

Malaysia's **Machinery & Equipment** and **Engineering Supporting** Industries



The **MACHINERY & EQUIPMENT (M&E)** Industry

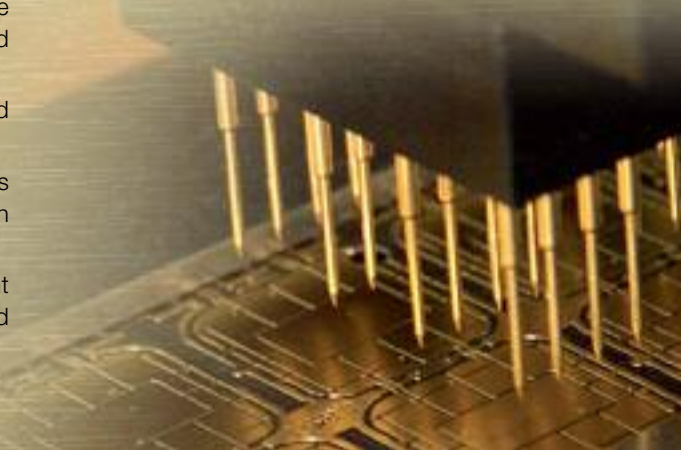
Malaysia has attracted major global M&E manufacturers such as AIDA, SKF, Ismecca, Emerson, MHE Demag, Bromma, Carrier International, OneSubsea, Aker Solutions, Halliburton, FMC, Schlumberger, Technip, Mühlbauer etc; which are currently taking advantage of the outstanding business environment here.

Malaysia - Your Location for M&E Investments

- Highly skilled manpower for research and development, and engineering design activities.
- A mature engineering supporting industry for the outsourcing of parts and components, and engineering services.
- Attractive incentives for the manufacturing and assembly of high technology and specialised M&E.
- A strategic gateway to the ASEAN market which has a combined population of more than 600 million people and total GDP of US\$2.31 trillion for 2013.
- Well-developed infrastructures including excellent land, sea and air connectivity, and integrated telecommunication systems.

Towards Regional Manufacturing and Distribution Hub

- ASEAN production hub for high technology M&E
- Regional distribution centre for M&E
- Centre of excellence for D&D, R&D and other related engineering services; including M&E upgrading & reconditioning
- Total solution provider for M&E and automation



Promoting M&E Growth

Machinery & Equipment (M&E) is one of the sectors identified to spur Malaysia into a high-technology nation, and as such, is one of major strategic importance.

To enhance growth and encourage investments in the M&E sector, the Government offers the following:-

- **Tax incentives:**
 - (a) Pioneer Status with tax exemption of 70% to 100% of statutory income for a period of 5 to 10 years, or
 - (b) Investment Tax Allowance of 60% to 100% on qualifying capital expenditure incurred within a period of 5 years. This allowance can be offset against 70% to 100% of the statutory income for each year of assessment.
- **The targeted M&E are:**
 - machine tools;
 - material handling equipment;
 - robotics and factory automation equipment;
 - packaging machinery;
 - specialised process machinery or equipment for specific industry; and
 - modules and components of the above
- **Reinvestment Allowance** of 60% on qualifying capital expenditure for 15 years.
- **Import duty exemption for machinery and equipment; spare parts and consumables; and raw materials and components.**



Opportunities

The development of the M&E industry emerged primarily to serve the agro-based and tin mining sectors. Due to the rapid pace of industrialization of the country, the M&E industry has transformed from the general fabrication and machining works to assembly of higher-end machinery modules and components including heavy M&E manufacturing.

Exports of M&E have exceeded more than RM27.3 billion (US\$9.1 billion) in 2013 and are expected to grow at an average annual growth rate of 6.7 per cent to reach RM48.3 billion (US\$16.1 billion) in 2020. Export destinations include Singapore, USA and China.

Imports have also increased from RM31.9 billion (US\$10.6 billion) in 2000 to RM54.5 billion (US\$18.2 billion) in 2013, indicating Malaysia's dynamic and rapidly growing manufacturing sector.

Exports

Sub-Sectors	2008	2009	2010	2011	2012	2013	Major Destinations
	RM bil (US\$ bil)						
Power Generating M&E	2.7 (0.9)	2.2 (0.7)	2.4 (0.8)	2.4 (0.8)	2.2 (0.7)	2.0 (0.7)	Singapore, USA, Japan, Germany, UK
M&E for Specific Industries	5.7 (1.9)	5.8 (1.9)	6.9 (2.3)	7.7 (2.6)	8.6 (2.9)	9.8 (3.3)	Singapore, USA, Japan, Indonesia, Thailand
Metalworking M&E	1.4 (0.5)	0.9 (0.3)	1.2 (0.4)	1.4 (0.5)	1.2 (0.4)	1.3 (0.4)	Singapore, Hong Kong, Japan, USA
General Industrial M&E, Components and Parts	12.1 (4.0)	10.2 (3.4)	10.9 (3.6)	12.2 (4.1)	13.2 (4.4)	14.2 (4.7)	Singapore, Hong Kong, Japan, USA, Australia
TOTAL	21.9 (7.3)	19.1 (6.3)	21.4 (7.1)	23.7 (7.9)	25.2 (8.4)	27.3 (9.1)	

Imports

Sub-Sectors	2008	2009	2010	2011	2012	2013	Major Sources
	RM bil (US\$ bil)						
Power Generating M & E	10.3 (3.4)	9.3 (3.1)	8.7 (2.9)	9.2 (3.1)	10.7 (3.6)	10.9 (3.6)	USA, Japan, Singapore, China, Thailand
M & E for Specific Industries	12.3 (4.1)	10.4 (3.5)	13.7 (4.6)	15.6 (5.2)	15.5 (5.2)	16.3 (5.4)	Japan, Germany, USA, Taiwan, Singapore
Metalworking M & E	4.0 (1.3)	3.0 (1.0)	4.5 (1.5)	4.1 (1.4)	4.8 (1.6)	4.2 (1.4)	Japan, Germany, USA, Taiwan, Singapore
General Industrial M&E, Components and Parts	16.7 (5.6)	15.4 (5.1)	17.0 (5.7)	18.1 (6.0)	21.9 (7.3)	23.1 (7.7)	Japan, USA, Germany, Singapore, Taiwan
TOTAL	43.3 (14.4)	38.1 (12.7)	43.9 (14.7)	47.0 (15.7)	52.9 (17.7)	54.5 (18.1)	

US\$ 1 = RM3

The growth of Malaysia's M&E industry is driven by the continuous inflow of both foreign direct investments and domestic investments in various sectors; among the major sectors are semiconductor, electrical & electronics, automotive, oil & gas, aerospace, medical and food processing. More than 1,700 companies with around 540,000 employees are active in these sectors. The need for high-technology M&E in these industries is key to their survival within a global environment and will accordingly continue to grow in the future.

