



Malaysia Marine and Heavy Engineering
Holdings Berhad (17821-X)

MALAYSIA MARINE AND HEAVY ENGINEERING SDN BHD LNGC Drydocking Repair & Upgrades Capability JULY 2024



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Strategic Location

- + **Well-Positioned** along one of the busiest shipping lanes of the South East Asia
- + **Thriving** in the heart of the heavy industrial area of Pasir Gudang, Johor, Malaysia
- + **Supported** by well-developed surrounding infrastructures
- + **Easily Accessible** from Singapore's main business districts and industrial estates
- + **Free Logistic Service** from MMHE Singapore's warehouse to **MMHE West & East Yards**



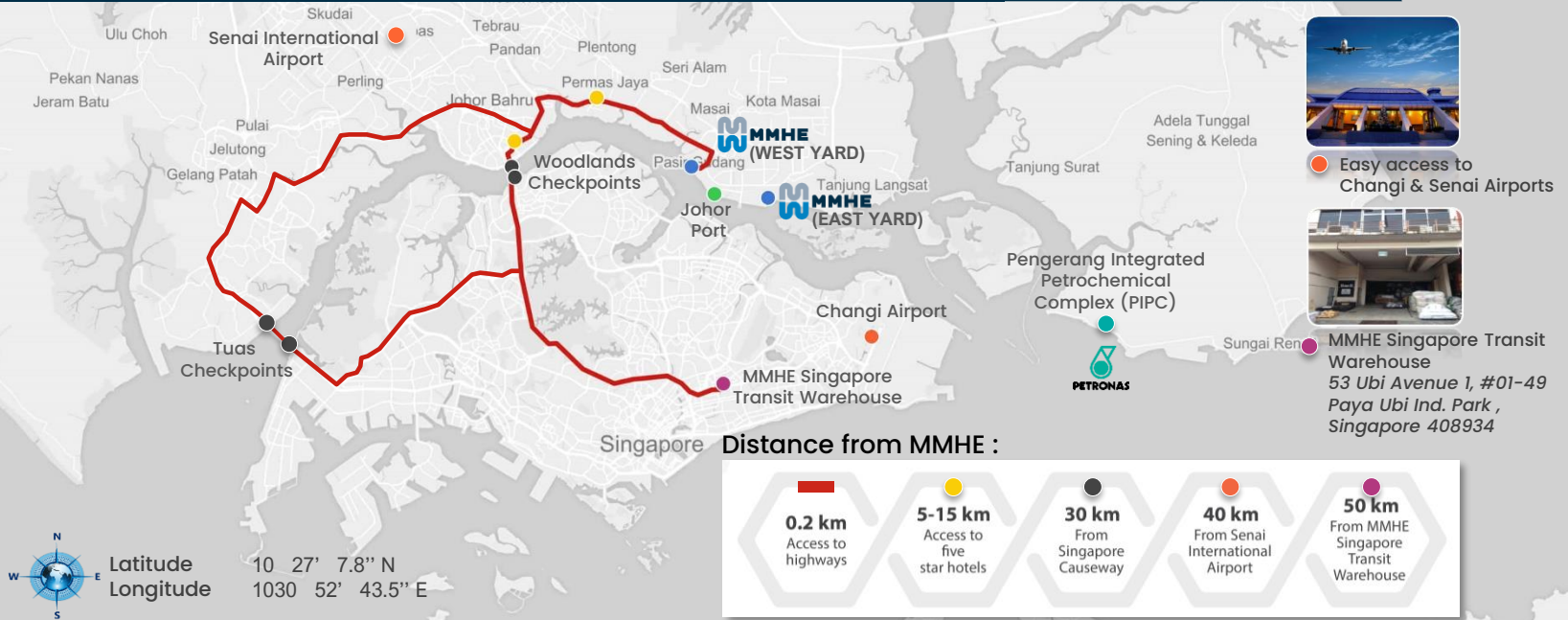
Linked by highways



From Causeway to MMHE



Easy access to five-star hotels



Easy access to Changi & Senai Airports



MMHE Singapore Transit Warehouse
53 Ubi Avenue 1, #01-49
Paya Ubi Ind. Park, Singapore 408934

MHB Corporate Structure



MALAYSIA MARINE AND HEAVY ENGINEERING HOLDINGS BERHAD
Investment Holding

- **Subsidiary**
- **Jointly Controlled Entity**



MMHE INTERNATIONAL SDN BHD
Chemical cleaning of ship tanks, boilers, cylinder covers and various ship equipment and machinery (dormant)



MALAYSIA MARINE AND HEAVY ENGINEERING SDN BHD
Provision of oil and gas engineering and construction works, marine conversion and repair services



T.EN MHB HULL ENGINEERING SDN. BHD
(formerly known as Technip MHB Hull Engineering Sdn. Bhd.)
Build and develop hull engineering and engineering project management capacities (dormant)



MALAYSIA MARINE AND HEAVY ENGINEERING SAUDI LIMITED
Provision of engineering, procurement, construction, installation and commissioning services for offshore and onshore facilities



TECHNO INDAH SDN BHD
Sludge disposal management (dormant)



MMHE LNG SDN BHD
Provision of repair services and dry docking of liquefied natural gas vessels (dormant)



MHS INTEGRATED ENGINEERING SDN BHD
Plant turnaround and shutdown maintenance



MMHE EPIC MARINE & SERVICES SDN BHD
Provision of repair services and dry docking of marine vessels at the ship repair facilities located in Kemaman, Terengganu (dormant)



MMHE-TPGM SDN BHD
Provision of engineering, procurement, construction, installation and commissioning services (dormant)



MMHE-ATB SDN BHD
Manufacturing of pressure vessels and tube heat exchangers (dormant)



Who We Are and What We Do

Malaysia Marine and Heavy Engineering Holdings Berhad (MHB) is a Globally Trusted, Energy and Marine Solutions Provider, for a Wide Range of Heavy Engineering Facilities and Vessels.

50 Years

of delivering integrated and complex solutions for offshore & onshore oil & gas and marine industries



Proven expertise in full range EPCIC services with the delivery of over 200 offshore facilities, among others:



Delivered nearly 4,000 marine solutions with comprehensive marine services for all types of vessels in one location.



Complete conversion facilities in one location with a track record of more than 30 conversion projects (inclusive of FSO, FPSO, MOPU, FSU etc)

Highest level in Quality, Health, Safety & Environment Culture

- **ISO 45001: 2018 Certified**
Occupational Health & Safety Management System
- **ISO 14001: 2015 Certified**
Environmental Management System
- **ISO 9001: 2015 Certified**
Quality Management System
- **ISO 3834-2: 2005 Certified**
Quality Requirements for Fusion Welding of Metallic Material
- **ISO 29001: 2020 Certified**
Quality Management System for Petroleum, Petrochemical and Natural Gas Industry
- **American Petroleum Institute (API) Q1 9th Edition**
Quality Management System for Fabrication of Structural Steel Pipe for the Oil and Gas industry
- **IECEx Certified**
Repair and Overhaul Services of Ex d, Ex e and Ex n of Certified Rotating Machines and Enclosures

We adhere to the highest standard of Integrity

- **ISO 37001: 2016 Certified**
Anti-Bribery Management System

Marine Business – Overview

MMHE IS A ONE-STOP CENTRE WITH TRUSTED COMPREHENSIVE SOLUTIONS

For standard to extremely complex requirements in vessel repair, upgrading, refurbishment, modification and conversion. Our expertise caters to various types of vessels including gas carriers, VLCCs/tankers, Offshore Support Vessels, bulk carriers, container ships as well as Mobile Offshore Units.

