ship expected to be delivered by 2026.
- The government has decided to proceed with **five (5) ships**, allocating an additional RM2 billion for the project.
- The LCS was originally contracted to Boustead Naval Shipyard (BNS) under Boustead Heavy Industries Corporation. However, the Ministry of Finance took over BNS to revive the contract, renaming the company Lumut Naval Shipyard (LUNAS).
- As a Ministry of Finance-owned entity, the government should continue supporting **LUNAS, the only shipyard in Peninsular Malaysia capable of building warships up to 120 meters in length and 4,000 tons in weight**.
- **MMHE**, focused on commercial ships, repairs, and conversions in the oil and gas segment, is **not equipped to build** such **large warships**.
- **LUNAS** has already **invested RM500 million** over the past 20 years **to upgrade its facilities and technologies** to handle various ship types.

DSE: MINDEF PROCUREMENT & MRO

2. LITTORAL MISSION SHIP (LMS)

- **MINDEF** has signed a Letter of Agreement (LoA) for the **purchase** of a second batch of **three (3)** Littoral Mission Ships **(LMS)** from the **Turkish defense company Savunma Teknolojileri Mühendislik (STM)**.
- The government has procured the three (3) LMS for RM2.5 billion, with completion and delivery expected by 2027.
- The construction and outfitting of the ships will take place in Turkey, in cooperation with 50 companies from the Turkish defense sector, including Aselsan, Havelsan, and Roketsan.
- The second batch of LMS consists of Ada-class corvettes, a type of patrol and anti-submarine warfare (ASW) vessel. Each ship features advanced anti-aircraft missiles, a displacement of approximately 2,500 tonnes, a length of 99.56 meters, a beam of 14.42 meters, and a draft of 3.94 meters. **The ships are powered** by a **31,640kW Renk Codag engine**.

DSE: MINDEF PROCUREMENT & MRO

Obsolescence Programme (OP) and S.M.A.R.T Refit Programme

The **Engineering Division** of **MINDEF** has introduced an innovative programme called **SMART Refit** to strengthen the shipbuilding and ship repair industry.

Ongoing Contracts

- KD Ganyang at MSET Shipbuilding
- KD Baung at Kinabalu North Shipyard & Maritime
- KD Sri Tiga at Weldan Marine

This programme emphasises that achieving self-reliance in SBSR requires innovative approaches, advanced technologies, and well-prepared assets for defense.

Key components of the methods include:

- **Re-hull**
- **Repowering**
- **Re-combatting** (in progress)

The programme distributes projects across various shipyards to ensure costs and jobs are allocated effectively, promoting a healthy and sustainable industry. It is designed to eliminate the boom-and-bust cycle in SBSR, ensuring long-term industry stability and creating spill-over effects for downstream industries.

By maintaining a steady flow of projects, the programme helps retain expertise, enhance in-house design capabilities, adopt advanced production and manufacturing techniques, and develop skilled project managers and engineers.

Completed

Vessel Name	Shipyard	Delivery Date
KD Jerong	Weldan Marine	April 2021
KD Yu	Weldan Marine	15 Aug 2022
KD Paus	Labuan Shipyard	19 Aug 2022
KD Pari	Preston Shipyard	16 Nov 2022
KD Perkasa	Geliga Slipways	9 May 2023
KD Laksamana Muhammad Amin	Great One Marine	20 Aug 2024

DSE: MMEA PROCUREMENT & MRO

2025 Budget Allocation:
RM1.8 billion has been allocated to enhance the capabilities of the Malaysian Maritime Enforcement Agency (MMEA).

This includes **RM675 million** for:

- **A Multi-Purpose Mission Ship (MPMS): RM350 million**
- **Two New Generation Patrol Vessels (NGPC): RM160 million**
- **Upgrading six existing vessels under Phase 2 of the Ship Life Extension Programme: RM150 million**

United States Coast Guard Cutter (USCGC):
MMEA will receive a USCGC to strengthen its monitoring of national waters, particularly in strategic areas. The Malaysian government has allocated RM15 million for its maintenance and repair before returning to Malaysia.

2024 Budget Highlights:
RM280 million allocated for the acquisition of a mothership to enhance MMEA's asset capabilities.
RM153 million allocated for completing MMEA's first Offshore Patrol Vessel (OPV), KM Tun Fatimah.

Future Plans for OPV2 and OPV3:
These projects are set to be revived in 2025, pending resolution of contract entanglements with the current contractor. A thorough inspection will be conducted before awarding the contract to a new party to salvage the remaining vessels.

