

MHI GROUP IN ASIA PACIFIC

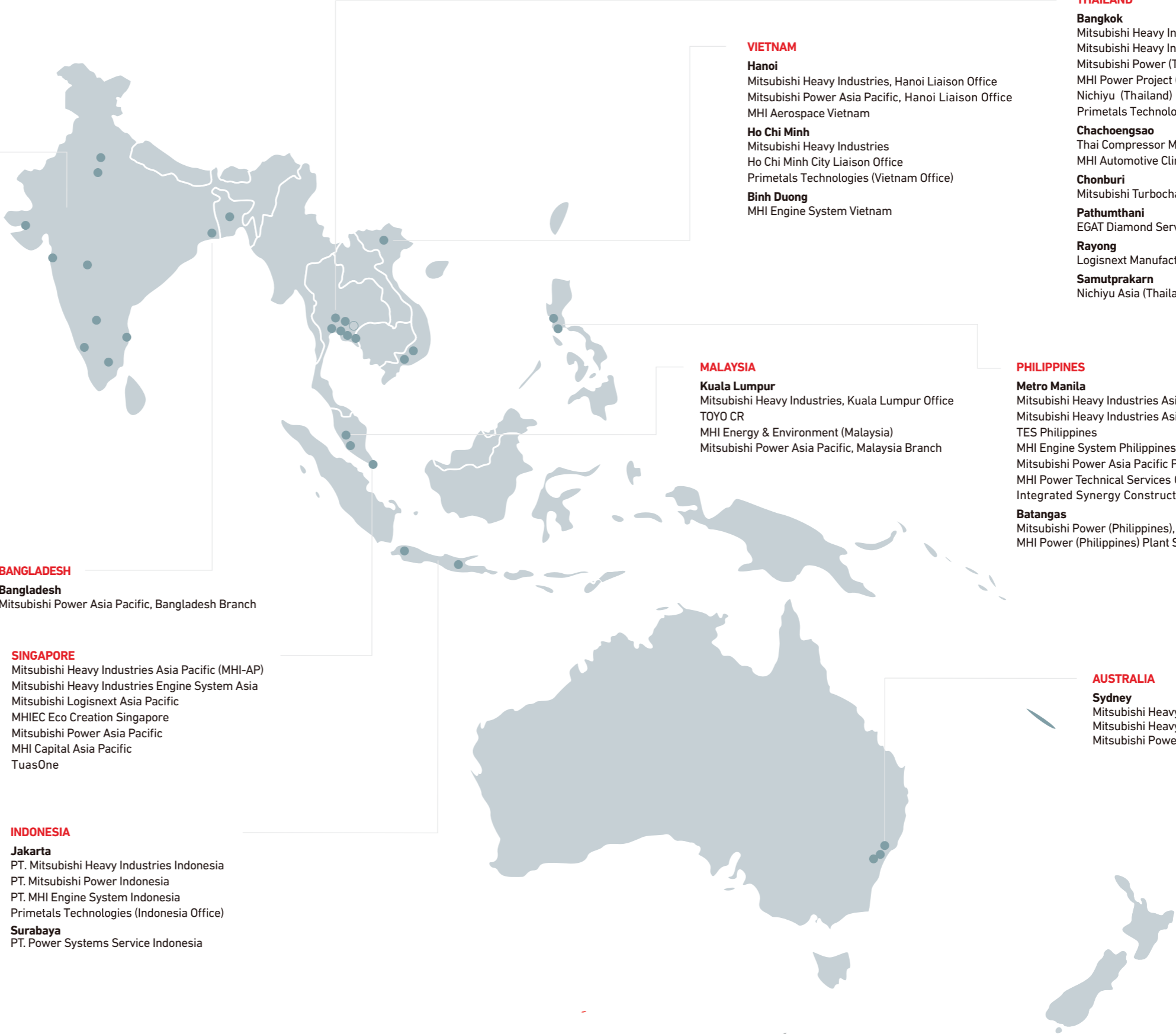


MHI GROUP ACROSS ASIA PACIFIC

Headquartered in Singapore, Mitsubishi Heavy Industries (MHI) APAC operations span a breadth of MHI global's offerings, from energy and aircraft to air conditioning, turbochargers and forklifts.

INDIA

- New Delhi**
Mitsubishi Heavy Industries India
Mitsubishi Power India
- Bengaluru**
Mitsubishi Heavy Industries India, Bangalore Office
Mitsubishi Power India
- Chennai**
Logisnext India
- Gujarat**
L&T-MHI Power Boilers, Hazira
L&T-MHI Power Turbine Generators, Hazira
- Haryana**
Mitsubishi Heavy Industries India, Rohtak Office
L&T-MHI Power Boilers Faridabad Office
MHI Engineering and Industrial Projects India Gurgaon
- Kolkata**
Primetals Technologies India
- Mumbai**
Concast (India)
Mitsubishi Heavy Industries India, Mumbai office
Primetals Technologies India, Mumbai
- Mysuru**
Mitsubishi Heavy Industries - VST Diesel Engines



BANGLADESH
Bangladesh
Mitsubishi Power Asia Pacific, Bangladesh Branch

SINGAPORE
Mitsubishi Heavy Industries Asia Pacific (MHI-AP)
Mitsubishi Heavy Industries Engine System Asia
Mitsubishi Logisnext Asia Pacific
MHIEC Eco Creation Singapore
Mitsubishi Power Asia Pacific
MHI Capital Asia Pacific
TuasOne

INDONESIA
Jakarta
PT. Mitsubishi Heavy Industries Indonesia
PT. Mitsubishi Power Indonesia
PT. MHI Engine System Indonesia
Primetals Technologies (Indonesia Office)
Surabaya
PT. Power Systems Service Indonesia

VIETNAM
Hanoi
Mitsubishi Heavy Industries, Hanoi Liaison Office
Mitsubishi Power Asia Pacific, Hanoi Liaison Office
MHI Aerospace Vietnam
Ho Chi Minh
Mitsubishi Heavy Industries
Ho Chi Minh City Liaison Office
Primetals Technologies (Vietnam Office)
Binh Duong
MHI Engine System Vietnam

MALAYSIA
Kuala Lumpur
Mitsubishi Heavy Industries, Kuala Lumpur Office
TOYO CR
MHI Energy & Environment (Malaysia)
Mitsubishi Power Asia Pacific, Malaysia Branch

PHILIPPINES
Metro Manila
Mitsubishi Heavy Industries Asia Pacific Manila Representative Office
Mitsubishi Heavy Industries Asia Pacific Manila Branch
TES Philippines
MHI Engine System Philippines
Mitsubishi Power Asia Pacific Philippine Branch
MHI Power Technical Services Corporation
Integrated Synergy Construction Corporation
Batangas
Mitsubishi Power (Philippines), Inc.
MHI Power (Philippines) Plant Services Corporation