DRYDOCKING REPAIR SERVICES



LNGC



RIG & SEMI-SUB



TANKER



VLCC



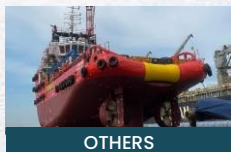
BULKERS / VLOC



CONTAINERSHIP



VLGC & LPGC



OTHERS

CONVERSION & MODIFICATION



FPSO



FSO



FSU



FSRU



SEA BASE

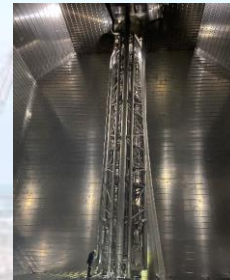


MOPU

OFFSHORE MAINTENANCE



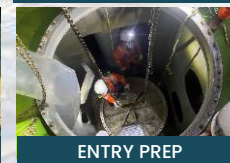
GLOBAL TEST



TANK INSPECTION



PUMP REPLACEMENT

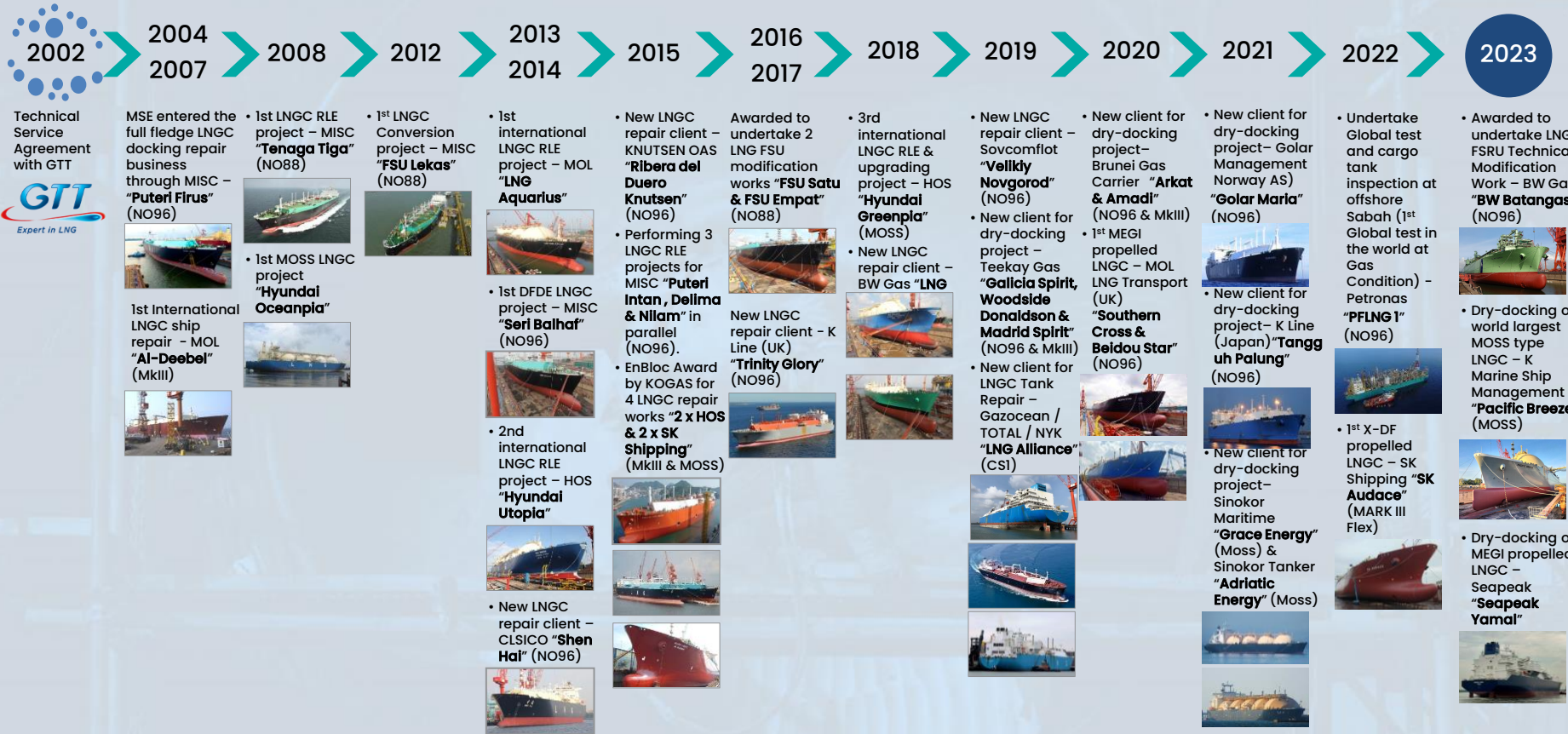


ENTRY PREP

Delivered nearly **4,000** marine solutions since 1976 with comprehensive marine services for all types of vessels in one location as well as offshore. Our facilities include a top-notch service center for LNG carriers. As the sole shipyard certified to perform integrity tests and testing of LNG carriers' containment system, MMHE is one of the best in the world for docking services for LNGCs.

- Gas Carriers > 300 projects
- Tankers > 600 projects
- Bulkers > 400 projects
- Conversion > 30 projects
- Rigs & MOPUs > 30 projects
- Other Vessels > 2,500 projects

LNGC Projects Key Milestones



Our Facilities • Malaysia's Largest Fabrication Yard by Area and Annual Production Capacity Our Facilities



MMHE West Yard

379.82 acres

(Area: 1,537,090m²)



MMHE East Yard

115.76 acres

(Area: 468,450m²)

Facilities • MMHE West Yard General Overview



DRYDOCKING FACILITIES

- ▶ Dry Dock 1: 385m x 80m x 14m
- ▶ Capacity : 450,000 dwt
- ▶ Dry Dock 2: 270m x 46m x 12.5m
- ▶ Capacity : 140,000 dwt
- ▶ Dry Dock 3 : 350m x 80m x 14m
- ▶ Capacity : 400,000 dwt
- ▶ Shiplift : 188m x 33.8m x 8m
- ▶ Capacity : 50,000 dwt

CAPACITIES

- Annually at 129,700 MT

TOTAL AREA

- West Yard 379.82 acres (Area: 1,537,090m²)
- East Yard 115.76 acres (Area: 468,450m²)

CRANAGE

- 4 x 250T Crawler Cranes
- 9 x 50T Rough Terrain Cranes
- 17 x Luffing Cranes (Up to 80 MT)
- 2 x 600T x 150m(W) x 100m(H) Goliath Cranes
- 134 x Overhead & Gantry Cranes

FABRICATION AREA

- 9 fabrication/assembly areas totaling 524,522 m² (East and West)