Completed Refit Programme at Local Shipyard		
Vessel Name	**Shipyard**	**Delivery Date**
KM Gagah	UniKL Malaysia Institute of Marine Engineering Technology	11 Sep 2024
KM Siangin	LUNAS Langkawi Shipyard	29 Aug 2024
KM Tenggol	Lumut Naval Shipyard	17 Nov 2023
KM Kimanis	Lumut Naval Shipyard	17 Nov 2023
KM Langkawi	Lumut Naval Shipyard	17 Nov 2023

DSE: OVERALL MARITIME ASSETS OF GOVERNMENT AGENCIES

This data includes all sizes of ships and boats, depending on their purposes such as defence, security, survey, and enforcement activities.

The figures presented are not official records from the respective agencies and may differ from officially reported numbers. They are provided for informational purposes only and should not be used as a substitute for official data

DSE: MALAYSIAN-BUILT VESSEL

The concept of "Local Content" for Malaysian-built vessels aims to promote the development, utilisation, and growth of the domestic shipbuilding industry.

MAXIMISING LOCAL CONTENT:

Malaysia can maximise local content for government vessels, including those used by the navy, MMEA, police marine, marine department, and other enforcement agencies such as fisheries and riverine transport.

ECONOMIC IMPACT:

Emphasising local content requirements aims to boost the economic participation of local companies in shipbuilding and maritime services, driving national economic growth and job creation.

CABOTAGE POLICY REINFORCEMENT:

The cabotage policy, which restricts foreign vessels from operating in Malaysian waters for certain domestic trade, further supports this effort by prioritising Malaysian-built and Malaysian-flagged vessels for coastal shipping activities.

Proposed Local Content Definition

No.	Local Element Components / Activities	Weightage % / Value RM
1	Basic Design & Detailed Design Production / Engineering Design	15 5
2	Material (steel plates, cables, paints, pipes, etc)	10*
3	Equipment (machineries, communication & navigation equip. etc)	20*
4	Construction & Outfit	50
5	Test, Trial, & Delivery	50

'Malaysian-Built' Local Content Requirements

- The goal is to achieve at least 50% local content, calculated based on cost value, as outlined in the table.
- Products and services classified as 'local content' must meet compliance criteria, including specifications, quality standards, and classification requirements.

Source(s): Adopted from SALVE Solution MIGHT, Analysis

AMIM

ASSOCIATION OF MARINE INDUSTRIES OF MALAYSIA

About AMIM

The Association of Marine Industries of Malaysia (AMIM) is a leading organization that has championed the interests of Malaysia's shipbuilding, ship repair, and marine-related industries since 1984. Representing a dynamic network of industry players, AMIM serves as the national voice for marine innovation, advocating for sustainable growth, technological advancement, and global competitiveness in the maritime sector.

Why Become a Member of AMIM?

Unlock Exclusive Business & Networking Access
Get invited to high-impact events like the Conferences, Forum, visits and member-only networking opportunities to grow your industry connections.