In 2013, the total market size for the M&E sector for selected ASEAN countries (Malaysia, Singapore, Thailand & Indonesia) was estimated at US\$30.4 billion, in which Malaysia contributed about 30 per cent of the value. Malaysia is a strategic gateway to the ASEAN market which has a combined population of more than 600 million people and total GDP of US\$2.31 trillion for 2013.

Not only will M&E production continue to be the field of interest for foreign investment, other areas of the value chain also provide opportunities for profitable investment. Service and maintenance, repair and overhaul (MRO) are also in high demand due to high density of plants and M&E installations in this region.

Malaysia's M&E Sectors

Malaysia's M&E manufacturing offers opportunities in four major sub-sectors:

- Specialised process machinery or equipment for specific industry
- Metalworking machinery
- Power generating machinery and equipment
- General industrial machinery & equipment, components and parts

1. SPECIALISED PROCESS M&E FOR SPECIFIC INDUSTRIES

This sub-sector refers to M&E which is specifically designed and customized for use in a specific sector or process. Industries targeted include **oil and gas, electrical & electronics, solar/ photovoltaic, semiconductor, medical, aerospace, automotive, packaging, plastic extrusion & injection, agriculture, etc.**

In the **oil & gas sector**, the world's leading manufacturers of machinery and equipment have located their operations in Malaysia for deep water production equipment. With increasing growth of deep water activities in South China Sea and off North-West Australia, the market for subsea oil and gas production equipment and technology is expected to increase.

In the **electrical & electronics sector**, Malaysia is a production base for the world's top electronics companies such as Intel, Freescale, Renesas, Agilent, Hitachi, Infineon, Texas Instrument, National Semiconductor, and X-Fab. In addition, world's top solar companies i.e. First Solar, Q-Cell and AUO Sunpower have set up their operations in Malaysia. M&E manufacturers have the advantage of producing machinery at competitive prices and benefit from the close proximity to clients for back-up service and after sales service. The local companies are capable of producing various types of M&E with international quality standards for these manufacturers.

In the **packaging sector**, the focus is on automated packaging M&E for food & beverages, cosmetics, pharmaceutical, etc. which include bottling machinery, wrapping and shrink wrapping machines, sorting and grading machines, filling and sealing machines, etc.

The increasing mechanization of the **agriculture sector** has spawned investment opportunities in the manufacturing of M&E to meet the needs of the sector. Agricultural M&E manufactured/ assembled by the local companies include rotavators, rotaslashers, fertilizer spreaders, tractors, mulchers, related attachments, poultry rearing & processing equipment, and egg cleaning, grading & packing machines.

The **plastic sector** is considered a well established industry in Malaysia. However, there are currently only three local companies manufacturing plastic extrusion machines.

Specialised M&E for Specific Industries

Imports in 2013 : RM 16.3 Billion (US\$5.4 Billion)

Exports in 2013 : RM 9.8 Billion (US\$3.3 Billion)

Major Companies in Production:-

(i) Oil & Gas M&E:

- Exploration and production
 - FMC
 - Aker Solutions
 - OneSubsea
 - Halliburton
 - Asiaflex
 - Baker Hughes
 - Schlumberger
- Engineering and fabrication
 - Sime Engineering
 - KNM Group
 - SapuraKencana
 - MMHE

(ii) Electrical & Electronics M&E:

- Semiconductor
 - SRM
 - Kobay Technology
 - ViTroX
 - Ismeca
 - Upeca Equipment
 - Pentamaster
- Solar
 - Stoppani
 - Greotech Integration
- Hard disc drive
 - Genetec
- LED
 - AGS Automation
 - Dominant Opto Technologies

(iii) Packaging M&E:

- Fluidmech Engineering
- Serac Asia
- Master Hi-Tech

(iv) Agricultural M&E:

- Cultivation
 - Emdek Engineering
 - Howard Alatpertanian
 - Changlin Machinery
 - Sime Darby TMA
- Poultry
 - BD Agriculture
 - Eurasia
 - Nabel Asia
 - GSI Asia

(v) Plastic Extrusion Machine:

- Micromagna Engineering
- Sunrich Engineering
- Sama Plastic



2. METALWORKING MACHINERY

The metalworking machinery sub-sector presents vast opportunities in the manufacture of M&E such as **laser cutting machines, machining centres, electro-discharge machines (EDM), milling machines, drilling machines, lathes, shearing machines, bending rolls, stamping machines, press brakes, forging machines and presses.**

Several Malaysian and Malaysian/Foreign joint-venture companies are currently undertaking the manufacturing of metalworking machinery for the automotive, electrical & electronics as well as other engineering supporting sectors.

AIDA, a world renowned leading Japanese metal forming system builder, is currently engaged in the manufacture of high precision single/ double crank mechanical and servo presses from 80 to 300 tonnes. It exports 90% of its products to Asia Pacific, North and South America and Europe.

Li Chin is also a major exporter, with 50% of its hydraulic and power presses being exported to Brazil, Taiwan, Thailand, Vietnam, Singapore and China.

Local company, Sunfluid Engineering, manufactures various types of hydraulic machines, with press capacity ranging from 20 to 3,000 tonnes for the local market and for export to ASEAN countries, Saudi Arabia and Japan.

There is great potential for the manufacture of metalworking machinery and the government's emphasis is on high technology, NC and CNC machines.