AUSTRALIA
Sydney
Mitsubishi Heavy Industries Australia
Mitsubishi Heavy Industries Air-Conditioners Australia
Mitsubishi Power Australia

THAILAND
Bangkok
Mitsubishi Heavy Industries (Thailand)
Mitsubishi Heavy Industries-Mahajak Air Conditioners
Mitsubishi Power (Thailand)
MHI Power Project (Thailand)
Nichiyu (Thailand)
Primetals Technologies (Thailand Office)
Chachoengsao
Thai Compressor Manufacturing
MHI Automotive Climate Control (Thailand)
Chonburi
Mitsubishi Turbocharger Asia
Pathumthani
EGAT Diamond Service
Rayong
Logisnext Manufacturing (Thailand)
Samutprakarn
Nichiyu Asia (Thailand)

ACROSS ASIA PACIFIC

As a global leader in engineering and manufacturing, MHI Group delivers innovative and integrated solutions across a wide range of industries from commercial aviation and transportation to power plants and gas turbines, and from machinery and infrastructure to integrated defense and space systems. Here is a snapshot of our financial and company highlights, along with select details about the three industry segments we operate in.

MHI GROUP IN ASIA PACIFIC



Around
7,300
EMPLOYEES



52
OFFICES*



1,499
PATENTS

*Excluding the companies in China, Korea, Hong Kong, Taiwan and regional branches in Southeast Asia and Oceania

US\$5.5BN IN REVENUE**

Relationships with more than **2,798** SUPPLIERS

**Revenue reflects South Asia, China, India and Oceania markets



INTELLIGENT TRANSPORT SYSTEMS

MHI Group resolves urban transportation challenges through the application of technologies to improve safety, transportation efficiency and comfort, as well as to protect the environment. Our ITS solutions such as Electronic Toll Collection (ETC) system, Electronic Road Pricing (ERP) system and Traffic Management System - help solve traffic congestion and improve quality of life.



AIR CONDITIONERS

MHI Group provides energy-efficient thermal solutions for cooling and heating in residential and industrial settings as well as in the automotive and transport sectors.



MATERIALS HANDLING

MHI Group provides customers with optimal solutions that contribute to the evolution of manufacturing, supplying state-of-the-art forklifts, and warehouse equipment and logistics systems.



ENGINES PRODUCT

MHI Group provides solutions for continuous power supply to mission critical facilities such as data centers and hospitals and for business continuity in emergencies. Mitsubishi Generator Series (MGS) is a generator set incorporating a MHI Japan-made high-quality and durable diesel or gas engine, and offered in wide range of output and optional features. With MGS, we provide customers not just backup power but also reassurance.



METALS MACHINERY

MHI Group continues to pioneer new solutions to provide metals producers with highly tailored, cutting-edge plant equipment.



GAS AND STEAM POWER PLANT

MHI Group's state-of-the-art JAC gas turbines provides the latest advances in technologies which enable power plants to achieve a power generation efficiency of 64% or more. We produce carbon-neutral solutions to reduce coal-derived CO₂ emissions and provide an Air Quality Control System (AQCS) for cleaning up exhaust gas from steam power plants.

MHI GROUP AT A GLANCE








FINANCIAL CAPACITY & HIGHLIGHTS

\$31.5BN Annual Revenue*	More Than 25,900 Patents Globally	51% Sales outside Japan
\$1.31BN Profit from Business Activities*	78,486 Employees Worldwide	256 Domestic & Overseas Companies

*Estimated at the approximate exchange rate of JPY122.39=US \$1, as at March 31, 2022

SERVICES AND SOLUTIONS

EXPERTS IN MANUFACTURING & ENGINEERING

 ENERGY SYSTEMS	 PLANTS & INFRASTRUCTURE SYSTEMS
 NUCLEAR ENERGY SYSTEMS	 LOGISTIC, THERMAL & DRIVE SYSTEMS
 MACHINERY SYSTEMS	 INTEGRATED DEFENSE & SPACE SYSTEMS
 COMMERCIAL AVIATION SYSTEMS	