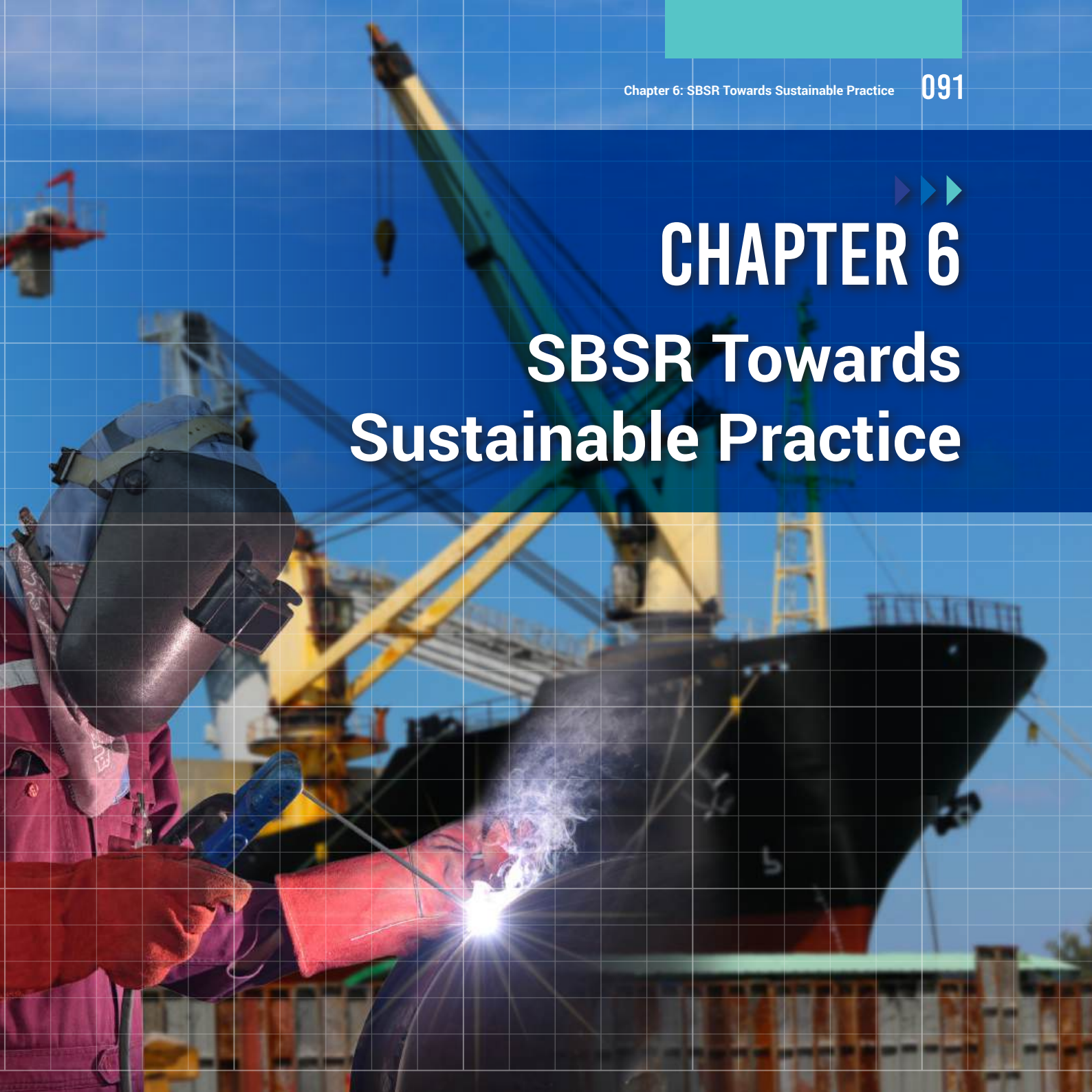
Enjoy Special Member Privileges
Take advantage of preferential rates for exhibitions, seminars, and exclusive access to social and educational events, including factory and shipyard visits.

Amplify Your Voice in Government Affairs
Let AMIM represent your industry's concerns to the Government and influence policies that affect your business.

Get Ahead with the Latest on Policies & Incentives
Stay updated on key government regulations, incentives, trade opportunities, and business procedures—so you're always one step ahead.

ASSOCIATION OF MARINE INDUSTRIES OF MALAYSIA

D-01-03, Plaza Glomac, Jalan SS7/19, Kelana Jaya, 47301 Petaling Jaya, Selangor, Malaysia
+603 7887 1077 / amim69@amim.org.my
https://www.amim.org.my

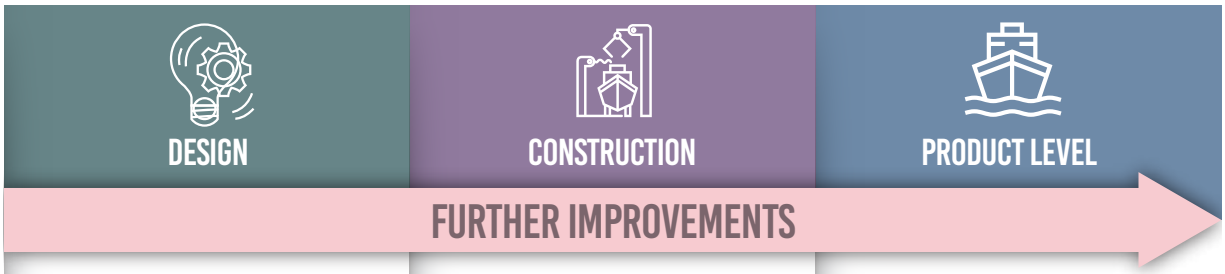


CHAPTER 6

SBSR Towards Sustainable Practice

SUSTAINABLE PRACTICE: TOWARDS ZERO CARBON

Digitalised and automated shipyard integrates advanced data analytics, robotics, and AI to optimise design, streamline construction processes, enhance efficiency, and reduce costs while ensuring consistent quality and safety.



Technology Application in the Design Process

3D modeling: designing ship models with minimal or no excess material, and avoiding unnecessary redundancies

A data-driven approach to using data analytics, modelling, and simulations to optimize every aspect of the vessel's design and construction.