Metalworking Machinery

Imports in 2013 : RM 4.2 Billion (US\$1.4 Billion)

Exports in 2013 : RM 1.3 Billion (US\$0.4 Billion)

Major Companies in Production:-

- AIDA Engineering
- Li Chin (S.E.A.)
- Sunfluid Engineering
- Hydra-Link Engineering
- Eonmetall Technology
- Technology Park Malaysia



3. POWER GENERATING MACHINERY AND EQUIPMENT

The power generating M&E sector mainly comprises boilers, condensers, electric generating sets, turbines and engines.

Malaysia is currently the largest manufacturing hub for boilers in the South East Asia region. Most of the boilers manufactured cater for the local demand, which is estimated at 150 units per annum from various industries ranging from oil & gas, oleochemicals, petrochemicals, food and beverages, palm oil, rubber, wood, textile and hospitals.

Local producers have the capabilities to manufacture internationally acclaimed products and supply industrial boilers such as utility boilers, water tube boilers, fire tube boilers, package boilers and combination boilers. These boilers are exported to neighbouring countries such as Indonesia, Philippines, Thailand and Cambodia.

Apart from boilers, four companies are producing generating sets for power plants, refinery, exploration platforms, petrochemical plants and commercial buildings. The generators are also exported to countries such as Singapore, Cambodia and Korea.

Opportunities exist for the manufacture and reconditioning/ refurbishing of industrial turbines and components with several companies in operations.

Power Generating M&E

Imports in 2013 : RM 10.9 Billion (US\$3.6 Billion)

Exports in 2013 : RM 2.0 Billion (US\$0.6 Billion)

Major Companies in Production:-

(i) Boilers:

- Mechmar Boilers
- Vickers Hoskins
- Advance Boilers
- Amalgamated Metal Corp.
- Enco Systems
- Petra Boilers
- Tenaga Tiub
- Transtherm Engineers

(ii) Generators:

- Sime Darby Industrial
- UMW Industrial Power
- Hong Seng Generator
- MTU Services

(iii) Turbines and components:

- Turboservices Overhaul
- Noorisba Energy
- Serba Dinamik Turbo Machinery
- Galaxy Energy Technologies



4. GENERAL INDUSTRIAL MACHINERY AND EQUIPMENT, COMPONENTS AND PARTS

The **general industrial machinery and equipment, components and parts sub-sector** covers a broad category of products such as **air-conditioning plants, cold room equipment, elevators, cranes, conveyor systems, pumps, compressors, welding machines, fans & blowers, heat exchangers, pressure vessels, filtering equipment, valves, bearings, gears, actuators, etc.**

In the field of tower crane manufacturing, Malaysia is currently one of the three leading countries in Asia, after Japan and People's Republic of China. Favelle Favco Berhad is now one of the leading companies in the world for high speed heavy lifting tower cranes and oil & gas pedestal cranes.

Generally, M&E manufacturers undertake R&D, engineering design, fabrication, assembly and testing operations relying on outsourcing for components and parts. This has helped spur the growth and development of the local engineering supporting industries which are relatively strong in the field of metal fabrication and machining services. They also provide fundamental or intermediate technologies such as die casting, pressing/stamping, heat treatment, plating and metal surface treatment/finishing.

General Industrial M&E, Components and Parts

Imports in 2013 : RM 23.1 Billion (US\$7.7 Billion)

Exports in 2013 : RM 14.2 Billion (US\$4.7 Billion)

Major Companies in Production:

(i) Elevators:

- MS Elevators
- Kone Elevator
- UWC Technology
- Eita Pacific

(ii) Conveyor/ Factory Automation:

- Cheng Hua Engineering
- AT Engineering Solution
- General System Engineering
- FlexMove System
- AFA Technologies

(iii) Air-Conditioning Plants:

- Dunham-Bush
- OYL Industries
- TM Air Conditioning
- Carrier International
- Citec International

(iv) Pressure Vessels/ Process Equipment:

- KNM Process Systems
- Amalgamated Metal
- Aker Process Systems.
- Mechmar

(v) Cooling Towers:

- BAC Cooling Technology
- Linear Cooling Industries
- Panwater Engineering

(vi) Cranes:

- Favelle Favco
- Impsa Malaysia
- MHE Demag
- Top Mech Provincial





Examples of Leading Local and Foreign M&E Companies in Malaysia

AIDA, a world renowned leading Japanese metal forming system builder, is currently engaged in the manufacture of high precision single/double crank mechanical presses from 80 – 300 tonnes. The company is planning to further strengthen its presence in Malaysia and also has an expanded worldwide market with more competitive supreme quality products. AIDA exports 90% of its products to Asia Pacific, North & South America and Europe.

Cheng Hua specializes in providing total integrated engineering solutions for material handling and conveyor system. The company is backed by a long and respectable legacy spanning over four decades of automated material handling system design, manufacture, installations and software solutions. The company's capability and capacity to innovate and serve their customers with highly reliable and cost effective customized solutions has allowed them to maintain a strong market position as a 'system integrator' and partner-of-choice with many of the key customers in automotive, tyre manufacturing and logistics industries. 80% of the company's total revenue comes from its export sales to ASEAN countries, Europe, India, Australia, South Africa, America, and Middle East.

Favelle Favco and Kroll Cranes, two world renowned crane manufacturers are now wholly owned subsidiaries of Favelle Favco Cranes Holding Sdn. Bhd., a Malaysian owned crane manufacturer. Favelle Favco designs and manufactures a full range of cranes for various industries, from construction to the oil & gas, ports and shipyards. The company has taken the initiative to devote substantial resources and investment to gain both local and international acceptance for its range of products. Today, Favelle Favco's Malaysian-made cranes are exported to United States, Australia, New Zealand, China, Korea, Indonesia, Europe, Middle East and Africa.

KNM Process Systems is a fabricator and manufacturer of process equipment for the oil and gas, petrochemical and power industries, and provides engineering, procurement and construction services for process units and plants since 1990. KNM designs and manufactures specialized process equipment of high-tech, large diameter, high pressure, super heavy above 1000 tonnes per unit and super long (over 100m) per unit for the oil, gas and petrochemical industry. KNM today is a world-class process equipment manufacturer and an international turnkey storage facilities provider.