SOLUTIONS FOR CARBON NEUTRAL PORT



STABLE CLEAN POWER SUPPLY



Fuel Cell/SOFC



H2 Gas Engine



H2/NH3 Gas Turbine

ENERGY MANAGEMENT



AI Based Optimization Platform

CHILLED WATER SUPPLY



High Efficiency Chiller

BACKUP ENERGY SUPPLY



Natural Gas/ Diesel
Emergency Generator



Lithium-ion Batteries

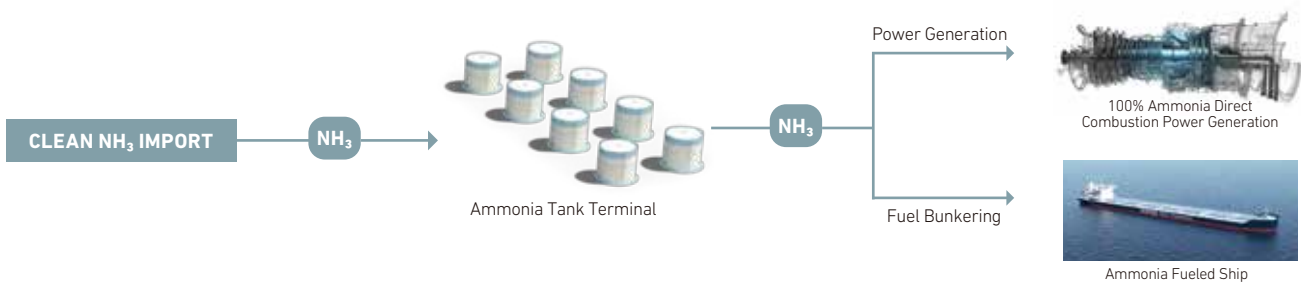
LOGISTICS



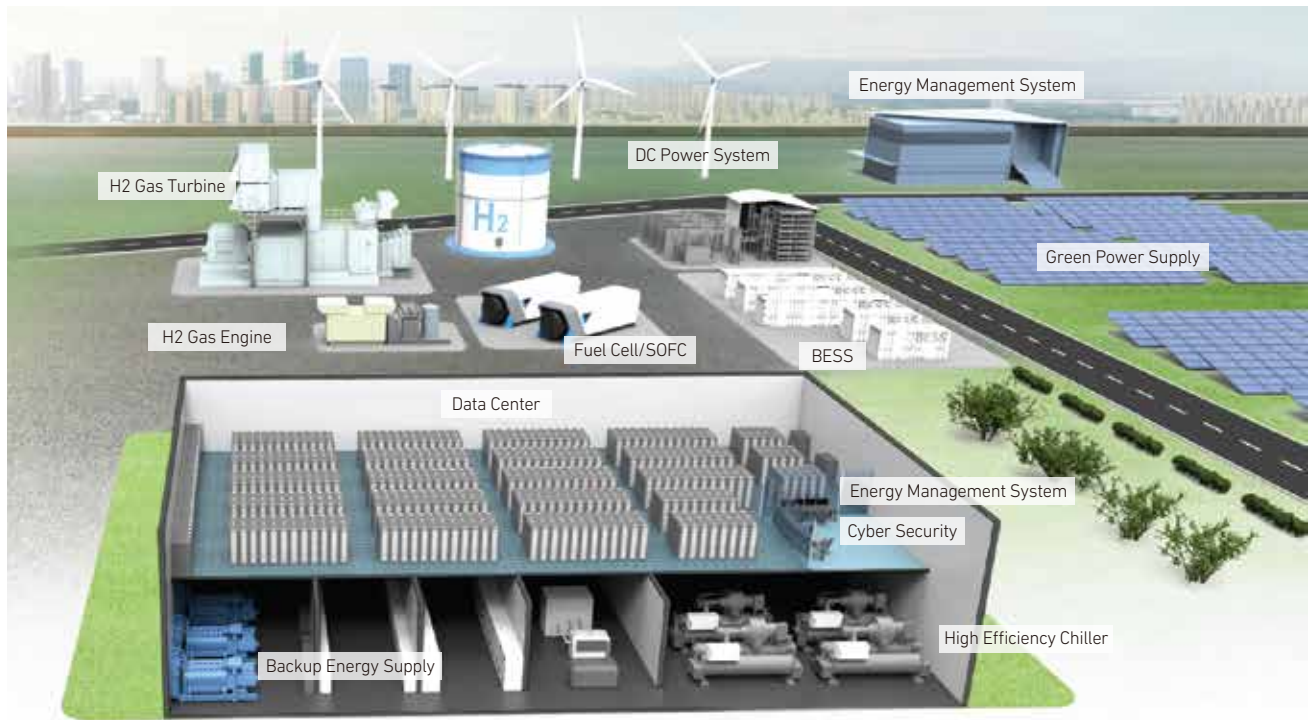
FC/Battery Forklift



RTG Convertible into FC Power



SOLUTIONS FOR DATA CENTER



STABLE CLEAN POWER SUPPLY



Fuel Cell/SOFC



H2 Gas Engine



H2/NH3 Gas Turbine

ENERGY MANAGEMENT



AI Based Optimization Platform

CHILLED WATER SUPPLY



High Efficiency Chiller

BACKUP ENERGY SUPPLY



Natural Gas/ Diesel
Emergency Generator



Lithium-ion Batteries

EDGE DATA CENTER



Low PUE Edge Data Center



Immersion Cooling

SOLUTIONS FOR URBAN DEVELOPMENT

AUTOMATED GUIDEWAY TRANSIT (AGT)



WAREHOUSE SOLUTIONS



INTELLIGENT TRANSPORT SYSTEM (ITS)



DISTRICT COOLING SYSTEM



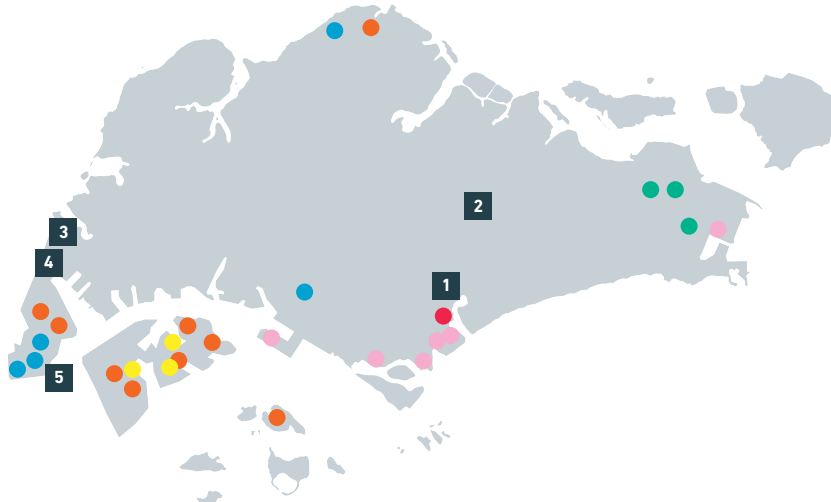
ENERGY CENTER

- Energy Management System
- Cogeneration System
- Heat pump
- Boiler
- Power Receiving/ Transforming Facility
- Emergency Generator
- Centrifugal Chiller



MHI GROUP IN SINGAPORE

Mitsubishi Heavy Industries Asia Pacific Pte. Ltd. (MHI-AP) is the regional headquarters of Mitsubishi Heavy Industries Group companies in Asia Pacific.



BUSINESS & ENGINEERING HEADQUARTERS

- 1 Mitsubishi Heavy Industries Asia Pacific Pte. Ltd.
- 1 Mitsubishi Power Asia Pacific Pte. Ltd.
- 1 MHI Capital Asia Pacific Pte. Ltd.

SALES & MAINTENANCE OFFICE

- 2 Mitsubishi Heavy Industries Asia Pacific Pte. Ltd
•Ang Mo Kio Office (ITS Business)
- 3 Mitsubishi Heavy Industries Engine System Asia Pte. Ltd.
- 4 Mitsubishi Logisnext Asia Pacific Pte. Ltd.
- 5 MHIEC Eco Creation Singapore Pte. Ltd.
- 5 TuasOne Pte. Ltd.

DELIVERY RECORD



● Power Plants



● Chemical Plants



● Other Mechanical Facilities



● Transportation Systems



● Waste-to-Energy



● Singapore Flyer

GAS TURBINE COMBINED CYCLE (GTCC)



GTCC power plants provide optimal efficiency: in addition to electricity produced by a gas turbine, they also capture and redirect waste heat for steam power generation.

Plants employing our state-of-the-art J-Series gas turbines run at record levels of efficiency, with our latest J-Series Air-Cooled (JAC) gas turbine operating at 64%. Our GTCC power plants also have a wide output range: between 30 and 1,332 MW. They can reduce CO₂ emissions 65% better than conventional coal-fired power plants.

INTELLIGENT TRANSPORT SYSTEMS



The Electronic Road Pricing (ERP) system began operation in Singapore in 1998. ERP gantries are located at strategic locations around urban areas and operate during traffic congested periods. The ERP system has three major groups of components: the IU (In-vehicle Unit), gantry components (DSRC antennae, vehicle detectors, enforcement cameras, etc.), and Control Centre.