Systematic hydrodynamic and computational fluid dynamics that optimise fuel efficiency and reduce emissions

Technology Application in the Construction Process

Advanced material: Materials like graphene, titanium alloys and composite materials can lead to lighter, stronger and more corrosion-resistant vessel

Heavy machineries use that more environmentally friendly e.g electronic engines

3D Printing & Modular Construction : customise part and components to reduce inventory needs and ship build segment by segment can lead to efficient, scalable and flexible production

Technology Application in the Final Product

Energy/Engine/Fuel: Adopting renewable energy sources e.g Hybrid engine, batteries powered, Ammonia fuel, liquid hydrogen, LNG

VESSEL Fuel Management System: monitors and measures main engine output; tracking number of emissions closely

Waste-to-energy system: Microwave-Assisted Pyrolysis (MAP) and Micro Auto Gasification (MAG) which turn the waste into synthesis gas

*This is not an exhaustive list of technologies

SUSTAINABLE PRACTICE: TOWARDS ZERO CARBON

The journey towards zero-carbon shipping is a critical initiative for the maritime industry, with the goal of significantly reducing its environmental impact.

The following steps are designed to steer the industry towards a more sustainable and environmentally friendly future:

Invest Early: Companies should start investing in green technologies and practices even before regulations are fully in place.

Accelerate R&D: Speed up research and development to create and scale up the necessary infrastructure for zero-carbon shipping.

Transparent Financing: Make financial processes more transparent to attract investments and change business models towards sustainability.

Collaborate: Work together across the industry to test and evaluate new solutions, reduce costs, and manage risks.

Adopt Multiple Solutions: Instead of focusing on one ideal fuel, explore and invest in various fuel options and infrastructures to find the best solutions.

MiGHT'S TAKE

While we are finalising our path towards adopting marine green technology, there are several challenges that need to be mitigated and addressed.

Source(s): Adopted from LloydsIistintelligence

CASE STUDY: GREEN VESSEL INITIATIVES AROUND THE WORLD

CASE STUDY 1

Strategic Move to Capitalise on the Growing Hydrogen Fuel Cell Market

HD Korea Shipbuilding & Offshore Engineering (HD KSOE) is poised to lead the global hydrogen fuel cell market with an **$80 million investment** to acquire **Convion**, a company specialising in fuel cell systems.

According to the International Energy Agency (IEA) and the International Renewable Energy Agency (IRENA), the hydrogen fuel cell and water electrolysis market is projected to grow from $1.85 billion in 2023 to $12.7 billion by 2030, primarily driven by onshore power generation.

CASE STUDY 2

Viking Energy's Green Transformation: Powered by Ammonia by 2026

The **Viking Energy**, originally powered by both LNG and diesel engines, later transitioned to a mix of batteries and diesel engines. Operated by **Eidesvik Offshore**, it is set to become the world's first offshore supply vessel powered by ammonia by 2026.

The ammonia project will be funded by **Norway's state energy company, Equinor**, which has chartered the Viking Energy since its launch in 2003. Once converted, the vessel will be used for a project in the North Sea.

CASE STUDY 3

Hydromover: Paving the Way for Sustainable Shipping in Singapore

In 2023, **Yinson GreenTech**, in partnership with the **Goal Zero Consortium** led by **SeaTech Solutions**, officially launched the **Hydromover**. This 18.5-meter vessel is Singapore's first fully electric cargo ship.

Designed with swappable battery solutions, the Hydromover can carry up to 25 tonnes of cargo. It produces zero emissions and has the potential to reduce operational costs by up to 50% compared to conventional vessels. The vessel was built in **Malacca**.

Source(s): offshore-energy, ship-technology, Wartsila, hdksoe, yinson

SUSTAINABLE PRACTICE: DIESEL ELECTRIC ENGINE

Transitioning to diesel-electric propulsion is a strategic step for Malaysia's maritime sector, aligning with global trends toward sustainable and greener shipping solutions.

This approach provides greater fuel efficiency and operational flexibility, allowing engines to operate at optimal speeds, which reduces both fuel consumption and emissions.

The **Funding, Infrastructure, Regulatory, Skills & Talent, and Technology (FIRST)** framework below offers the industry clear guidance on adopting cleaner technologies. This is essential for achieving the International Maritime Organization's (IMO) long-term climate goals.