MS Elevators, an established joint venture company between Malaysians and Toshiba Elevators & Building System Corporation of Japan, started manufacturing elevators and escalators in 1988. In 1996, the company established its own design & development center including software development. Over the years, MS Elevators has developed a group of competent vendor supply chain and currently 90% of the parts and components are sourced within Malaysia. MS Elevators has also successfully designed and manufactured its latest Energy Saving Permanent Magnet Synchronous Motor (PMSM) with TUV and CE certifications. MS Elevators exports 50% of its products to the ASEAN countries, Middle East, Eastern Europe, India, Bangladesh, Australia and Eastern Africa.

Mühlbauer Group which was founded in 1981 has grown into a one-stop-shop technology partner with nearly 3,000 employees, technology centers in Germany, Malaysia, the US and Slovakia, and a worldwide sales and service network. Today, the group is the world's market leader in innovative systems and software solutions for the production and personalization of cards, passports and RFID applications. Other business fields include the areas of die sorting, carrier tape as well as production solutions for flexible solar technology. To support its M&E production, the group has its own precision parts manufacturing facilities in-house.

Sunfluid is Malaysia's pioneer in manufacturing sheet-metal working machinery. Since 1988 the company has been making reliable and high quality hydraulic shear, hydraulic press brake, bending machines and other custom-built machines. Sunfluid's range of products also include factory automation development and trading of machine tools.

ViTrox Technologies specializes in the manufacturing of high-speed machine vision inspection systems for the semiconductor industry. The company provides innovative vision inspection solutions to a broad range of semiconductor IC packages for major semiconductor manufacturers from Malaysia, Thailand, the Philippines, China, Taiwan, Japan, Korea, India, Europe and the United States of America. ViTrox Technologies also designs and manufactures high specification Automated Optical Inspection (AOI) machines for bare-board rigid and flexible PCB.

Conducive Environment for Investment

Malaysia's market-oriented economy forms an encouraging backdrop for M&E companies. The pro-business policy of the Government, attractive incentives, good infrastructure, and educated and trained workforce and laws that govern ethical business practices are among the many reasons Malaysia stands tall as a leading investment centre in this region.

"The company has immense confidence in Malaysia as the hub of ASEAN trading. We intend to establish a design centre in Malaysia and to transfer our superior knowledge of high technology production into the country."

AIDA Engineering (M) Sdn. Bhd.

"Malaysia's market-oriented economy, supportive government policies and a large local business community that is ready to do business with international corporations have made Malaysia an attractive export-based manufacturing hub in the region."

Cheng Hua Engineering Works Sdn. Bhd.

"Malaysia's industry-friendly incentives and stable economic policies allow companies tapping into the global market to remain competitive with countries like Korea, Taiwan, Japan and the EU."

Fluidmech Engineering Sdn. Bhd.

"Malaysia has an advantage due to the country's political stability and quality workmanship."

KNM Process Systems Sdn. Bhd.

"Malaysia has a stable government that provides good business climate and economy driven policies, and is supported by good quality and reliable workforce for sustainable economy growth."

MS Elevators Sdn. Bhd.

"Malaysia's industry-support incentives, the economically driven policies as well as a well-educated and reliable workforce have enabled Mühlbauer to remain competitive in an increasingly price-driven global market."

Mühlbauer Technologies Sdn. Bhd.

"An export driven economy blessed with a ready pool of skilled labour provides a safe haven for companies operating in the country."

Transtherm Engineers Sdn. Bhd.

"Malaysia is ideal for equipment design and development. It also has strong supporting industries to facilitate equipment manufacturing."

ViTrox Technologies Sdn. Bhd.





The **ENGINEERING SUPPORTING** Industry

In Support of Growth Opportunities

The engineering supporting industry in Malaysia has developed to be an important driving force for growth of not only the M&E industry, but also for every industry sector. Malaysia's engineering supporting industry has earned strong international recognition for its world-class manufacturing standards. With the long-standing presence of various MNCs within the country, the industry possesses the expertise and experience to supply products and services that are globally competitive in quality, value and delivery time.

There are over one thousand engineering support and services companies in Malaysia which include **integrated or total solution providers**. These companies have advanced themselves to supply **low volume** and **high mix** types of parts and modules to cater for the outsourcing and procurement needs of high technology industries.

Malaysia - Your Preferred Location for Outsourcing

Malaysia has much to offer to companies searching for a strategic and cost effective engineering supporting outsourcing destination. With its ideal location in the heart of Southeast Asia, a mature and stable economy backed by an integrated infrastructure, it is of little surprise that foreign interest has been growing. There is also the added benefit of government-backed investment incentives.

The key to considering Malaysia as the region's engineering supporting outsourcing hub of choice is the concept of value and quality. Foreign firms have chosen to remain in Malaysia and many more are looking for joint ventures or seeking to bring business to the country simply because they enjoy promising rates of return. Malaysia is an extremely competitive destination for regional outsourcing of engineering supporting services and the nation looks forward to welcoming future investors.

Incentives

To enhance growth and encourage investments in the engineering supporting sector, the Government offers the following:

- **Tax incentives:**
 - (a) Pioneer Status with tax exemption of 70% on statutory income for a period of 5 years, or
 - (b) Investment Tax Allowance of 60% on qualifying capital expenditure incurred within a period of 5 years. This allowance can be offset against 70% of the statutory income for each year of assessment.
- **Reinvestment Allowance** of 60% on qualifying capital expenditure for 15 years.
- **Import duty exemption for machinery and equipment; spare parts and consumables; and raw materials and components.**