SKID TRACK / BULKHEADS

- MMHE West
- 55,000 MT, 40,000 MT, 12,000 MT, 5,000 MT

WORKSHOPS

- 36 workshops fully equipped service and production workshop

SEA FRONTS

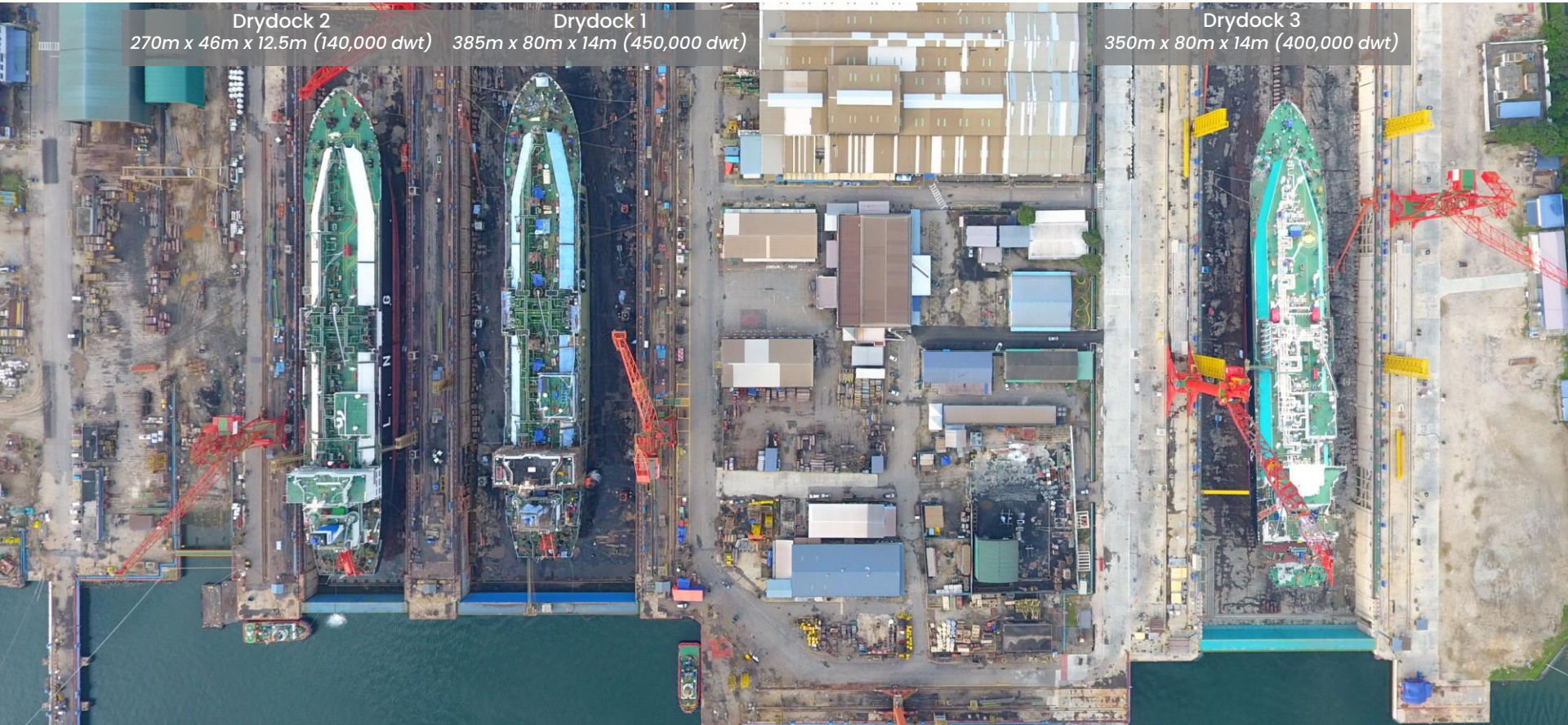
- 1800m length sea front

Facilities • MMHE West Yard General Overview – New Dry Dock No. 3



MMHE West Yard, Drydock 3
350m x 80m x 14m (400,000 dwt)

Facilities • MMHE West Yard. Dry Dock No. 1, No.2 and No.3



Drydock 2
270m x 46m x 12.5m (140,000 dwt)

Drydock 1
385m x 80m x 14m (450,000 dwt)

Drydock 3
350m x 80m x 14m (400,000 dwt)

Facilities • MMHE West Yard – Marine Repair



Facilities	Information & Dimension	
Dry dock 1 <i>(One of the Largest in S/East Asia)</i>	385m x 80m x 14m	Capacity: 450,000 dwt
Dry dock 2	270m x 46m x 12.5m	Capacity: 140,000 dwt
Dry dock 3	350m x 80m x 14m	Capacity: 400,000 dwt
Land berth 1	345m	Capacity: 142 t/m
Land berth 2	345m	Capacity: 125 t/m
Shiplift <i>(One of the largest in the world)</i>	188m x 33.8m x 8m	Capacity: 50,000 dwt
6 Quays/ Berths	Up to 1,889m in length	8 m draft average
LNGC Repair Facilities	<ul style="list-style-type: none"> ▪ Cryogenic workshop (1,062 m2 area) ▪ Invar welding centre ▪ Global test control rooms ▪ Acoustic and helium testing equipment ▪ Mobile cargo tanks monitoring instruments console 	

Facilities • Main Fabrication Facilities

Facilities	Information & Dimension		
Annual Fabrication Capacity	<ul style="list-style-type: none"> • 129,700 MT 		
Fabrication Area	<ul style="list-style-type: none"> • Total of 9 Fabrication / Assembly areas totaling 524,522 m² (East and West) 		
Workshops/Storage	<ul style="list-style-type: none"> • Automated Cutting & Assembly Workshop • Centralised Piping Workshop • Exotic Piping Workshop • Auto-Blast & Primer Workshop • Centralised Chemical Cleaning Workshop • Structures Fabrication Workshop • Blasting & Painting Workshop • Marine Repair Workshop • Shiplift Workshop • Pressure Vessel Fabrication Workshop • Centralised Scheduled Waste Storage • Centralised Warehouse 		
Skid Tracks & Bulkheads	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>MMHE West</u></p> <ul style="list-style-type: none"> • 55,000 MT • 40,000 MT • 12,000 MT • 5,000 MT </td> <td style="vertical-align: top;"> <p><u>MMHE East</u></p> <ul style="list-style-type: none"> • 25,000 MT • 2 x 15,000 MT • 5,000 MT </td> </tr> </table>	<p><u>MMHE West</u></p> <ul style="list-style-type: none"> • 55,000 MT • 40,000 MT • 12,000 MT • 5,000 MT 	<p><u>MMHE East</u></p> <ul style="list-style-type: none"> • 25,000 MT • 2 x 15,000 MT • 5,000 MT
<p><u>MMHE West</u></p> <ul style="list-style-type: none"> • 55,000 MT • 40,000 MT • 12,000 MT • 5,000 MT 	<p><u>MMHE East</u></p> <ul style="list-style-type: none"> • 25,000 MT • 2 x 15,000 MT • 5,000 MT 		
Cranes	<ul style="list-style-type: none"> • 8 x 250T Crawler Cranes • 2 x 400T Crawler Cranes • 8 X 50T Mobile Cranes • 1 x 45T Mobile Crane • 1 x 25MT Mobile Crane • 16 x Luffing Cranes • 2 x Goliath Cranes • 132 x Overhead & Gantry Cranes 		
Length of Shoreline	<ul style="list-style-type: none"> • West Yard: 1,500m • East Yard: 500m 		



Facilities • Warehouse & Storage Area



New Centralized Warehouse

20,350 m²

- WH 3 Covered : 2,400 m²
- WH 2 Covered : 14,950 m²
- WH 1 Cold Room : 2,000 m²
- Chemical & paint: 1,000 m²
- Storage : Pipe fitting, E & I , Mechanical Item, Tools Centre, Paint & Chemical

Warehouse A (Project Material)

5,676 m²

- Covered : 1,361 m²
- Cold Rm : 1,250 m²
- Open : 3065 m²
- Storage item : Pipe fitting, E&I and mechanical item

Warehouse B (Consumables)

6,240 m² (Consumables Area)

- Covered : 1,295 m²
- Open : 3,450 m²
- Storage item : Inventory, paint, chemical, electrode & consumable item

1,496 m² (Pipe Inventory)

- Open : 1,035 m²
- Storage item : Pipe inventory

Spare Part Receiving Facility

2,400 m²

- 20-ton overhead crane inside WH3.
- 5-ton Forklift
- WH3 (covered) & dedicated team for material/equipment handling and documentation



Warehouse 1 (Cold Room Facilities / Storage)



2,000 m²

Cold Room Facilities :

- Purpose – To store sensitive equipment (ex: Electronic Panel, Cryogenic Equipment)
- 2 storey storage area = 2,000 m²
- Humidity Control (Range 20~80%)
- Temperature Control (Range 20~35°C)

Quality Accreditations • Certification & Audit

Technology for a sustainable world



CERTIFICATE FOR REPAIR SHIPYARD MAINTENANCE CAPACITY

on

GTT MEMBRANE TANKS

<i>Certificate reference:</i>	TSAR-n°02-003/23-0195
<i>This certificate is issued to:</i>	MMHE Malaysia Marine and Heavy Engineering SDN BHD (MMHE)
<i>Date of Agreement:</i>	Effective since 15th October, 2002
<i>Scope of Agreement:</i>	Maintenance of Membrane Type Cargo Containment and Cargo Handling Systems
<i>Term of Validity:</i>	14th October 2024 with automatic renewal and possible termination within 3 months notice

This is to confirm that GTT has entered into a Technical Services Agreement (TSA) with MMHE for repair and maintenance work in Membrane tank tanks.

Done in Saint-Rémy-Lès-Chevreuse
On October 23rd, 2023

Certified by:
Rémy DIRLES
In Service Department Manager


Gaztransport & Technigaz S.A.