Capitalizing on ERP technology, the Electronic Parking System (EPS) was developed and launched on the market in 2002. Drivers now no longer need to stop and lower their window for parking payments as the EPS, through antenna communications with the IU, deducts payments automatically. This has contributed towards greater motorist convenience and also the easing of congestion at both the entrance and exit of car parks.

REFRIGERATION SYSTEMS



The first district cooling plant in Marina Bay, Singapore, located in One Raffles Quay (ORQ) development, has been in operation since May 2006. Supply has been extended to the integrated resort, Marina Bay Financial Centre, and other new buildings in the Marina Bay area since 2010 when the second plant commenced operation. The two plants are interconnected via a chilled water network in the area and contribute to the comfortable life of local communities with reliable air-conditioning system supply.

WASTE TO ENERGY



MHI Group has supplied total four waste-to-energy plants in Singapore, and together the Group's waste-to-energy plants are capable of handling over 9,000 tons per day, and equivalent to a 90% share of Singapore's total capacity.

TRANSPORTATION



Mitsubishi Heavy Industry advanced driverless AGT systems provide state-of-the-art transportation services against the background of rapid urbanization to the world's largest and top-ranked airports.



The Crystal Mover is an Automated People Mover (APM) designed as an automated guideway transit systems in airports and light rail transit lines, suitable for a compact city or new urban development to provide transportation. It is currently operating on the Sengkang-Punggol LRT and the Changi Airport in Singapore.

ENGINES PRODUCT



Mitsubishi Heavy Industries Engine System Asia Pte. Ltd. was established in Singapore on 3 July 1981 as headquarters that manufacture Mitsubishi Generator Series aka "MGS" ranging from 385 kVA to 2750 kVA with manufacturing operations, sales, marketing, engineering, training and service activities. Our operation covers Asia Pacific and Middle East region. With two factories in Singapore and Vietnam to support the business coverage. Mitsubishi Heavy Industries Engine System Asia covers businesses like marine, industrial and large engines, gas and diesel generators.

AIRCRAFT



The CRJ series has been the world's most successful regional aircraft family for the last three decades. This aircraft is known to be reliable and the backbone of the world's air fleets connecting people and communities. MHIRJ provides comprehensive critical operational, engineering and customer support solutions including maintenance, refurbishment, technical publications, marketing and sales activities for the global regional aircraft industry. Headquartered in Montréal, Québec, and bolstered by an Aerospace Engineering Center, MHIRJ's network of Service Centers, Support Offices and Parts Depots are positioned in important aviation hubs in the U.S., Canada and Germany.

MATERIALS HANDLING



Mitsubishi Logisnext Asia Pacific Pte. Ltd. (MLAP) is working closely with other group companies located in all over the world to serve our customers throughout Asia, Oceania, and South Africa with forklift trucks, warehouse products, after sales services, and other material handling solutions. In addition to our extensive Logisnext global network, we have subsidiaries and affiliates companies that are located in China, India and Thailand.

MHI GROUP IN INDONESIA



PT. MITSUBISHI HEAVY INDUSTRIES INDONESIA

PT. MITSUBISHI POWER INDONESIA

PRIMETALS TECHNOLOGIES (INDONESIA OFFICE)

PT. POWER SYSTEMS SERVICE INDONESIA



PT. MHI ENGINE SYSTEM INDONESIA



POWER PLANTS

50 years in the past and another 50 years towards the future

Looking back over the past 50 years since MHI Group shipped its first steam turbine, the Group has continued to support the power generation business. We have produced 11,053 MW, and this indicates MHI Group contributes to over 30% of Jawa-Bali electricity systems. Currently, MHI Group is simultaneously constructing five power plants in Indonesia, which will have a total capacity of 5,800MW, and we are growing strong, hand in hand with local communities, by opening numerous service branches across the Asia-Pacific region. In the future, we will never cease striving for new technologies to help our world become an eco-friendly place where the next generation can surely prosper and shine bright.



Jawa-2 GTCC Construction Site

PRODUCT LINE UP

MHI group supplies a variety of power plants in accordance with application and scale.



Gas Turbine



ORC

GTCC (Gas Turbine Combined Cycle), Steam Power, IGCC (Integrated coal Gasification Combined Cycle), and Geothermal (Flash and Binary), with Gas Turbines, Steam Turbines, Boilers, Environmental Equipment, Generators, and ORC (Organic Rankine Cycle).

SOLUTIONS FOR BUSINESS

Working closely with other MHI Group companies, together we challenge new business opportunities and propose our variety of products, technologies, and other resources as a solution package to our partners or customers in addition to our conventional and routine business activities of a separate approach to each individual product.

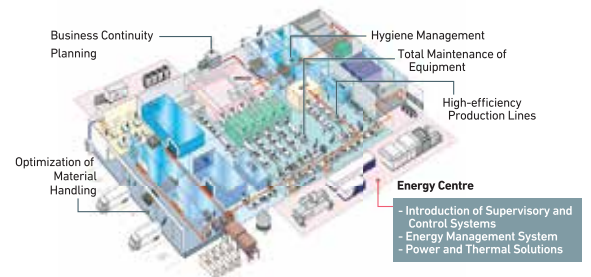


Gas Engine



Centrifugal Chiller

FACTORY SOLUTION



Various needs in every aspect of factory production can be solved simultaneously. MHI Group offers optimal solutions appropriate for diverse circumstances at production sites by applying unique experience and know-how gained through having its own factories. Our solutions can contribute to a range of applications beyond factories, i.e., industrial parks, airports, urban development, and more.

MHI GROUP IN MALAYSIA

REPRESENTATIVE OFFICES

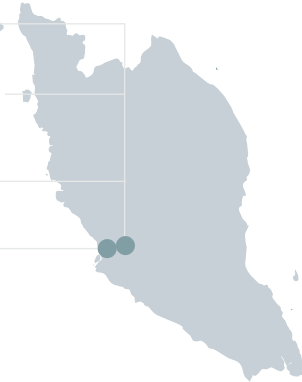
Mitsubishi Heavy Industries, Ltd.
•Kuala Lumpur Office

Mitsubishi Power Asia Pacific Pte. Ltd. Malaysia Branch
•Kuala Lumpur Office

MHI Energy & Environment
•(Malaysia) Sdn Bhd

CHILLERS

Toyo CR Sdn Bhd
•Shah Alam Office



Chemical Plants
Fertilizer/Petronas
Chemical (SAMUR)