DIESEL-ELECTRIC WITH BATTERY (HYBRID) VESSEL FROM THE FIRST PERSPECTIVE

F — FUNDING

Diesel-electric technology offers a unique chance to **reduce cost** and improve the sustainability and efficiency of operations

The **availability of financial** is essential for the adoption of new technologies whether in R&D and Capex

I — INFRASTRUCTURE

Shipowners should work closely with ship designers to ensure the **integration of battery storage systems into vessel designs**, aligning with future energy efficiency

R — REGULATORY

International Maritime Organization (IMO) has established comprehensive standards to reduce **greenhouse gas (GHG)** emissions from international shipping.

The targets will be achieved in phases. **By 2030**, at least **5%** of the energy used by ships is expected to come from zero or near-zero GHG emission sources.

S — SKILLS

Shipowners to ensure that their crews are up-to-date with specialised training for diesel-electric engines as per the **Standards of Training, Certification** and **Watchkeeping (STCW) Convention**

T — TECHNOLOGY

Diesel-electric engine has emerged as **a gateway to hybridisation and full electrification**

The next generation of vessels should be **diesel-electric** but with flexibility to add **hybrid battery plug-in capabilities**

Source(s): MIGHT Analysis, AMIM, MOSVA

SUSTAINABLE PRACTICE: TECHNOLOGY & INNOVATION

CUSTOMER INFORMATION PORTAL: MONITORING PRODUCTION TECHNOLOGY WITH REAL TIME INFORMATION SYSTEM

This portal offers clients a **convenient way to track project progress** and **access critical information**, including drawings, reports, punch lists, and progress photos.

Key Benefits:

- Access to project information anytime and anywhere
- Automated documentation and reporting
- Data collection for statistical analysis

The system's value will increase as real-time data on site progress, equipment effectiveness, and other metrics are collected using sensors and smart devices. **Sarawak Slipways** is actively working on integrating real-time data collection into its operations.

MODERNISATION OF FISHING VESSEL

A fishing vessel currently under development by **UMT** is set to revolutionise sustainable coastal fisheries by modernising vessels for artisanal Malaysian fishermen.

The project aims to enhance socio-economic conditions while promoting the sustainable management of aquatic resources.

The vessel features a unique catamaran design equipped with **modern facilities, advanced technologies, innovative fishing gear, and aggregating devices**. These enhancements are designed to improve efficiency, reduce costs, and encourage sustainable fishing practices, balancing economic development with environmental preservation in coastal fisheries.

LUNAS

DEFINING EXCELLENCE

Lumut Naval Shipyard Sdn Bhd (LUNAS) remains a strong pillar for national security through naval shipbuilding, while expanding our horizons for comprehensive maritime services in Ship Repair, Engineering and Combat System Centric.

Growing beyond our core services, LUNAS has subsidiary companies, namely LUNAS Shiprepair Sdn Bhd, LUNAS Langkawi Shipyard Sdn Bhd.

National Business Awards 2025 MALAYSIA

Innovation Award - Engineering Lumut Naval Shipyard Sdn Bhd (LUNAS)

| Lumut Naval Shipyard Sdn Bhd | lumutnavalshipyard | @LUNAS_MY | www.mylunas.com.my

TUONG AIK SHIPYARD SDN. BHD.

200201007489

Wholly Owned Subsidiary of TAS Offshore Berhad Stock Code TAS5149

ABOUT US

Tuong Aik Shipyard Sdn Bhd was established in year 2002 to undertake ship building and ship repair business. Tuong Aik has given major contribution to the ship building industry by gaining enviable reputation and recognition as one of the leading shipbuilders in Malaysia. Its shipyard is located along the river bank of Igan River, **Sibu, Sarawak**.

Over the years, Tuong Aik has built more than 350 vessels that ranging from Barge, Deck Cargo Vessel, Ferry, Tugboat, Pusher Tug incl. Articulate Pusher Tug, Harbour Tug, Landing Craft, Supply and Utility Vessel incl. Garbage Collection Craft and Flotsam Retrieval Craft, purpose-built craft, Anchor Handling Tug, Anchor Handling Tug Supply Vessel to Workboat with strict governance of various international marine classification societies such as American Bureau of Shipping(**ABS**), Bureau Veritas(**BV**), Det Norske Veritas Germanischer Lloyd(**DNV GL**), Lloyd's Register(**LR**), Registro Italiano Navale(**RINA**) and Nippon Kaiji Kyokai(**NK**).

Bureau Veritas Certification has certified that the Management System of Tuong Aik Shipyard is in accordance with the requirements of **ISO 9001** Standards since 2007.

CONTACT US

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P.O. Box 920, 96008 Sibu, Sarawak, Malaysia.