GTT (Gaztransport & Technigaz) SA - Tél. +33 (0) 21 30 23 47 89 - Fax. +33 (0) 21 30 23 47 00 - www.gtt.fr
20 rue Jacques de Sévigné 78124 - FC25 Hérouville St-Pierre 022 - Siège Social - 1, route de Venance - 78470 Saint-Rémy-Lès-Chevreuse - France

Certificate No: 024700020
Sheet 01



Approval of Service Suppliers

Client: P&H OILERS
Date of Issue: 28 August 2012
This is for: Malaysia Marine And Heavy Engineering Sdn. Bhd.
From: British Industrial Gas, P&H Fuel Supply, Shell, Malaysia (Distribution network to its "members")

To: 403-888 3307 **Fac:** 403-878 0060 **Email:** info@abdn.com.my
Having been issued in conformity with the requirements of Lloyd's Register Approval Services (Approval Services) as set forth in the attached Schedule for the approval of:

Tightness testing of primary and secondary barriers of gas carriers with membrane cargo containment systems for vessels in service
Particulars of scope of activity:
1) Phase Testing of Primary and Secondary Barriers.

This approval is conditional upon the supplier maintaining the documented system as detailed by the number of the entry register to which the entry approval was granted. Any change to the system including any change in personnel, equipment or premises, must be notified to the Registrar.

This certificate is issued to the Supplier and is subject to the Supplier complying with the relevant provisions of the Rules of the Registrar to which it is referred to below.

Issued for Registrar of Approval Services
Lloyd's Register Quality Assurance Ltd
Singapore 11, Robinson Road
A subsidiary of the Registrar Group Company



Certificate of Service Recognition

This is to Certify that
MALAYSIAN MARINE AND HEAVY ENGINEERING
has been audited by ABS and having given a satisfactory practical demonstration of the services listed below is recognized by ABS as a Service Provider to provide services which ABS recognizes may only be made available affecting classification in relation to ships.

Barrier Testing of Gas Carriers with Membrane CCS

It is the responsibility of the Service Provider to ensure, and to certify to the satisfaction of the service recipient, that the service recipient is responsible for the correct design, installation, operation, maintenance and inspection of any service equipment to be used. The service recipient must ensure that the service recipient is fully aware of the scope of the service and that the service recipient is fully aware of the scope of the service and that the service recipient is fully aware of the scope of the service.

For further information regarding the services listed above, please refer to the ABS website at: www.abs.com

Service Recognition - Global Vessel Testing of Primary and Secondary Barriers.

Holland-Stratipes Services

YEAR	AUDITOR
2024	<ul style="list-style-type: none"> • Minerva Gas • Gaslog Ltd • Northern Marine Group Ltd • Maran Gas Marine Inc. • Dynagas Ltd
2023	<ul style="list-style-type: none"> • Mitsui and Co Ltd. and Orient Marine Co. Ltd. • ADNOC Logistic and Services • Brunei Gas Carriers • NYK Shipmanagement Pte Ltd • Nigeria LNG Ltd. • Excelerate Energy, Inc • Chevron Asia Pacific Shipping Pte Ltd • K Marine Ship Management Pte. Ltd.
2022	<ul style="list-style-type: none"> • Seapeak • BP Shipping • Bumi Armada and Total SA
2021	<ul style="list-style-type: none"> • K-Line Energy Ship Management Co., Ltd (Japan)
2020	<ul style="list-style-type: none"> • Nigeria LNG Limited • Brunei Gas Carriers and STASCO
2019	<ul style="list-style-type: none"> • MOL LNG Transport (Europe) Ltd • Knutsen OAS Shipping AS • Exmar Shipmanagement NV • Tokyo LNG Tanker Co. Ltd. • Teekay Gas Ltd • Flex LNG / Frontline Management AS • Gazocean and Total SA
2018	<ul style="list-style-type: none"> • China Energy Ship Management • Mitsui-OSK-Line (MOL) Ltd, Japan • NYK LNG Shipmanagement Limited • LNG Marine Transport Limited • Golar Management Norway AS • "K" Line Ship Management (Japan) • BW Fleet Management AS

LNGC Repair Facilities • Cryogenic Workshop

CRYOGENIC WORKSHOP

- Workshop floor area: 1750m².
- Air-conditioned clean, dust free with temperature control.
- 3 units overhead cranes: 2 x 5T & 1 x 2T.
- Testing Manifold: able to test 40 relief valves at one time (size 50A-400A).
- New air tank: 31m³ for pressure & vacuum testing.
- 2 workshop entrance for 3 tons lorry.
- 4 units testing bench for relief valves cargo tank and On-Off valves with hydraulic operated.
- Manned and managed by well-trained technicians & engineers.
- Able to accommodate numbers of cryogenic valves and pumps for 4 LNG vessels simultaneously.
- Accommodate 16 units cargo pumps for services and dismantling simultaneously.
- 1 unit KSB valve test bench – butterfly valve type-approved by KSB Amri.



AMRI Valve Test Bench



Cargo Pump



Insulation Space Safety Valve



Cargo Tank Safety Valve



Liquid Line Safety Valve



Cargo Tank Safety Valve Test Bench



LNGC Repair Facilities • Mock-up & Invar Welding Training Center



95 m² area with 10 welder stations



Invar Protection Mockup for GTT No. 88 , 96



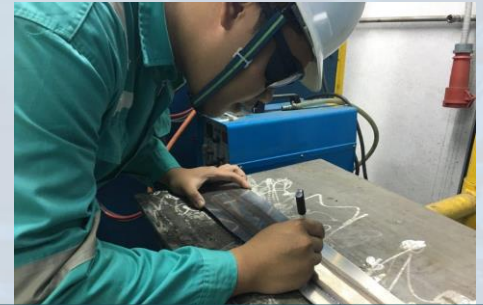
Mockup for GTT MKIII / NO 96



Invar welding training for welder



Invar welding training for welder



Invar welding training for fitter

LNG Repair Facilities • Cargo Tank Membrane Integrity Test



MMHE is the only yard that is referenced by GTT for the provision of testing services to LNG Carriers in service