Turbochargers
Various Motor
Companies



Power Plants
GTCC/TNB Port
Dickson/Kapar



Transportation
Track Work/Klang
Valley MRT1 Project



Gas & Diesel
Various Buildings



**Air-conditioning
Systems**
VRF Systems/
Various Buildings



Centrifugal Chillers
District Chiller/KLCC/
KLIA2



**Organic Rankine Cycle
(ORC) Power System**

CENTRIFUGAL CHILLERS OF KUALA LUMPUR CITY CENTRE AREA

In 2013, Mitsubishi Heavy industries (MHI) Group received an order for 13 large-size centrifugal chillers, with a total cooling capacity of 36,400 refrigeration tons (RT), for a large-scale district cooling system in the Kuala Lumpur City Centre (KLCC) area, a prime landmark in Kuala Lumpur, Malaysia's capital city. The order marked the largest-scale order of its kind the company has ever received, and MHI Group believes it resulted from the customer's recognition of the company's world-leading level in refrigeration efficiency and the environmental friendliness of its chillers. The "AART-280HPL" chillers ordered use HFC-134a, a chlorine-free and zero ozone depletion potential (ODP) refrigerant. Besides their usual use for air-conditioning, the chillers also serve as the thermal energy source equipment for an ice storage system. MHI group delivered the chillers to Gas District Cooling (M) Sdn.Bhd. - a subsidiary of Petroliaam Nasional Berhad (PETRONAS), Malaysia's national oil company - which oversees cogeneration and air-conditioning of the KLCC area. Dai-ichi Jitsugyo (Malaysia) Sdn. Bhd., a subsidiary of Daichi Jitsugyo Co., Ltd., was a consortium partner in providing the chillers.



Centrifugal Chiller AART-280HPL

SABAH AMMONIA AND UREA COMPLEX (SAMUR)



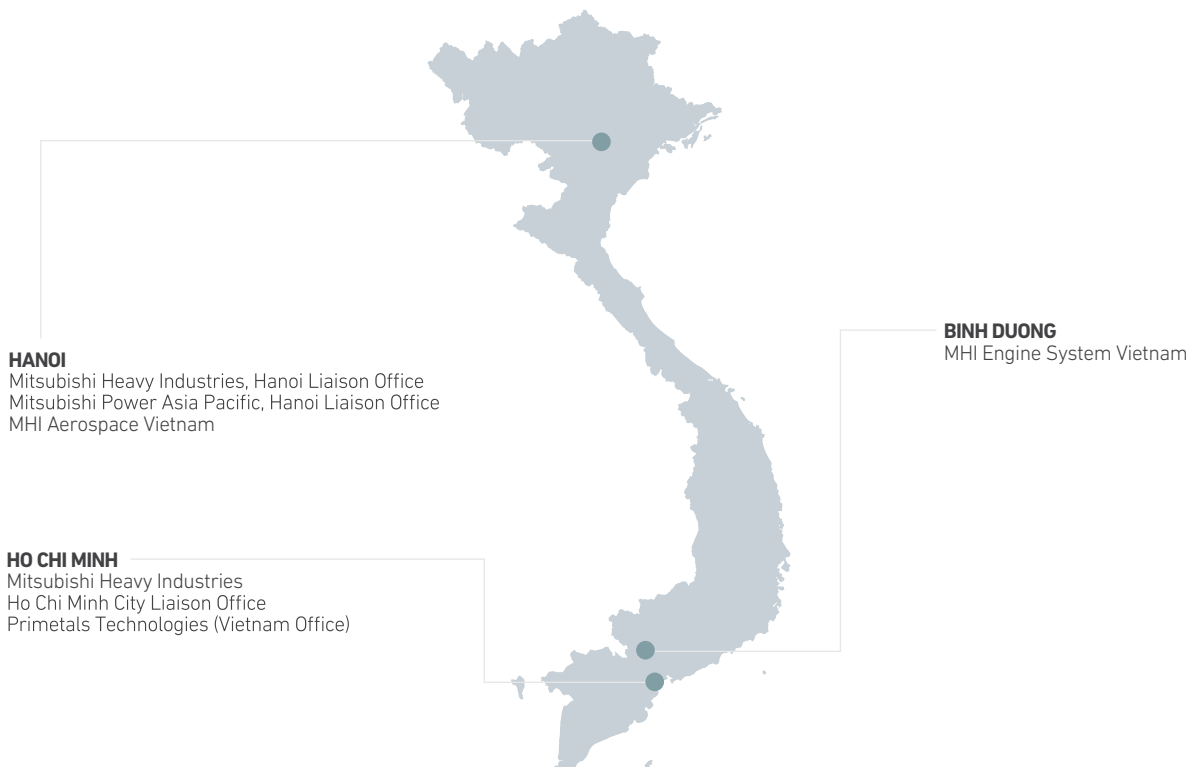
MHI Group, jointly with APEX Energy Sdn. Bhd. of Malaysia and PT Rekayasa Industries (REKIND) in Indonesia, received an order from PETRONAS Chemical Fertilizer Sabah Sdn. Bhd. (PCFSSB) for a project to construct a large-scale ammonia/urea fertilizer plant. In 2016, Sabah Ammonia and Urea Complex (SAMUR) began operations. PCFSSB is a subsidiary of PETRONAS Chemicals Group Berhad (PCG), which is an affiliate company of PETRONAS, the national oil company of Malaysia. The plant is the first large-scale fertilizer plant order from Malaysia in 15 years since MHI Group last received an order from PETRONAS in 1996.

FORKLIFT



The Mitsubishi forklift truck is powering the way forward in logistics excellence. This new generation electric truck is equipped with innovative features that simplify the movement of goods. It is redefining performance, while ensuring safety, reliability and sustainability. Low daily operating costs and reduced maintenance requirements have also resulted in outstanding economic efficiency.

MHI GROUP IN VIETNAM



DELIVERY RECORD



Centrifugal Compressor for Ninh Binh Coal & Gas Fertilizer Plant



Electrostatic Precipitator for Thai Binh Thermal Power Plant



KU/SU Diesel Engine Generator for VSIP (4.35MW/2MW x 2)



Steam Turbine Generator for Vina Kraft Paper (26MW)



PL-TCM (Pickling line Tandem Cold Mill) for Posco-Vietnam



Steam Turbine Generators for Nghi Son 2 Thermal Power Plant (600MWx2)



CO2 Capture Plant for Petrovietnam Fertilizer and Chemicals Corporation in Phu My



Shipbuilding Industry Corporation (SBIC)



Phu My 1 Combined Cycle Power Plant (1,090MW)



O Mon Thermal Power Plant 1-I (330MW)
O Mon Thermal Power Plant 1-II (330MW)

ACTIVITIES IN VIETNAM



Handed over to Vietnam Electricity in 2002, Phu My 1 GTCC 1090MW has been supplying stable power to the grid of Vietnam. At the time of starting COD in 2002, the plant capacity occupied for nearly 12% of the grid demand.

Phu My 1 GTCC continues to contribute its high reliability power to maintain the clean and stable energy to the development of Vietnam.