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general@tuongaik.com.my

www.tuongaik.com.my

One of the leading shipbuilder in Malaysia

SUSTAINABLE PRACTICE: TECHNOLOGY & INNOVATION

SAMUDERA MARINE LIFT 45T – PRACTICAL SOLUTION FOR SHIP LIFTING

The **Sea-Lift** is the world's most versatile machine of its kind, designed to safely handle various hull types, including catamarans, displacement, flat, and sailboats.

In just a few minutes, the Sea-Lift can lift boats out of the water, increasing revenue by enabling **boats to be placed within inches of each other**.

Sea-Lifts can raise boats up to 11 feet (approximately 3.4 meters) above the ground. Equipped with locking hydraulics, they allow for efficient pressure washing and quick under-hull maintenance.

NA360T HARBOUR TUG – AN INNOVATIVE 360 TOWING SYSTEM

The **NA360T** technology is a joint development by **Naval Arch Marine** and **Ocean Marine International Limited**, a Hong Kong -based company that holds the intellectual property rights.

The **NA360T** utilises the kinetic energy of the cargo ship being towed, significantly reducing the reliance on the tug's engine power. The engine and rudders are primarily used to control the heading and position of the tug, leading to a dramatic reduction in fuel consumption compared to conventional or ASD tugs.

On average, the **NA360T reduces fuel usage by over 15%** and requires less maintenance, minimising repair costs and reducing operational revenue losses.

INDUSTRY WAY FORWARD

NMIP 2030 HIGHLIGHTS THE NEED FOR AN INTERMINISTERIAL BODY TO OVERSEE THE SBSR INDUSTRY

The SBSR industry is indeed complex, involving numerous stakeholders and regulatory bodies.

LOCAL AUTHORITY AND GOVERNING BODY

Governing Ministries

- MINISTRY OF TRANSPORT
- MINISTRY OF SCIENCE TECHNOLOGY AND INNOVATION
- MINISTRY OF HOME AFFAIRS
- MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY
- MINISTRY OF FINANCE
- MINISTRY OF RURAL AND REGIONAL DEVELOPMENT
- MINISTRY OF DEFENCE
- MINISTRY OF AGRICULTURE AND FOOD INDUSTRIES
- MINISTRY OF HIGHER EDUCATION
- MINISTRY OF ENTREPRENEUR DEVELOPMENT AND COOPERATIVES
- MINISTRY OF HUMAN RESOURCE
- MINISTRY OF TRANSPORT SARAWAK
- MINISTRY OF INTERNATIONAL TRADE, INDUSTRY AND INVESTMENT (MINTRED)
- MINISTRY OF INFRASTRUCTURE DEVELOPMENT AND COMMUNICATIONS SARAWAK

Authorities Branches, Federal and State Departments and Agencies

MIDA, MATRADE, SME CORP, MIMA, LKIM, InvestPerak, SABAH, EAST COAST ECONOMIC REGION

SUPPORT AND FACILITATION

Industry Association

AMIM, Mastra, MASA, MOSVA, FEDERATION OF MALAYSIAN MANUFACTURERS

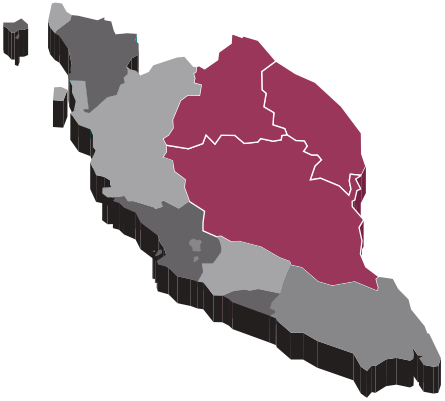
Skills & Talents

CME, alam, UMT, MSIG, NMLC, PENJANA, PELITA, PMSB, imatech, POLITEKNIK MALAYSIA

Classification Society

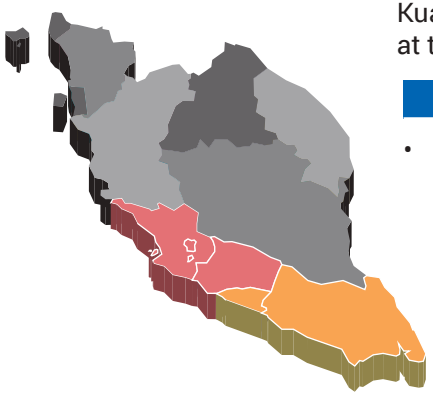
ABS, Lloyd's Register, DNV·GL

INDUSTRY CHALLENGES FACED BY THE INDUSTRY CLUSTER



Northern Cluster

- Most of the shipyards in this area have siltation issues except for those in Langkawi, limiting the size to undertake ship repair business