Portable Global Test Control Room – 4 units



Helium Test Instrument x 2 units



Acoustic Emission Test Instrument – 4 sets



Acoustic Emission Test Instrument – 4 sets

LNG Repair Facilities • Others



Cargo Control Valve & Instrumentation Facilities



Dry-Air Tank Facility for Cryogenic Safety Valve



Scaffolding for LNG Cargo Tank



Wooden Block for Membrane Protection-Mark III



Wooden Block for Membrane Protection-NO.88,96,CS1

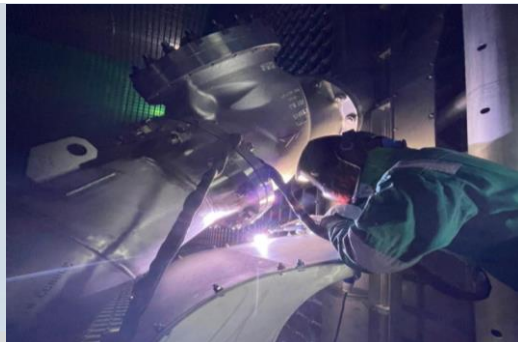


Bulk N2 Cargo Tank Purging

LNG Repair Facilities • Others



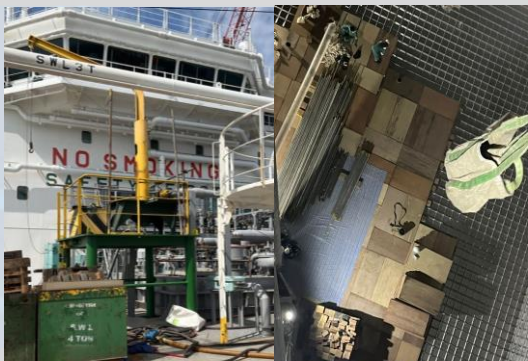
Cargo Cold Pipe Insulation Repair



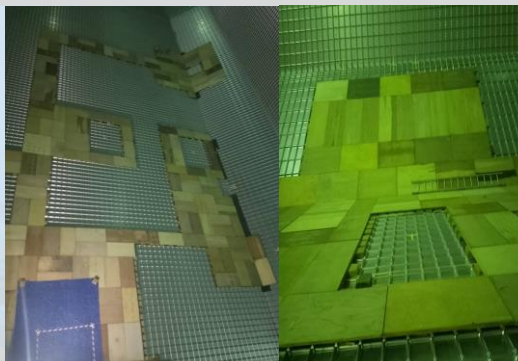
Tack Weld inside LNG Cargo Tank



Tent Setup inside LNG Cargo Tank



Ascending/Descending material inside LNG Cargo Tank using portable davit



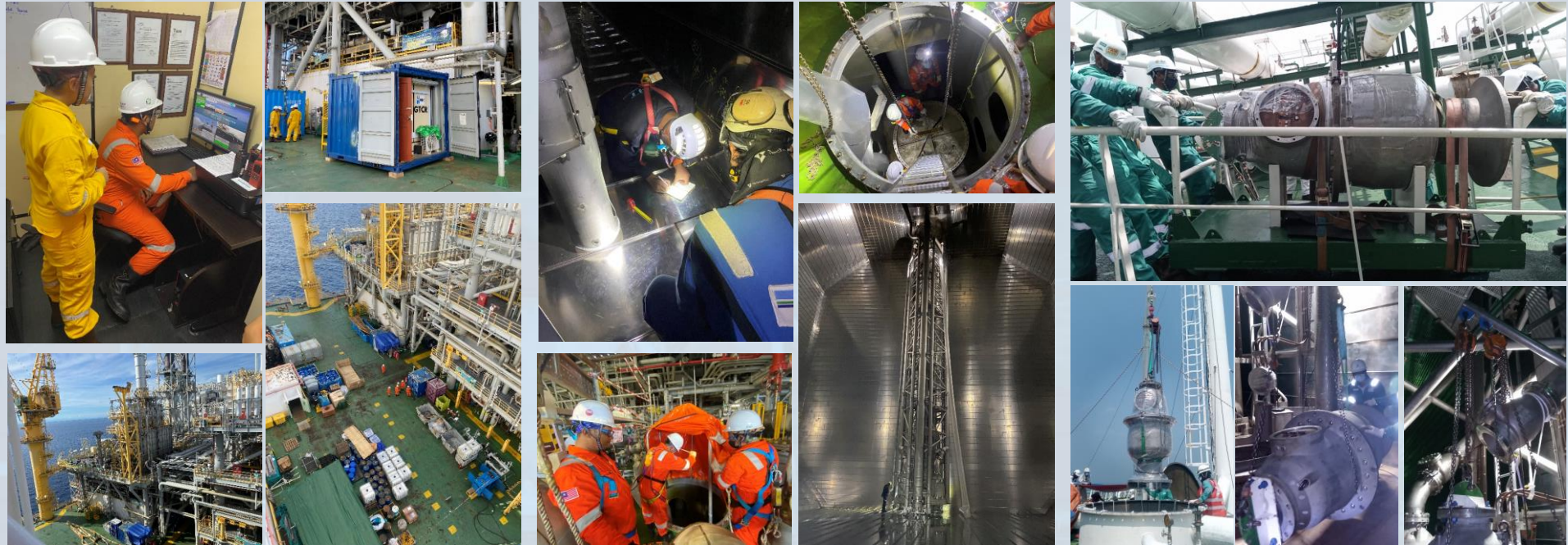
Tank Wooden Protection Arrangement (MarkIII)



LNG Cargo Tank Cleaning

Competency • Offshore LNG Floater (FSU / FLNG) Maintenance

Onsite Global Test, Tanks Inspection, Cryogenic Pumps Replacement and Cargo Valves Maintenance



Global Test

Cargo Tank Inspection

Cryogenic Pumps Replacement

Competency • Testing & Repair

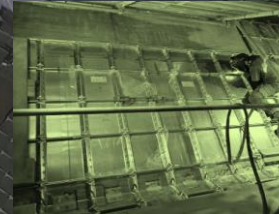
CARGO TANK REPAIR :

- ✓ Cryogenic Pumps
- ✓ Cryogenic Valve
- ✓ Membrane SUS / Invar Welding Repair
- ✓ Inner Hull Repair
- ✓ Pump Tower Base Support Repair (PTBS Repair)
- ✓ Cargo Control Valve Services / Calibration
- ✓ Cargo Instrumentation Services
- ✓ Cargo Pipeline Renewal / Modification
- ✓ Cargo Pipeline Insulation Renewal

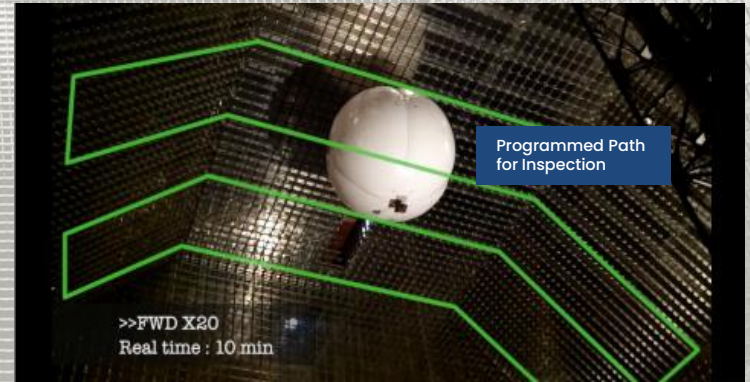


CARGO TANK TESTING :

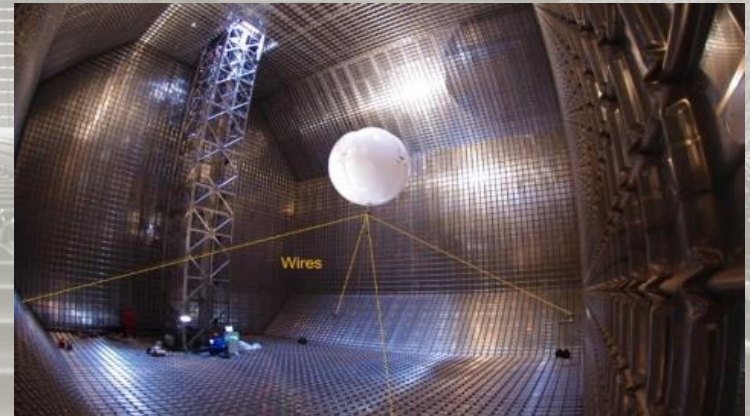
- ✓ Global Test
- ✓ Secondary Barrier Tightness Test (SBTT) – Mark III
- ✓ Primary Barrier Global Test (PBGTT) – Mark III
- ✓ Acoustic Emission Test (AE)
- ✓ Helium Leak Detection Test
- ✓ Dye-Penetrant Test (DPT)



Competency • Motorized balloON : MOON



- Inspection / test of tank top parts without installation of scaffolding
 - ✓ Helium test
 - ✓ Visual inspection
- High accuracy of Balloon motion controlled by 4 motors located at the corner of the tank
- Quick deployment
- Motion controlled manually or automatically through a dedicated software
- Ability to embark up to 10kg of equipment



Competency • MARK III



Top Chamfer Inspection



Vacuum and Local Helium Test



Secondary Barrier Repair



Secondary Barrier Repair



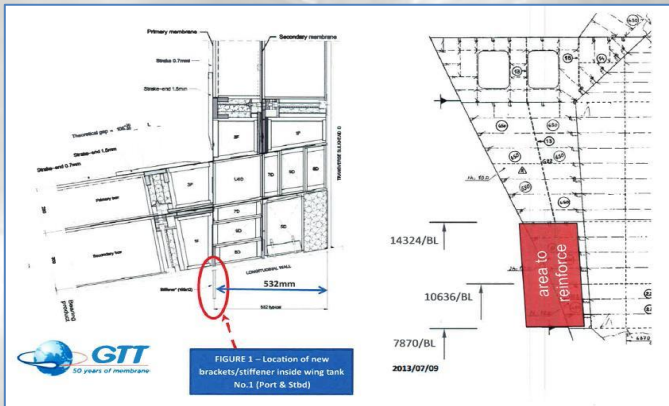
Mark III Membrane Welding



CTMS Upgrading (Capacitance to Radar)

Competency • GT NO 96 (Reinforcement)

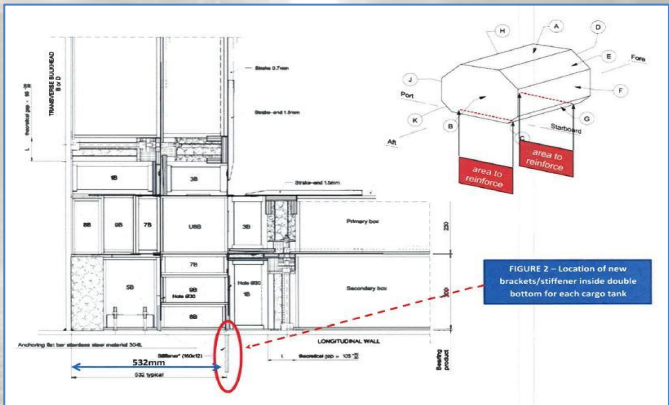
Installation the steel brackets on the inner hull (adjacent to cargo tank anchoring bars) from inside WBT



Arrangement for Cargo Tank No.1 – Bracket location at wing tank no.1 (P & S) Fwd



Arrangement for Cargo Tank No.1,2,3,4 – Bracket location at double bottom tank no.1, 2, 3 & 4 (P & S) Fwd and Aft.