Mitsubishi Power, a power solutions brand of Mitsubishi Heavy Industries, Ltd. (MHI), joined hands with Itochu Corporation in a Consortium that has been supporting the customer through the LTA service. We are working on the 2nd LTA service.

Picture of Signing Ceremony of Extension of Long Term Agreement in November 2015

GENERAL INFORMATION

PLANT NAME	Phu My1
LOCATION	Ba Ria-Vung Tau, Vietnam
CAPACITY	1,090MW
CONFIGURATION	3-3-1, Multi-Shaft
FUEL	N.G / DO
COD	22nd Apr, 2002

PRODUCTS AND SOLUTIONS



Boilers

We have developed unique combustion technologies to handle different types of fuel, including coal, heavy oil, biomass and natural gas. Our boilers can operate under high steam temperatures of over 600°C and are very efficient and reliable.

With an operational track record in using biofuels in coal-fired boilers, we have the capacity to enable different levels of biomass co-firing. Our combustion technologies can be applied to newly developed plants as well as existing coal-fired boilers, allowing our customers to use biomass as either a primary, complementary, or blended source of fuel.



Air Quality Control Systems

Our world-leading Air Quality Control Systems (AQCS) reduce environmental impact of power generation through pollutant control technologies including selective catalyst reduction (SCR) systems for NO_x, electrostatic precipitators for soot and dust, and flue gas desulfurization (FGD) systems for SO_x.

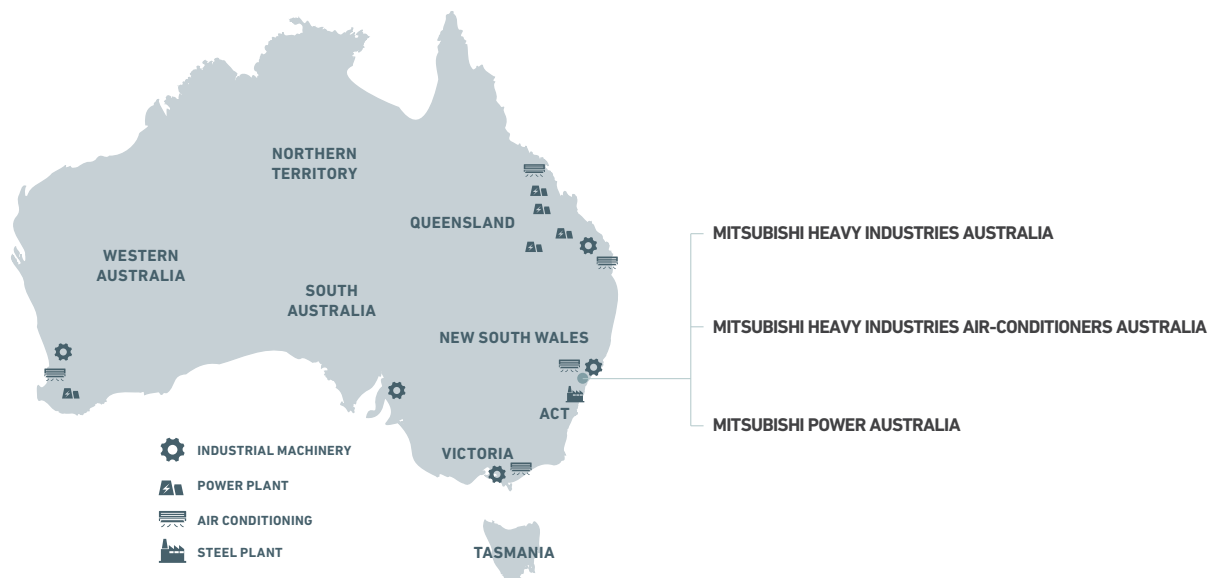
Mitsubishi Power has implemented over 1,400 SCR systems, 400 FGD systems including a Marine Exhaust Gas Cleaning System, and over 3,300 electrostatic precipitators to capture and contain pollutants, helping our customers attain their environmental targets.



Generators

We design and manufacture special generators to meet an array of customer needs, including synchronous condensers to achieve power-system stabilization as well as short-circuit generators for laboratories and institutes. Our highly efficient turbine generators employ a range of cooling systems, such as air cooling, hydrogen cooling, and water/hydrogen cooling.

MHI GROUP IN AUSTRALIA



DELIVERY RECORDS

1. INDUSTRIAL MACHINERY

Distribution network covering the nation for forklift, engine and construction machinery.

Engines



Diesel Generator set



Engine

Forklifts



2. POWER PLANTS



Total supplied capacity of 11.1 GW in thermal power generation.

3. AIR CONDITIONING



Supply of industrial and consumer system

4. STEEL PLANT



Supply of machinery for steel production

ACTIVITIES IN AUSTRALIA



Mitsubishi Heavy Industries Group signed a Memorandum of Understanding (MOU) with the Government of New South Wales in Australia to propose energy management solutions for development of Western Sydney region of Australia.



Mitsubishi Heavy Industries Group has agreed to make a capital investment in H2U Investments. MHI will target green hydrogen and ammonia exports to Japan and other countries going forward to deliver project engineering, Hydrogen Gas Turbines and Compressors to decarbonize local industries.



Mitsubishi Power, a power solutions brand of Mitsubishi Heavy Industries, Ltd. (MHI), received order of two M701F gas turbines from Snowy Hydro Limited for the Hunter Power Project in New South Wales, southeastern region of Australia.



Mitsubishi Heavy Industries Australia and Primetals Technologies will help Australia's iron and steel sector to decarbonize by joining the Heavy Industry Low-Carbon Transition Cooperative Research Centre.



Mitsubishi Heavy Industries Air-Conditioners Australia focus is supplying world-class, highly efficient, energy saving air conditioning solutions that offer comfort all year round and provide brands reassurance to all customers.

MHI GROUP IN INDIA

HARYANA

MHI Engineering and Industrial Projects India (MEIP), Gurgaon
Mitsubishi Heavy Industries India, Rohtak Office
LMB Engineering Office, Faridabad

GUJARAT

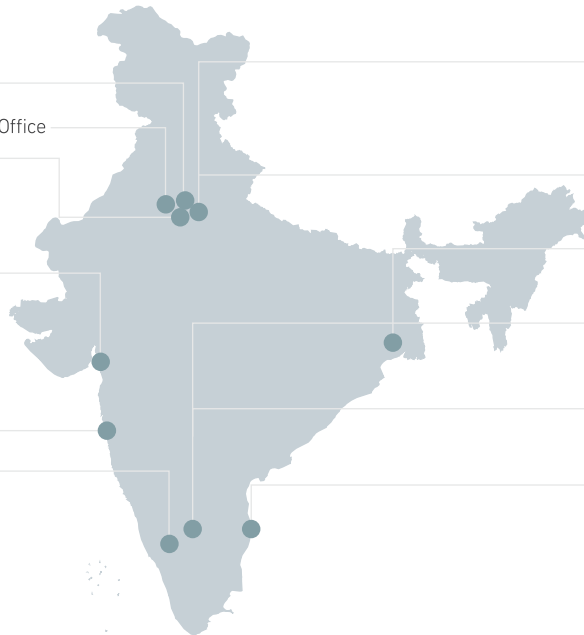
L&T-MHI Power Boilers (LMB) Hazira
L&T-MHI Power Turbine Generators (LMTG) Hazira