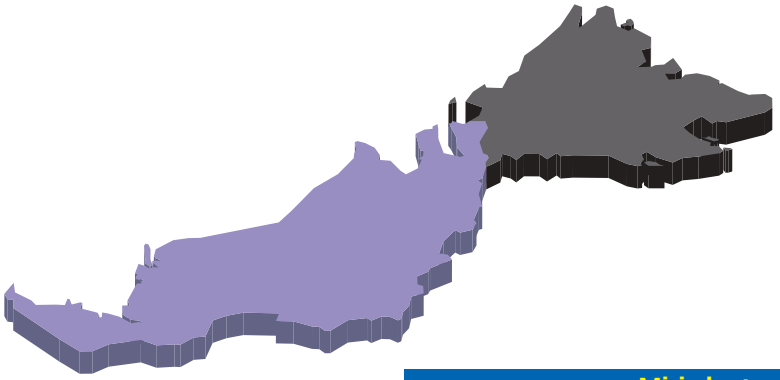
Eastern Coast

- All shipyard clusters on the eastern coast faces water tide challenges with critical draft at only 1.1 meters
- This requires waiting for high tide to lift vessels into the shipyard, followed by another high tide to return them to the water for delivery.
- Air draft limitations at bridges in Kuala Terengganu, Tok Bali and Kuantan, restrict the size of vessels that can be accommodated at these yards.

Central & Southern Cluster

- Despite its strategic location at the Strait of Malacca, competition from Singapore and Batam, presents lower costs and more comprehensive facilities

INDUSTRY CHALLENGES FACED BY THE INDUSTRY CLUSTER



Sibu Cluster

- The limitation of this area is the air draft, which restricts the size of vessels that can be built and repaired
- The approximately 1-hour journey by road to the Tanjung Manis area is quite challenging due to the need for road infrastructure upgrades

Miri cluster

- Siltation in the Kuala Baram River is a significant long-standing issue that hampers the development of shipyards in the region
- Most shipyards in Miri focus on new building projects but face difficulties bringing vessels into their yards for repairs due to draft issues
- Some vessels with deep drafts need to have their underwater paint redone at other shipyards in Bintulu or Labuan because they get stuck in the mud, causing damage to the bottom part of the vessel

Sabah & Labuan

- The number of players in Sabah and Labuan is insufficient to cater to the entire available local market
- The technology adoption in Sabah is considered very low, as many operations are already running at full capacity

OVERALL ISSUES & CHALLENGES

FUNDING

Lack of adequate/ competitive local financing

Although reform is underway, the achievements and results do not reflect the actual performance and revenue of the industry

INFRASTRUCTURE

High cost of imported raw materials and services

Competition from more cost-effective foreign yards e.g China & Indonesia

Disruptions in international supply chains are affecting Malaysia's SBSR industry

REGULATIONS

The government tariff is too low. The industry is still using the 2012 tariff rates

Frequent changes in project scopes and mismanagement by the project proponent caused financial losses and incomplete projects

Implementation of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) opens government tenders to other countries

SKILLS & TALENT

Labour drain from SBSR industry to other sectors (Oil & Gas) and other country (Singapore & Middle East countries)

The dilemma lies in the need for foreign workers to fill skill gaps that local labour cannot fulfill, leading to excessive dependence on foreign workers

There is a misalignment between the skills taught by local institutions and the job requirements set by the industry

TECHNOLOGY

Limited adoption of automation and technology results in lower productivity

Insufficient emphasis on fostering local ship design capabilities has led to excessive dependence on foreign designs.

+ MARKET

There is a high dependency on government projects in both the building and repair markets, particularly for shipyards in Peninsular Malaysia and Sabah.

HOW THE GOVERNMENT SUPPORTS THE SBSR INDUSTRY

MIDA
MALAYSIAN INVESTMENT DEVELOPMENT AUTHORITY

NEW COMPANY

INVESTMENT TAX ALLOWANCE

60% on qualifying capital expenditure for a period of 5 years.

The allowance can be offset against 70% of the statutory income for each assessment year.

OR PIONEER STATUS

70% income tax exemption on statutory income is provided for a period of **5 years**.

EXISTING COMPANY

INVESTMENT TAX ALLOWANCE

60% on qualifying capital expenditure for a period of **5 years**. The allowance can be offset against 70% of the statutory income for each assessment year.

AUTOMATION CAPITAL ALLOWANCE

200% on the first **RM10 million** expenditure incurred within the year of assessment from 2023 to 2027.

The scope of the automation includes adaptation of Industry 4.0 elements.