Mockup Test



MPI Test



Material Preparation



Cosmetic Work



Fit and Weld Process



Close Side Shell Access

Competency • Moss Type



Cargo pump removal & overhauling



Insulation Repair



New CTMS / Penetration Installation



Various Outfitting Works



Full dome's staging & dome cosmetic work




Cargo dome seal renewal

Competency • Cargo Containment System Specialist Involvement

LNGC CARGO TANK SPECIALIST REPAIR WORK INVOLVEMENT												
Cargo Containment System	Secondary Membrane Chair & Washer Repair	Membrane Renewal	Insulation Box Renewal	Invar Tube Renewal	Reinforce Invar Tube Junction	Reinforce Trihedron	Reinforce Inner Hull	Whessoe Modification for Punching Device	Reinforce Liquid Dome Chair	Bilge Hopper Upper Knuckle Repair	Reinforce Pump Tower	Cargo Handling System Structure Inspection
GTT NO System												
GTT NO 85	MMHE	MMHE	MMHE	NOT APPLICABLE					MMHE	MMHE	MMHE	MMHE
GTT NO 88	MMHE	MMHE	MMHE	NOT APPLICABLE					MMHE	MMHE	MMHE	MMHE
GTT NO 96	N/A	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE
GTT Mark III System												
GTT Mark III	N/A	MMHE	MMHE	NOT APPLICABLE							MMHE	
Moss Tank System												
NOT APPLICABLE											MMHE	
C Tank System												
NOT APPLICABLE											MMHE	

LNGC CARGO TANK INTERGRITY TEST SPECIALIST INVOLVEMENT							
Cargo Containment System	Primary & Secondary Global Test	Helium Test	Balloon Test	Acoustic Emission Test	Strength & Bearing Test	Dye Penetration Test	Ammonia Test
GTT NO System							
GTT NO 85	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE	NOT APPLICABLE
GTT NO 88	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE	
GTT NO 96	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE	
GTT Mark III System							
GTT Mark III	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE	MMHE
Moss Tank System							
NOT APPLICABLE						MMHE	NOT APPLICABLE
NOT APPLICABLE						MMHE	

 MMHE's capabilities

Under Certification by:  **GTT**
Expert in LNG

Our Partners:    

Track Records • LNG projects

3,800+

Marine Repair Projects



12~14 average

Average Gas Carriers Repaired per year



21 BWTS

Ballast Water Treatment System retrofits completed



10 RLE

LNG Carriers Major RLE projects

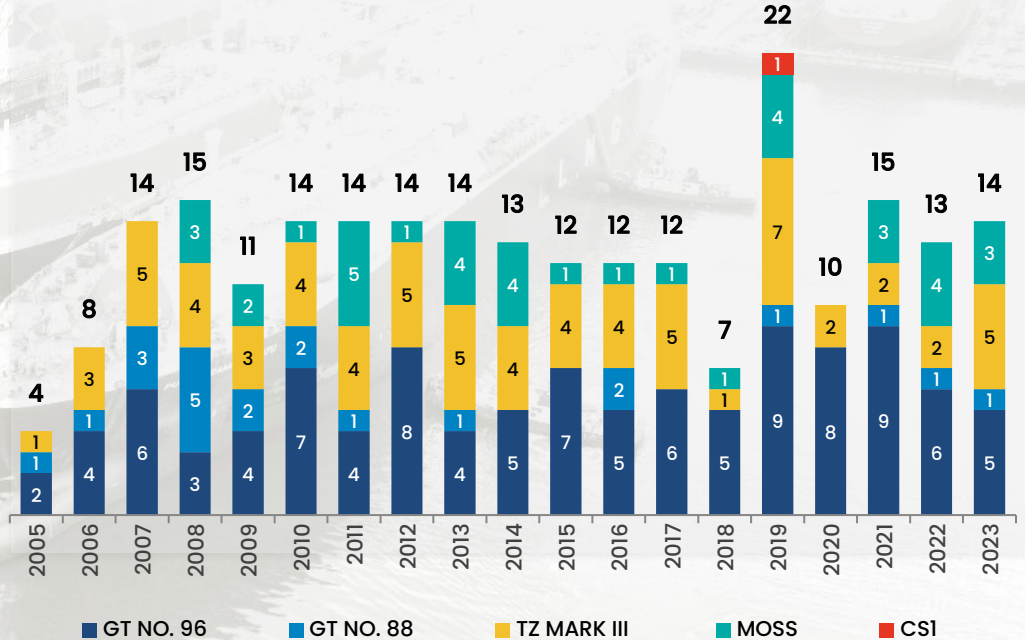


1 CONVERSION

LNG FSU Conversion project



NO. OF LNG CARRIERS REPAIRED BY YEAR AND CCS TYPE

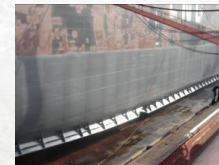


Track Records • LNGC RLE & Conversion Projects

Project – FSU LEKAS (LNGC Tenaga Satu) / FSU 1
Owner / Operator – MISC Berhad
Working Period – 8 months

Major Work scope

- Cargo Tank Assessment
- Tank coating – 187,208m²
- Ship Side Full Blast – 23,000m²
- Cargo pipeline Renewal – 900m
- Heating Coil Renewal – 8000m
- Boiler Tube Renewal
- Steelwork Repair – 710 tons
- Ballast Pipe Renewal – 30m
- Sewage Treatment Plant Renewal
- Pipe Insulation Renewal
- Sandwich Plate System (SPS)
- Winches / Windlass Renewal – 8nos
- Passenger Lift Renewal
- Motor Overhaul – 60nos
- Fresh Water Generator Renewal
- Lifeboat & Davit Renewal x 1no
- Electrical Cable & Lighting Upgrade
- PA System Renewal
- Main Cargo Pump, Bilge , Fire Deck Wash and Emergency Fire Pump Renewal.



Track Records • LNGC RLE & Conversion Projects



Roller Fairlead Fabrication and Installation



Accommodation Refurbishment



Galley Equipments



Fabrication Mooring Fairlead Foundation



Installation of New Cargo Line



Gas Metering Skid



Mooring Winch Installation



Installation of New Offloading Platform



New Boiler Burner System Installation

Track Records • LNG Upgrading & Major Refurbishment

Project – LNG AQUARIUS
Owner – PT. Hanochem Shipping
Operator – MOL LNG Transport (Europe) Ltd.
Working Period – 4 months (14-Oct-2013 ~ 10-Feb-2014)

Major Work Scope

- Ship Side Full Blast – 25,035m²
- Cargo Dome Hydro Jetting and Painting
- Cargo Integrated Automation System (IAS)
- Cargo Tank Radar Gauging System
- Cargo Tank Radar Penetrations
- Removal and Replacement of Cargo Pump Cables
- Navigation Aids Upgrade
- Catwalk Structure Renewal
- Cryogenic Pipeline Support Catwalk
- Accommodation Modification and Refurbishment
- Economizer Casing Repair
- New Manifold Crane Installation
- Renewal of Air Compressor and Air Drier
- Renewal of Molded-case Circuit Breaker (MCCB)/Miniature Circuit Breaker (MCB) and Group Starter Panel
- Turbo Generator No.1 and No.2 Modification
- Ballast Tank Major Modification
- Air Conditioning System Upgrading



Vessels Particulars

- Built in June 1977
- Gross Tonnage 95,084 Tons
- Dimensions: 285.29m (LOA) x 43.74m (B) x 24.99m (D)