Malaysia's Engineering Supporting Sector

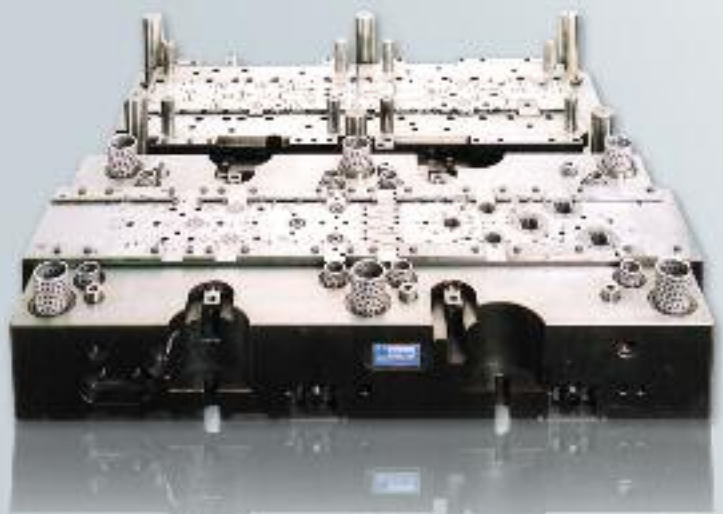
Malaysia's engineering supporting industry consists of the following distinct sub-sectors:-

- Moulds and Dies
- Machining
- Metal Casting
- Metal Stamping
- Surface Engineering
- Heat Treatment
- Forging
- Metal Fabrication



Moulds and Dies

- This industry is recognized as a leading engineering supporting industry.
- Malaysian's mould and die industry has the capability to manufacture most types of moulds, dies and tooling to complement the needs of the manufacturing sector.
- About 400 companies are in operation and some of the leading companies include Sum Hing Engineering Works, Megatool Precision, Sun Tong Seng Mould-Tech, H&L Engineering, HH Precision Mould, Fuji Dies Kogyo, A-FOSS Zeno and Dynamic Mould.
- Opportunities and large market potential exist for large moulds & dies which are more than 10 MT.
- The Government has set up the National Centre for Machinery and Tooling Technology to provide additional boost to the development of the local mould & die industry. The Centre provides R&D, design, consultancy, training and facilities rental services to the local mould & die industry and the manufacturing sector in general.





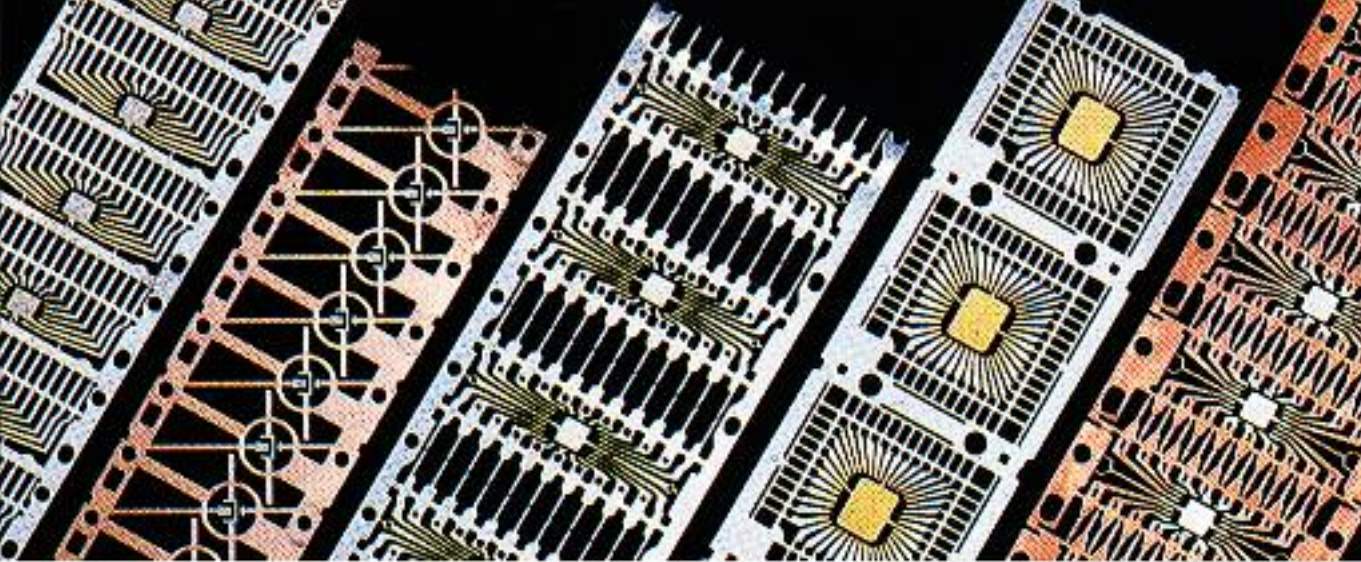
Machining

- The local machining industry is able to meet most of the country's machining needs and provide total machining solutions to the manufacturing sector.
- Companies in the industry have attained high levels of technological capabilities and utilize state-of-the-art CNC machine tools for most of their operations. Some of the highly integrated machining solution providers can work to tolerances as low as 1 – 5 microns.
- A number of companies have diversified into the design and manufacture of automation systems and equipment, particularly for semiconductor, electrical and electronics industries.
- About 200 companies are in operation undertaking specialized precision services and general supporting machining services.
- Major companies include Kobay Technology, UPECA Engineering, Eng Teknologi, Ohta Precision, Paradigm, TNH Metal Engineering, Ultimate Manufacturing Solutions, UWC Holdings, AKTY Technologies, Alpha Precision, Wanjun Precision Machining, Synturn and SME Aerospace.
- Opportunities and large market potential exist for specialised machining services for selected industries i.e. oil & gas, aerospace and medical.

Metal Casting

- The foundry industry in Malaysia over the last 50 years has attained a significant level of technological expertise in serving the traditional industries of tin, rubber and palm oil.
- About 70 companies are currently in operation making castings for engineering spare parts, quality machinery spare parts, pumps and pump parts, palm oil mill machinery parts, automotive components, elevator parts and other machinery parts.
- Leading companies with comparatively modern facilities such as Yoonsteel, MMC Metal, Swanmet Engineering, Metalock Casting, Hicom Diecastings and Lestari Casting produce castings of good quality and low dimensional tolerances in compliance to International Standards for both local and export markets.
- Opportunities and large market potential exist for large component casting (of more than 10MT) and custom-made sandcasting.