MUMBAI

Mitsubishi Heavy Industries, India, Mumbai Office
Concast (India)

MYSURU

Mitsubishi Heavy Industries - VST Diesel Engines (MVDE)



NEW DELHI

Mitsubishi Heavy Industries India New Delhi (Registered Office)
Regional HQ Office for South-West Asia

Mitsubishi Power India
New Delhi Office

KOLKATA

Primetals Technologies India (PT India)

BENGALURU

Mitsubishi Power India, Bangalore

Mitsubishi Heavy Industries, India
Bangalore office

CHENNAI

Logisnext India

ACTIVITIES IN INDIA



Energy

MHI Group has been responding to the growing energy demand through Mitsubishi Power India and its local JVs with L&T by supplying highly efficient supercritical-pressure steam turbines and boilers.

Supercritical-pressure coal-fired power generation is more fuel-efficient and friendlier to the environment. By reducing coal consumption relative to power output, carbon dioxide²(CO) emission can be reduced. However, it requires more sophisticated technology in equipment design to withstand the high temperature and pressure levels. Also the machining of high-strength component materials is much more difficult.



Environment

For thermal power plants, Government of India has revised Environment Protection Rules and applied more stringent norms. It is applied to new power plants and also to existing installations.

Mitsubishi Power, a power solutions brand of Mitsubishi Heavy Industries, Ltd. (MHI), is offering cutting-edge flue-gas desulfurization (FGD) systems to reduce emission of sulfur oxide (SOx) and soot dust, helping to clear and reduce air pollutants in India. The projects are executed through Mitsubishi Power's Indian subsidiary and include engineering, procurement, and construction (EPC) arrangements.



Metals

Indian metals industry has been in a mode of capacity expansion to meet a huge spurt in consumption due to rapid urbanisation, improvement in infrastructure, and growing youth population.

Primetals Technologies is continually at the forefront of the innovation for the metals industry. It is pioneering the solutions of tomorrow, so that the customers can cast their future based on efficient and environment-friendly operations.



Engines

Demand in India for industrial machinery, particularly small and medium sized tractors, keep increasing along with economic and population growth.

Mitsubishi Heavy Industries - VST Diesel Engines is ready to meet expanding demand for small sized diesel engines for various applications. We produce Mitsubishi Diesel Engines known for their compactness, light weight and durability in Mysuru, karnataka India. They are already the preferred choice of many manufacturers.

MHI GROUP IN PHILIPPINES

MITSUBISHI HEAVY INDUSTRIES ASIA PACIFIC PTE. LTD.

MANILA REPRESENTATIVE OFFICE [MHIAP-MRO]

- GR/CR for MHI Group's representative office in the Philippines
- Market research and business development for all group businesses

MITSUBISHI HEAVY INDUSTRIES ASIA PACIFIC PTE. LTD.

MANILA BRANCH [MHIAP-MB]

- Detailed design service for piping of various plant design [PEZA registered company]

MHI ENGINE SYSTEM PHILIPPINES, INC. [MHIES-P]

- Sales of Diesel Generator Set (MGS: Mitsubishi Generator Series) and Marine Engine
- After-sales servicing and spare parts

TES PHILIPPINES, INC. [TES-P]

- Maintenance and rehabilitation work for transportation systems

MITSUBISHI POWER ASIA PACIFIC PTE. LTD.

PHILIPPINE BRANCH [GSC:GLOBAL SERVICE CENTER]

- Remote monitoring service for Power Plants
- O&M Training for Power Plant main equipment

MHI POWER TECHNICAL SERVICES CORPORATION [MTS]

- Detailed Engineering Center
- Dispatch engineers to various Plant Construction phase
- Factory-1 Distributed Control System Assembly [PEZA registered company]

MITSUBISHI POWER (PHILIPPINES), INC.

- Design, fabrication, On-site work for Boiler
- Boiler, Turbine & Generator (BTG) Field Service Center [PEZA registered company]

MHI POWER (PHILIPPINES) PLANT SERVICES CORPORATION

- Development of After-sales in the Philippines (P-CAB License holder)



* PEZA:Philippine Economic Zone Authority
P-CAB:Philippine Contractors Accrediation Board

DELIVERY RECORD AND ACTIVITIES IN PHILIPPINES



Makban Geothermal Power Station



Tongonan Geothermal Power Station



Organic Rankine Cycle (ORC) Power System

POWER PLANTS

Mitsubishi Power, a power solutions brand of Mitsubishi Heavy Industries, Ltd. (MHI), holds a leading share of the world's geothermal power generating capacity, and other various fuel source power plant in Philippines.

Mitsubishi Power, as the only power generation system supplier with a manufacturing and service resources in the Philippines, is involved in 27% of the installed generation capacity in the Philippines and 36% of the Luzon grid, contributing to the stable supply of electricity (based on 2018 DOE Power Situation).

ORGANIC RANKINE CYCLE (RENEWABLE ENERGY POWER GENERATION SYSTEM USING WASTE HEAT)

Turboden S.p.A., a MHI Group Company and worldwide leader in ORC technology, was selected as the supplier of a 29 MWe geothermal power plant at the Bacon-Manito geothermal facility. As MHI Group company, MHI Power (Philippines) Plant Services Corporation has a robust track record in constructions of geothermal and steam power plants as well as provision of power solutions.



Boiler Factory in Bauan, Batangas

MANUFACTURING

Mitsubishi Power (Philippines), Inc. is acknowledged as a leader in design and manufacturing of Power Boilers and Industrial Boilers in the Philippines.



Metro Rail Transit 3



LRT Line 1 Capacity Expansion Project (II)

EPC AND MAINTENANCE

Mitsubishi Heavy Industries Engineering (MHIENG) and its Group company TES-P, together with its partner Sumitomo Corp., were contracted by DOTr for a rehabilitation and maintenance project for MRT-3, which was constructed by themselves as a full turnkey contract in 2000.

Furthermore, to expand the transport capacity of Metro Manila Light Rail Transit (LRT) Line 1 and to improve passengers' comfort by procuring new rolling stock cars and by improving existing facilities, MHI with its partner Sumitomo Corp., has completed EPC based full turn-key project "LRT Line 1 Capacity Expansion Project (II)" in 2007 on schedule under Japanese ODA loan successfully.