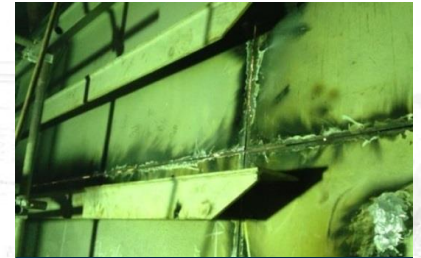
Track Records • LNGC Upgrading & Major Refurbishment



Accommodation Modification and Refurbishment



Mooring Winch Overhauling



Ballast Tank Major Modification



Power & Instrument Cable Renewal



Ballast Line Renewal



Cargo Pipe Insulation Renewal



Cargo Tank Radar Gauging System Upgrading

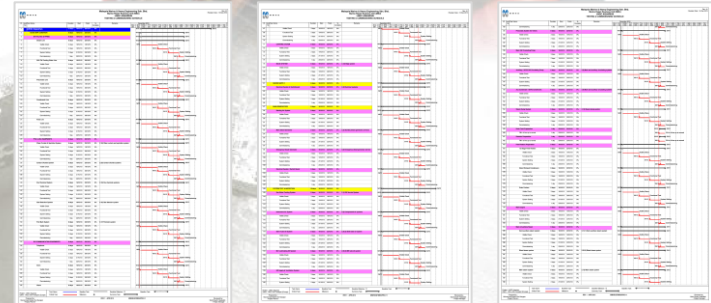
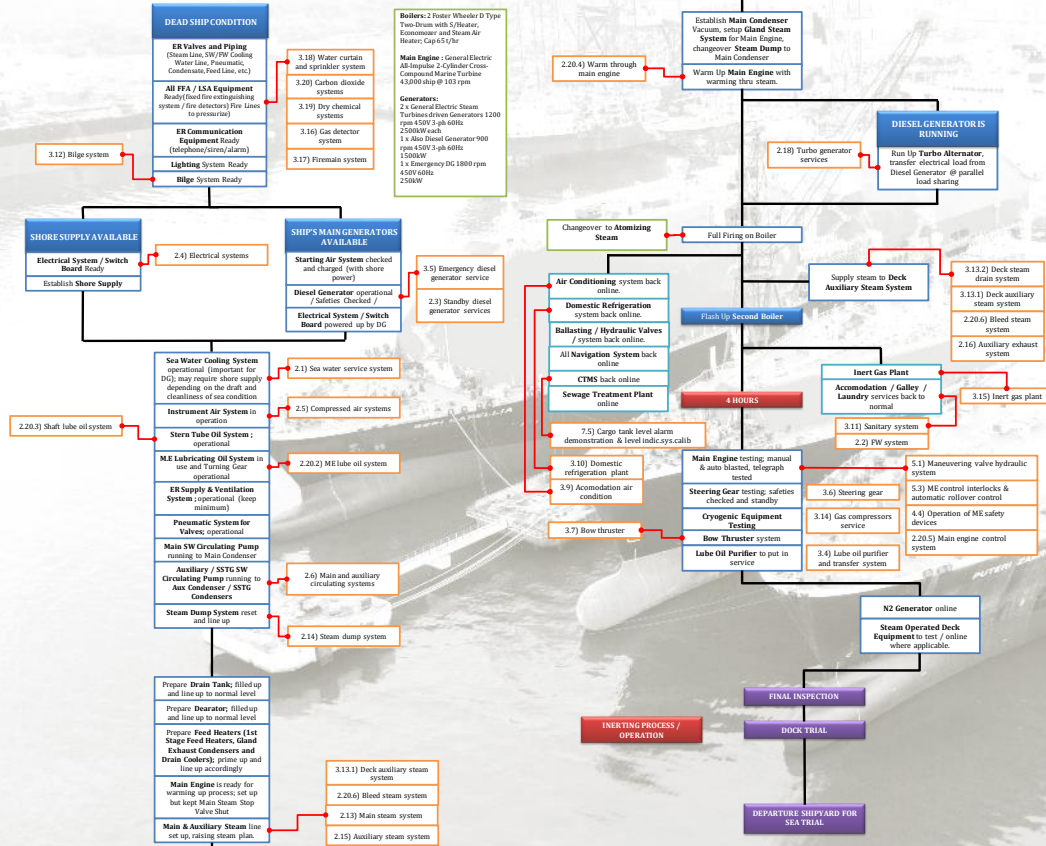


Installation of New Manifold Crane



Full dome's staging work

Track Records • LNGC Upgrading & Major Refurbishment



TESTING , COMMISSIONING AND STEAM PLANT RAISING PLANS PREPARED BY MMHE

*Extra advantages of knowledge and know how to be shared by MMHE (Due to the fact that there are few ex-LNG carrier Chief Engineer in MMHE)

Track Records • LNGC Upgrading & Major Refurbishment

Project – HYUNDAI UTOPIA & HYUNDAI GREENPIA
Owner – Hyundai Ocean Service Co. Ltd./ Hyundai LNG Shipping Co. Ltd.
Operator – Hyundai Ocean Service Co. Ltd.
Working Period – 43 days (10-Jun-2014 ~ 23-Jul-2014) / (31-Nov-2018 ~ 13-Dec-2018)

Major Work Scope

- Installation of Additional Mooring Winches
- Cargo Tank & Hull Structure Reinforcement
- Flying Passage Structure Renewal
- Cargo Pipe Insulation Renewal
- Monorail Crane Renewal
- Water Ballast Tanks Hydro blast & Paint
- Mooring Winches Overhaul
- Platform & Grating Renewal
- Boiler Exhaust Pipe Renewal
- Main Boiler Tubes Renewal
- New Manifold Crane Installation
- Engine Room High Pressure Steam Pipe Assessment
- Cargo Integrated Automation System (IAS)
- Inert Gas Generator Upgrade



Vessels Particulars

- Built in June 1994
- Gross Tonnage 103,764 Tons
- Dimensions: 274.00m (LOA) x 47.20m (B) x 26.50m (D)



Vessels Particulars

- Built in June 1996
- Gross Tonnage 103,764 Tons
- Dimensions: 274.00m (LOA) x 47.20m (B) x 26.50m (D)



Track Records • LNG Upgrading & Major Refurbishment

Project – PUTERI CLASS RLE AND UPGRADING PROJECTS

Vessels' Names : PUTERI INTAN , PUTERI DELIMA, PUTERI ZAMRUD & PUTERI NILAM

Owner / Operator : MISC Berhad

Covering Period ; 2 June 2015 ~ 10 Oct 2015

Common Work Scope

- Main Steam Turbine – Major Overhaul
- Main Boiler – Major Service And Steam Tube Renewal
- Turbine Alternator – Major Overhaul
- Diesel Generator – Major Overhaul
- Auxiliary Machineries Overhaul
- Steel Work Repair : 75 Tons
- Hull Fitting Work : 73 Tons
- Inner Hull Reinforcement In WBT And Cofferdam
- Galley Equipment Upgrade & Renew
- Invar Tube Junction Reinforcement
- Whesoe Modification for Punching Device
- Tower Base Support Reinforcement
- Cargo Pumps Overhaul and Cargo Tank Global Test
- Renewal of Deck Pipe : 1,095 Mtrs
- Cryogenic Pipe Insulation Renewal: 420 M2
- Motor Renewal : 28 Nos
- Water Ballast Tank Blasting & Coating : 7,000 M2
- Void Space Blasting & Coating : 2,200 M2

Vessels Particulars

- Built 1994 ~ 1996
- Gross Tonnage 86,205 Tons each
- Dimensions: 274.30m (LOA) x 43.30m (B) x 25.40m (D)



PUTERI INTAN



PUTERI DELIMA



PUTERI NILAM



PUTERI ZAMRUD



Track Records • Drydocking Repair & Upgrades

Project – LNG JUPITER

Owner – Nippon Yusen Kaisha (NYK Line),

Operator – NYK LNG Shipmanagement Ltd.