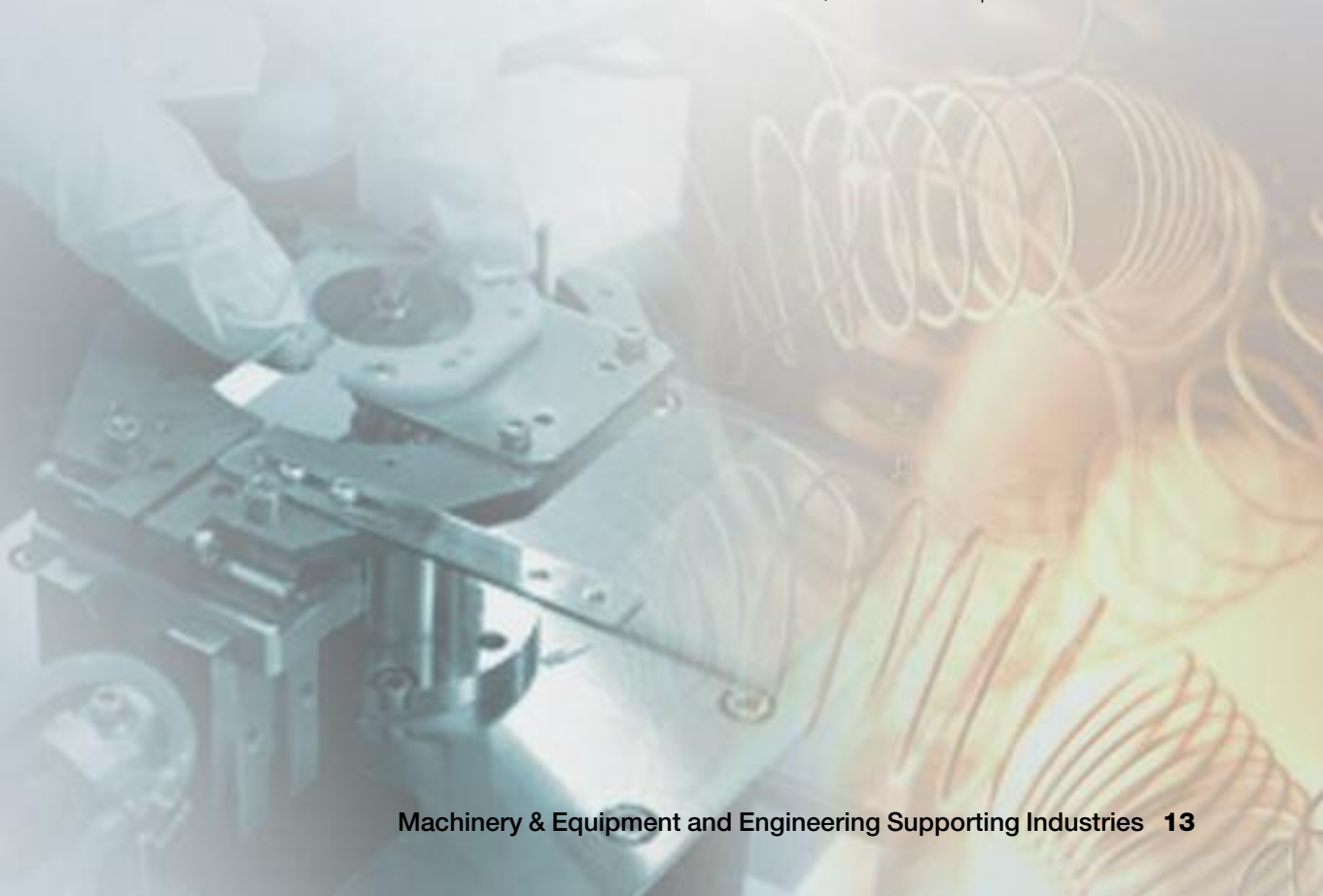


Metal Stamping

- The metal stamping industry in Malaysia is an established industry supplying stamped parts to a wide range of industries such as electrical and electronics, automotive, machinery and equipment, precision measuring and testing equipment.
- The industry has acquired the capacity and technical capabilities to serve the various market needs of multinational corporations such as Panasonic, Sony, Hitachi, Toshiba, Dell, Yamaha, Thomson, Philips and Hewlett Packard.
- There are about 300 companies in operation throughout Malaysia with leading companies such as JP Metal, Kobakin, NJ Manufacturing, Cybron TL, Wong Engineering, Kein Hing, KM Precision, DZ Capital, VSP Technology, Tohoku-Wada and Seksun Precision.

Surface Engineering

- The industry has the capability and capacity to cater for most of the requirements of the manufacturing industry which include a variety of plating operations such as batch and continuous precision electroplating, electroless plating, cathodic electrodeposit, phosphating, passivation, anodizing, chromating, sinter plating and physical vapour deposition.
- About 40 companies are in operation which include leading companies such as Dipsol, Metek Kitamura, SII Ishizaki and Jiwei.
- These companies are currently servicing the needs of notable multinationals such as Resesas, Panasonic, Toshiba, Hitachi, Infineon, Agilent, Fairchild and Osram in the electrical and electronics and automotive industries.
- Opportunities and large market potential exist for services for the oil & gas, aerospace, medical, LED and solar/photovoltaic industries.





Heat Treatment

- Malaysia's heat treatment industry offers continuous mesh-belt heat treatment, vacuum hardening, carburizing, carbonitriding, nitriding, nitro-carburizing, annealing, normalizing and tempering for a diverse range of metal products.
- Heat treatment services on high carbon steel and alloy steel materials such as moulds and dies, critical parts for bearings and automotive components are the latest additions to the list of products already serviced which include bolts, nuts, shafts, gears, pins and springs.
- The heat treatment service industry in Malaysia has about 20 companies in operation, which include leading companies such as Micromagna Engineering, Yeh Chang Heat Treatment, Tohken, Oriental Heat Treatment, Umetoku, Vital Scale, HK Lamination and Yong Shen Heat Treatment.
- Expansion activities in the mould and die, as well as the M&E manufacturing industries, and production of downstream products of iron and steel, secondary products, automotive parts and component manufacturing offer good prospects for the growth of the heat treatment service industry. Investments in new ventures with state-of-the-art facilities that are also environmentally friendly are encouraged, especially those incorporating the latest vacuum carburizing and vacuum hardening technology.