REINVESTMENT TAX INCENTIVE

100% Investment Tax Allowance on the qualifying capital expenditure (excluding land cost) incurred **for a period of 5 years**. The allowance can be offset against up to 100% of statutory income for each assessment year until fully utilised.

60% Investment Tax Allowance on the qualifying capital expenditure (excluding land cost) incurred **for a period of 5 years**. The allowance can be offset against up to 70% of statutory income for each assessment year until fully utilised.

HOW THE GOVERNMENT SUPPORTS THE SBSR INDUSTRY

MIDA

MALAYSIAN INVESTMENT DEVELOPMENT AUTHORITY

EXISTING COMPANY

ELIGIBILITY FOR EXISTING INCENTIVES

Marine product and equipment manufacturers are eligible for incentives such as **Pioneer Status** and **Investment Tax Allowance** provided under the **Promotion of Investment Act 1986**. Applications and approvals are deliberated by the **National Committee of Investment (NCI)**

INDUSTRIAL BUILDING ALLOWANCE (IBA)

Companies incurring expenditure on buildings used for industrial, technical, or vocational training may claim a special annual IBA of **10%** per year.

For more information on incentives under MIDA for the SBSR industry, please contact the respective division:
Oil and Gas, Maritime and Logistics Services, MIDA

HOW THE GOVERNMENT SUPPORTS THE SBSR INDUSTRY

Ministry of Finance

DOUBLE DEDUCTION ON CERTIFICATION COSTS

Manufacturers can claim a double tax deduction for expenditures incurred on obtaining quality and standard certifications under **Section 34(6)(ma)** of the **Income Tax Act 1967**.

IMPORT DUTY EXEMPTIONS

Approved training institutes, in-house training projects, and all private institutions of higher learning are eligible for import duty exemptions on educational equipment, under current policy.

DOUBLE DEDUCTION FOR TRAINING EXPENSES

Employers in the manufacturing sector can claim double tax deductions for expenses incurred on approved training programmes. Training must be conducted in-house or at an approved training institution under the **Income Tax (Deductions of Approved Training) Rules 1992 [P.U.(A)61/1992]**, as per the **Income Tax Act 1967**.

BONA FIDE STATUS

Companies are entitled to **import duty and sales tax exemptions** on materials or components used in SBSR activities.

BPMB Malaysia Development Bank

FINANCING BY BANK PEMBANGUNAN

Fund size of **RM0.8 Billion**, available from 1 January 2021 to 21 December 2025. The facility offered including term financing, revolving facility and syndication/club deals. The margin offered is up to **90%**. For financing with a revolving facility, the maximum Margin of Financing (MOF) is limited to 30% of the total project cost or 85% of each progressive claim or invoice, based on cash flow requirements.

HOW THE GOVERNMENT SUPPORTS THE SBSR INDUSTRY

SABAH DEVELOPMENT CORRIDOR

SABAH ECONOMIC DEVELOPMENT & INVESTMENT AUTHORITY (SEDIA)

State governments also offer specific incentives for SBSR players, including specialised packages tailored to particular development areas.

One of the example as what offered by Sabah Economic Development & Investment Authority:

100% tax exemption on statutory income for **5 years**; or **Investment Tax Allowance** of **100%** on qualifying capital expenditure for **5 years**, can be offset against **100%** of statutory income.

CONCLUSION

The SBSR industry in Malaysia is widely recognised for its expertise in building small to medium-sized vessels and boasts a proven track record of exporting Malaysian-made vessels to various international markets. However, consistent policy direction and support are essential to ensure the industry's resilience and competitiveness on both regional and global fronts.

To flourish and compete on a level playing field with international players, the SBSR industry requires robust support from various ministries and agencies. This includes implementing industry-friendly policies and fostering a conducive environment for growth and innovation.

In today's global economy, expanding national maritime capabilities and capacities is crucial for securing sustainable economic growth. The extended multiplier effects of maritime cluster industries present significant economic opportunities that should not be overlooked. Public policy planning and initiatives must prioritise the growth of the SBSR industry to maximise these benefits for Malaysia.

With the **right environment and a strong institutional framework, Malaysia has the potential to position itself as a key player in the global maritime economy**, unlocking sustained economic growth and prosperity for the nation.

DIRECTORY

We are sharing the directory of SBSR industry players, including their capacity and capability for shipyards, that participate in MIGHT's database

MiGHT
Malaysian Industry-Government Group for High Technology

Malaysian Industry-Government Group for High Technology
MIGHT Partnership Hub,
Jalan Impact, 63000 Cyberjaya,
Selangor, Malaysia.

www.might.org.my