Working Period – 5-Apr-2024 ~ 9-Jul-2024

Major Work Scope

- Hull Cleaning, Full Underwater Blasting and Painting
- Sea and Overboard Valves Overhaul
- Bow Thruster Overhaul
- Water Ballast Tank Inspection
- Cargo Tanks Inspection
- Cargo and Spray Pumps Overhaul
- Cryogenic Equipment Overhaul
- Cryogenic Valve Overhaul
- Main oiler Cleaning
- Steam Turbine Inspection
- Mooring Arrangement Modification
- Electrical Motors and Fans Overhaul
- Helideck Net Renewal



Vessels Particulars

- Built in August 2009
- Gross Tonnage 121,675 Tons
- Dimensions: 289.50m (LOA) x 49.00m (B) x 27.00m (D)

Track Records • LNGC Dry-docking & Repair

Project – PACIFIC BREEZE

Owner – Kawasaki Kisen Kaisha Ltd

Operator – K Marine Ship Management Pte Ltd

Working Period – 7-Mar-2023 ~ 5-Apr-2023

Major Work Scope

- Hull Cleaning, Full Underwater Blasting and Painting
- Sea and Overboard Valves Overhaul
- Water Ballast Tank Inspection
- Cargo Tanks Inspection
- Cargo and Spray Pumps Overhaul
- Cryogenic Equipment Overhaul
- Cryogenic Valve Overhaul
- Main Generator Engine Overhaul
- Turbo Charger Overhaul
- Auxiliary Boiler Inspection
- Electrical Motors and Fans Overhaul



Vessels Particulars

- Built in Mar 2018
- Gross Tonnage 144,978 Tons
- Dimensions: 299.94m (LOA) x 52.00m (B) x 28.00m (D)

Track Records • LNG FSRU Modification

Project – BW BATANGAS

Owner – BW LNG AS

Operator – BW Fleet Management AS

Working Period – 23-Mar-2023 ~ 6-Jun-2023

Major Work Scope

- Mooring Modification – New Installation QRH, Panama Chock and Closed Chock
- Modification Of Regas HP Sendout Manifold And Platforms
- Modification Of Upper Platforms of Fwd Radar
- Laydown Area For Fenders On Trunk Deck
- Remove & Relocation of Equipment – Fwd Radar & Remote-control Panel
- Installation of New Equipment
 - LNG Sampling Cabinet
 - Control Cabinet
 - Phaser Vaporizer
 - Vaporizers
 - High Pressure Booster Pumps
 - Flow Meter
 - Sea Water Lift Pumps
 - Gas & heat Detectors
 - HPU
 - ERC – 10"
 - VSD
 - Telephone
- Installation of Cargo Pipe, Valves & Fittings
- Installation of New Cable and Fiber Optic



Vessels Particulars

- Built in August 2009
- Gross Tonnage 89,556 Tons
- Dimensions: 295.00m (LOA) x 43.40m (B) x 26.00m (D)

Track Records • LNGC Dry-docking & Repair

Project – **SOLARIS**

Owner – Gaslog Ltd,

Operator - Gaslog Ltd.

Working Period - 27-June-2024 ~ 23-July-2024

Major Work Scope

- Cargo Tank Repair
- Hull Cleaning, Full Underwater Blasting and Painting
- Sea and Overboard Valves Overhaul
- Water Ballast Tank Inspection
- Cargo Tanks Inspection
- Cargo and Spray Pumps Overhaul
- Cryogenic Equipment Overhaul
- Cryogenic Valve Overhaul
- Bow Thruster Overhaul
- Electrical Motors and Fans Overhaul
- Heat Exchanger Inspection and Cleaning
- Lifeboat Inspection and Services



Vessels Particulars

- Built in June 2014
- Gross Tonnage 98,075 Tons
- Dimensions: 285.12m (LOA) x 43.40m (B) x 26.00m (D)

Track Records • LNGC Dry-docking & Repair

Project – **CLEAN OCEAN**

Owner – Dynagas Ltd,

Operator - Dynagas Ltd.

Working Period - 23-June-2024 ~ 20-July-2024

Major Work Scope

- Cargo Tank Repair
- Hull Cleaning, Blasting and Painting
- Sea and Overboard Valves Overhaul
- Water Ballast Tank Inspection
- Water Ballast Tank Steelwork Repair
- Cargo Tanks Inspection
- Cargo and Spray Pumps Overhaul
- Cryogenic Equipment Overhaul
- Cryogenic Valve Overhaul
- Electrical Motors and Fans Overhaul
- Heat Exchanger Inspection and Cleaning
- Lifeboat Inspection and Services



Vessels Particulars

- Built in June 2014
- Gross Tonnage 105,943 Tons
- Dimensions: 288.90m (LOA) x 45.60m (B) x 26.60m (D)

Track Records • LNGC Dry-docking & Repair

MOL



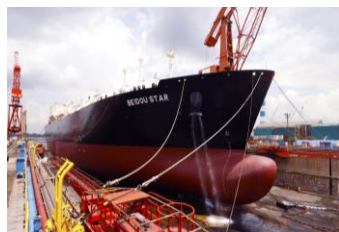
Type of works : RLE
Year : October 2013

MOL



Type of works : Special Survey
Year : July 2020

MOL



Type of works : Special Survey
Year : August 2020

K K LINE



Type of works : Special Survey
Year : March 2019

K K LINE



Type of works : Intermediate Survey and BWTS Installation
Year : November 2021

HMM
HYUNDAI MERCHANT MARINE CO., LTD.



Type of works : Special Survey
Year : May 2019

HMM
HYUNDAI MERCHANT MARINE CO., LTD.



Type of works : Intermediate Survey
Year : July 2017

HMM
HYUNDAI MERCHANT MARINE CO., LTD.



Type of works : Intermediate Survey
Year : May 2016

SK shipping



Type of works : Special Survey and Cargo Tank Repair
Year : September 2019

SK shipping



Type of works : Special Survey and Cargo Tank Repair
Year : June 2015

Track Records • LNG Dry-docking & Repair



Type of works : Special Survey
Year : July 2019



Type of works : Special Survey
Year : August 2019



Type of works : Special Survey
and Stern Tube Bush Renewal
Year : July 2012



Type of works : Special Survey
Year : April 2018



Type of works : Special Survey
Year : September 2021

Golar LNG



Type of works : Special Survey
and BWTS Installation
Year : June 2021



Knutsen OAS
Shipping



Type of works : Special Survey
Year : November 2015



GAZOCEAN



Type of works : Intermediate
Survey and Cargo Tank Repair
April : April 2019

SCF
Sovcomflot



Type of works : Special Survey
Year : January 2019

SCF
Sovcomflot



Type of works : Special Survey
Year : March 2020

Track Records • LNGC Dry-docking & Repair



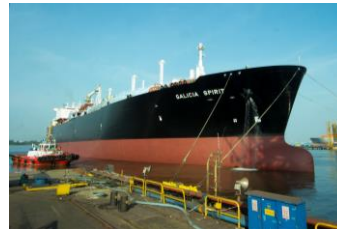
Type of works : Special Survey
Year : May 2011

Type of works : Special Survey
Year : July 2011

Type of works : Intermediate Survey
Year : April 2008

Type of works : Special Survey
Year : June 2011

Type of works : Intermediate Survey
Year : April 2013



Type of works : Special Survey and BWTS Installation
Year : September 2020

Type of works : Special Survey
Year : October 2020

Type of works : Special Survey and BWTS Installation
Year : February 2019

Type of works : Special Survey and BWTS Installation
Year : April 2019

Type of works : Special Survey and BWTS Installation
Year : July 2019

Clientes



Other Services • Customer Care

New Customer Service Office

- 2 stories building to accommodate 31 rooms for customer offices (15 offices located on ground floor and 16 offices located at the upper floor) with individual toilet and IT facilities.
- 1 dedicated meeting / conference room located at the upper floor.
- Equipped with new CCTV for security purpose.
- A Discussion Room at ground floor.
- Strategically located at the centre of Yard.
- Two work group s system and a rotation system for stand-by on Saturday, Public Holidays.
- Collection of dirty coveralls on every Tuesday, Thursday and Saturday with dedicated cleaner.



Customer Office



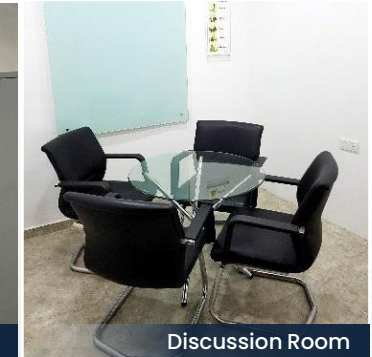
Conference Room



Lounge



Shower and Changing Room



Discussion Room



“Engineering Solutions”

Thank You

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