Forging

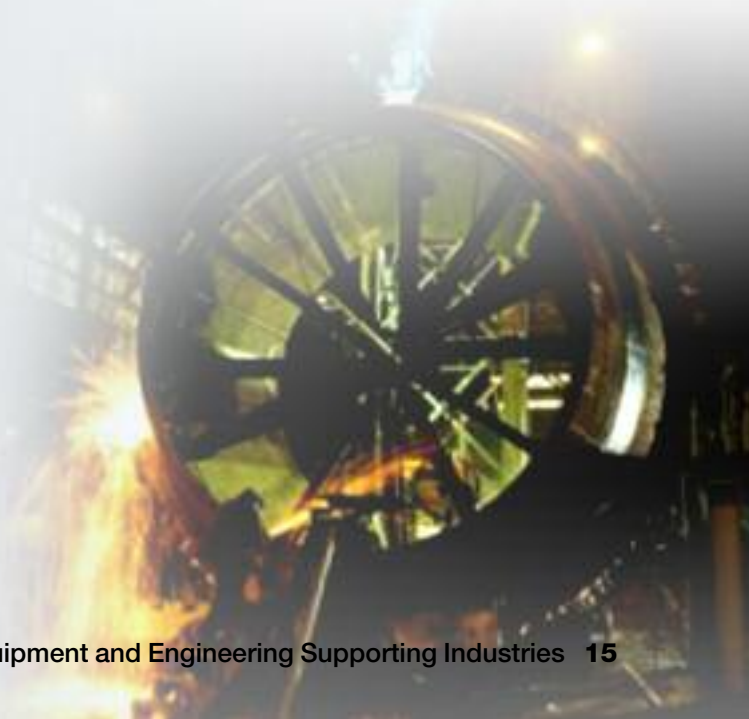
- Malaysia's forging industry comprises of companies producing small and medium forged parts for the automotive and general manufacturing sector. Most of the companies have the capabilities to produce components of up to 200mm in size and 50kg in weight with press machine capability ranging from 16MT to 600MT.
- The forging industry in Malaysia has 7 major companies in operation namely Billion Fortune, YMC Forging, MKF Metal & Plastic Industries, Kentzu Industries, Unique Forging & Components, Geen Screw Industries, and Power Steel & Electro-Plating Works.
- The setting up of many leading global oil and gas M&E manufacturers in Malaysia such as FMC, Aker Solutions, Halliburton, Cameron International and Technip provides opportunities and large market potential for large forgings, not only to support the oil & gas industry in the country but also to cater for the requirements of the region. All requirements for large forgings are currently being imported from overseas i.e. Korea, Italy, Germany, India and other Eastern European countries.





Metal Fabrication

- Metal fabrication activities in which Malaysian companies have developed world-class capabilities can be classified into four categories; namely fabrication for the offshore/onshore oil and gas industry; building and civil construction fabrication; fabrication of processing and manufacturing plants and industrial machinery and equipment structures and component fabrication.
- Local companies undertake fabrication for the offshore/onshore oil & gas industry which includes fabrication works for the offshore oil drilling platform requirements such as jackets, production modules, platform decks, accommodation modules, line-pipe & spool and related industrial onshore activities such as petroleum refineries, petrochemical plants and storage facilities.
- In the building and civil construction fabrication category, local companies fabricate steel superstructures for high-rise buildings, bridges, flyovers, transmission towers and other infrastructural facilities such as ports and airports.
- In the processing and manufacturing plant fabrication, companies undertake turnkey projects to build, install and commission processing plants in the country.
- As for the industrial machinery & equipment structures and components fabrication category, many companies have the capability to supply the needs of the local machinery & equipment manufacturing industry.
- The metal fabrication industry in Malaysia is considered a fairly established industry. In the building and construction industry many local fabrication companies have begun to source for jobs outside Malaysia. As a result, several local fabricators have gained international recognition in this industry.
- Leading Malaysian companies which are serving this sector include KNM Group, SapuraKencana, Dialog, Sumatec, Sime Darby Group, Scomi and MHB.



MIDA's Headquarters

Malaysian Investment Development Authority, MIDA Sentral, No.5, Jalan Stesen Sentral 5, Kuala Lumpur Sentral, 50470 Kuala Lumpur, Malaysia
Tel: (603) 2267 3633 Fax: (603) 2274 7970 E-mail: investmalaysia@mida.gov.my Website: www.mida.gov.my

MIDA's Overseas Offices

ASIA-PACIFIC

AUSTRALIA

Consul-Investment/Director
Consulate of Malaysia
Malaysian Investment Development Authority
Level 6, MAS Building
16 Spring Street
Sydney, NSW 2000, Australia
Tel: (612) 9251 1933
Fax: (612) 9251 4333
E-mail: midasyd@bigpond.net.au

JAPAN

Tokyo
Director
Malaysian Investment Development Authority
32F, Shiroyama Trust Tower
4-3-1, Toranomon, Minato-ku
Tokyo 105-6032, Japan
Tel: (813) 5777 8808
Fax: (813) 5777 8809
E-mail: midatokyo@midajapan.or.jp
Website: www.midajapan.or.jp

Osaka

Director
Malaysian Investment Development Authority
Mainichi Intecio 18F
3-4-5 Umeda, Kita-ku
Osaka 530-0001, Japan
Tel: (816) 6451 6661
Fax: (816) 6451 6626
E-mail: midaosaka@mida.or.jp

PEOPLE'S REPUBLIC OF CHINA

Shanghai

Consul (Investment)
Consulate General of Malaysia
(Investment Section)
Malaysian Investment Development Authority
Units 807-809, Level 8
Shanghai Kerry Centre
No. 1515, Nanjing Road (West)
Shanghai, 200040
People's Republic of China
Tel: (8621) 6289 4547/5298 6335
Fax: (8621) 6279 4009
E-mail: midash@mida.org.cn