BRP Teresa Magbanua (MRRV-9701)



BRP Melchora Aquino (MRRV-9702)

SHIPBUILDING

Mitsubishi Shipbuilding Co., Ltd, a part of the MHI Group, constructed 97m two multi-role response vessels, the largest for the Philippine Coast Guard under Japanese ODA Loan needed for severe-weather rescue missions and patrolling in offshore and coastal zones, enhancing rapid response capabilities for maritime accidents and crime.

PRODUCTS & SERVICES



DIESEL ENGINE

Mitsubishi Generator Series (MGS) serves as an emergency power generation set widely used in shopping malls, office buildings, and condominiums in the Philippines, keeping customers up and running 24/7.



CENTRIFUGAL CHILLER

MHI Group provides energy-efficient thermal solutions for cooling and heating in residential and industrial settings as well as in the automotive and transport sectors.

From the semiconductor, automotive, and chemicals manufacturing plants to hotels, food suppliers, hospitals, and sports facilities, our centrifugal chillers are playing a critical role in supplying chilled water and maintaining a constant temperature to help support technological advancements and the comfort of modern-day society.



COMMERCIAL USE AND RESIDENTIAL USE AIR-CONDITIONERS

MHI Group offers a wide range of versatile and energy-efficient air conditioning systems for cooling and heating residential, commercial, and industrial environments.

Our stylish air conditioner for home use offers superior energy efficiency while ensuring a quiet, comfortable, and clean air-flow. We also offer a full line-up of high-performance air-conditioning systems ideal for offices, shops restaurants, and other commercial use, to match your specific business needs.



FORKLIFT

The Mitsubishi forklift truck is powering the way forward in logistics excellence. This new generation electric truck is equipped with innovative features that simplify the movement of goods. It is redefining performance, while ensuring safety, reliability and sustainability. Low daily operating costs and reduced maintenance requirements have also resulted in outstanding economic efficiency.



ENGINEERING

MHIAP-M and MTS are the engineering centers of MHI group in the Philippines.

- MHIAP-MB provides detailed design service for piping of various types of plant design.
- MTS provides detailed engineering design for multiple disciplines such as thermal, chemical, and oil & gas industries. MTS is also dispatching skilled supervisors to overseas projects under MHI-Group companies all over the world.

MHI Power Technical Services Corp.



AFTER-SALES

Providing customer oriented after service through its local entities for power generation and transportation system, seamless service will be provided to customers for all other products through MHIAP-MRO as the local point of contact.

One of the active example, MHIAP-MRO supports the after-sales service of Marine Machinery (Steering Gear, Turbocharger) for various type of vessels.



TOMONI HUB (ANALYTICS AND PERFORMANCE CENTER)

We house the only TOMONI HUB (at GSC, Alabang, Philippines) within the APAC region with remote monitoring capabilities and solutions for improving O&M of power plants based on early fault detection and optimized outage management, as well as data collection and forecasting analysis.



<https://youtu.be/DAVh2ij0tA>

MHI GROUP IN THAILAND

MITSUBISHI HEAVY INDUSTRIES (THAILAND) LTD. /MHIT

- Marketing support for MHI products/businesses
- After-sales service to customers of MHI industrial machinery, particularly: KU Engines, Food Packaging Machines, DIASYS Netmation Control System

MITSUBISHI POWER (THAILAND) LTD.

Marketing and information gathering for gas turbine combined cycle power plants, conventional power plants, integrated coal gasification combined cycle power plants, air quality control systems, fuel cells, etc.

EGAT DIAMOND SERVICE CO., LTD. /EDS

After-sales service of gas turbines in Thailand



NICHIYU ASIA (THAILAND) CO., LTD. /NAT

Retailing, lease & rental, after-sales service of "Nichiyu" electric forklifts



MITSUBISHI HEAVY INDUSTRIES

MAHAJAK AIR CONDITIONERS CO., LTD. /MACO

Manufacturing and sales of room & packaged air conditioners



MHI AUTOMOTIVE CLIMATE CONTROL (THAILAND) CO., LTD. /MCCT

- Assembly and sales of automotive air conditioner
- Manufacturing and sales of automotive air conditioning compressors



THAI COMPRESSOR MANUFACTURING CO., LTD. /THACOM

Manufacturing and sales of rotary compressors



MITSUBISHI TURBOCHARGER ASIA CO., LTD. /MTA

Manufacturing and sales of turbochargers



LOGISNEXT MANUFACTURING (THAILAND) CO., LTD./LMT

Manufacturing and wholesale of electric forklifts



SYNERGY TOWARD ENERGY SAVING/OPTIMIZING SOLUTIONS

Working closely with other MHI Group companies, together we challenge new business opportunities and propose our variety of products, technologies, and other resources as a solution package to our partners or customers in addition to our conventional and routine business activities of a separate approach to each individual product.

A good example of our successful challenge was the introduction of "DIASYS Netmation" DCS (Distributed Control System) to a customer for energy management with automatic monitoring and control of chiller operations. The system could provide the merits of energy cost savings and chiller performance monitoring, creating a possibility of chiller replacement with our high-efficiency turbo chillers.



"DIASYS NETMATION" CONTROL SYSTEMS FOR ENERGY MANAGEMENT

Energy Management System (EMS) offered by DIASYS Netmation provides integrated monitoring of the various facilities and utilities used inside customer plants, and by visualizing the state of plant-wide energy usage, support customers' analysis work and operational improvements aimed at efficient energy operation. The extensive line-up of visualization tools, analysis and state monitoring can be implemented from various aspects.

The energy management development cycle has 6 stages: planning, raw data analysis, designing, implementation, testing & integration, and maintenance & improvement of each individual facility. Not only the operator at site but also the authorized user out of the site can access the system via electronic gadgets as well to visualize the operation screens, energy demand and utilities cost report. Also, our EMS is open for client to access software design and to do modifications like logic modification, window layout change, automatic reporting arrangement, event alarm setup and historical trend display.



PAPER CONVERTING MACHINERY

With the good cooperation between Mitsubishi Heavy Industries Machinery Systems, Ltd and MHI-Thailand, we can deliver technical support and service for installation, maintenance, repair and upgrade of Corrugating machines and Box making machines to the customers in Thailand.

Mitsubishi corrugating machine is a world-class high performance corrugator in productivity, steady operation and quality features. Moreover, we have EVOL series, which is the flagship Box Making Machine providing great folding accuracy and the highest productivity speed in the world.

The latest newly developed "state-of-the-art" MC series has been launched in 2021 with the essential technologies of EVOL.

Hundreds of Mitsubishi Paper Converting Machinery have been installed in Thailand major carton box companies for decades and contributed to the growth of logistics industries.