Guangzhou

Director
Malaysian Investment Development Authority
Unit 1804B-05
CITIC Plaza Office Tower
233 Tianhe Be Road
Guangzhou, 510610
People's Republic of China
Tel: (8620) 8752 0739
Fax: (8620) 8752 0753
E-mail: midagz@mida.org.cn

TAIWAN

Director (Investment Section)
Malaysian Friendship & Trade Centre
Malaysian Investment Development Authority
12F Suite A, Hung Kuo Building
No. 167, Tun Hua North Road
Taipei 105, Taiwan
Tel: (8862) 2713 5020/2718 6094
Fax: (8862) 2514 7581
E-mail: midatpe@ms18.hinet.net

KOREA, REPUBLIC OF

Counsellor (Investment)
Embassy of Malaysia (Investment Section)
Malaysian Investment Development Authority
17th Floor, SC First Bank Building
100, Gongpyung-dong, Jongro-gu
Seoul 110-702, Republic of Korea
Tel: (822) 733 6130/6131
Fax: (822) 733 6132
E-mail: midasel@chollian.net

UNITED ARAB EMIRATES

Director/Consul Investment
Malaysian Investment Development Authority
Consulate General of Malaysia
(Investment Section)
Unit 2205, 22nd Floor, Tower A
Business Central Tower, Dubai Media City
(P.O. Box: 502876) Dubai
United Arab Emirates
Tel: (9714) 4343 696/4343 697
Fax: (9714) 4343 698
E-mail: mida@midadubai.ae

INDIA

Director/Consul Investment
Malaysian Investment Development Authority
Consulate General of Malaysia
(Investment Section)
81 & 87, 8th Floor, 3rd North Avenue
Marker Maxity
Bandra Kurla Complex, Bandra (E)
Mumbai 400051, India
Tel: (9122) 2659 1155/1156
Fax: (9122) 2659 1154
E-mail: midamumbai@mida.ind.in

SINGAPORE

Director/Consul Investment
Malaysian Investment Development Authority
No. 7, Temasek Boulevard
26-01, Suntek Tower One
Singapore 038987
Tel: (65) 6835 9326/9580/7069
Fax: (65) 6835 7926
E-mail: mida@midasing.sg

EUROPE

SWEDEN

Economic Counsellor
Embassy of Malaysia
Karlavägen 37, P.O. Box 26053
S-10041 Stockholm, Sweden
Tel: (468) 791 7942/440 8400
Fax: (468) 791 8761
E-mail: mida@malemb.se

UNITED KINGDOM

Director
Malaysian Investment Development Authority
17 Curzon Street
London W1J 5HR, United Kingdom
Tel: (4420) 7493 0616
Fax: (4420) 7493 8804
E-mail: midalon@btconnect.com

GERMANY, FEDERAL REPUBLIC OF

Frankfurt

Director/Consul Investment
Malaysian Investment Development Authority
Consulate General of Malaysia
(Investment Section)
17th Floor, Frankfurt Kastor
Platz der Einheit 1
60327 Frankfurt am Main, Germany
Tel: (4969) 7680 7080
Fax: (4969) 7680 708-20
E-mail: mida.frankfurt@t-online.de

Munich

Director
Malaysian Investment Development Authority
6th Floor, Burkleinhaus
Burkleinstrasse 10
80538 Munich, Germany
Tel: (4989) 2030 0430
Fax: (4989) 2030 4315
E-mail: midamunich@aol.de

FRANCE

Director
Malaysian Investment Development Authority
42, Avenue Kleber
75116 Paris, France
Tel: (331) 4727 3689/6696
Fax: (331) 4755 6375
E-mail: mida.paris@wanadoo.fr

ITALY

Consul-Investment
Consulate of Malaysia (Investment Section)
Malaysian Investment Development Authority
5th Floor, Piazza Missori 3
20123 Milan (MI), Italy
Tel: (3902) 3046 521
Fax: (3902) 3046 5242
E-mail: midamln@tin.it

NORTH AMERICA

LOS ANGELES

Consul (Investment)
Consulate General of Malaysia
(Investment Section)
550, South Hope Street, Suite 400
Los Angeles, California 90071
United States of America
Tel: (1213) 955 9183/9877
Fax: (1213) 955 9878
E-mail: mida@midala.org

SAN JOSE

Malaysian Investment Development Authority
226, Airport Parkway, Suite 480
San Jose, California 95110
United States of America
Tel: (1408) 392 0617/8
Fax: (1408) 392 0619
E-mail: midasanjose@aol.com

NEW YORK

Consul (Investment)
Consulate General of Malaysia
(Investment Section)
313 East, 43rd Street, New York
New York 10017
United States of America
Tel: (1212) 687 2491
Fax: (1212) 490 8450
E-mail: mida@midany.org

BOSTON

Director
Malaysian Investment Development Authority
One International Place, Floor 8
Boston, MA 02110
United States of America
Tel: (1617) 338 1128/338 1129
Fax: (1617) 338 6667
E-mail: midaboston@aol.com

CHICAGO

Director
Malaysian Investment Development Authority
John Hancock Center, Suite 1515
875, North Michigan Avenue
Chicago, Illinois 60611
United States of America
Tel: (1312) 787 4532
Fax: (1312) 787 4769
E-mail: mida@midachicago.org

HOUSTON

Director
Malaysian Investment Development Authority
6th Floor, Suite 630
Lakes on Post Oak
3050 Post Oak Boulevard
Houston, TX 77056
United States of America
Tel: (1713) 979 5170
Fax: (1713) 979 5177/78
E-mail: mida@midahouston.org



For more information, please contact:

Machinery & Equipment and Advanced Engineering

Malaysian Investment Development Authority
Level 28, MIDA Sentral, No.5, Jalan Stesen Sentral 5, Kuala Lumpur Sentral,
50470 Kuala Lumpur, Malaysia
Tel: (603) 2267 6674 Fax: (603) 2273 4190
E-mail: investmalaysia@mida.gov.my Website: www.mida.gov.my