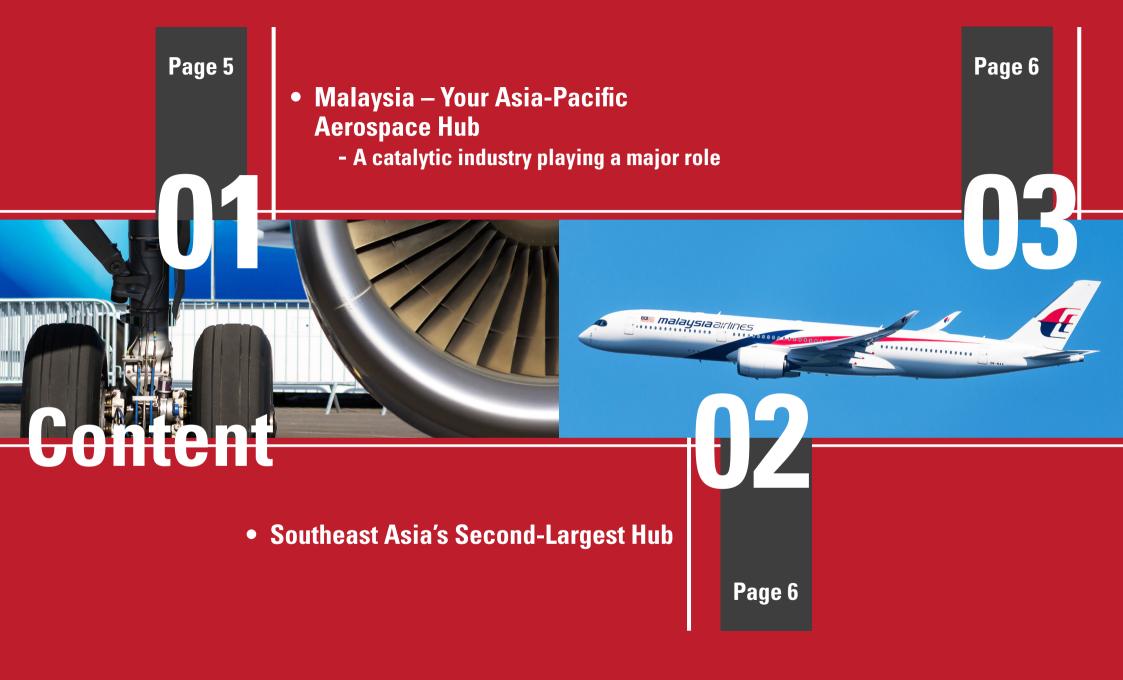


Malaysia`s Aerospace Industry





- The 2030 Target
 - Five core areas
 - . Aerospace manufacturing
 - . MRO
 - . Engineering and design capabilities
 - . R&T (Research and Technology)
 - . Human capital



- Top Reasons to Locate in Malaysia
 - Success stories

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 Aerospace Industry Incentives



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Strategically located at the heart of the wider Asia-Pacific region, Malaysia sits within the world's largest air travel market, and has world-class infrastructure such as the KLIA Aeropolis, Subang Aerotech Park, Senai Aerospace Park, Serendah High Value **Manufacturing Park and** Kulim Hi-Tech Park



KLIA Aeropolis



Kulim Hi-Tech Park



UMW Aerospace Park

Malaysia - Your Asia-Pacific Aerospace Hub

A catalytic industry playing a major role

Strategically located at the heart of the wider Asia-Pacific region, Malaysia sits within the world's largest air travel market, and has world-class infrastructure such as the KLIA Aeropolis, Subang Aerotech Park, Senai Aerospace Park, Serendah High Value Manufacturing Park and Kulim Hi-Tech Park. Together with its business-friendly Government, supportive industry policies, diversified manufacturing base, and widely available industry talent, the country is a cost-effective location for projects.

The Malaysian Government considers the industry to be a catalytic high-value industry under its 11th Malaysia Plan (11MP), which runs from 2016 to 2020. To that end, they have emphasised the development of the aerospace industry, its supply chain, and its competency through industry-led research and technology (R&T). On top of the 11MP initiatives, the Government has also put in place the Malaysian Aerospace Industry Blueprint 2030 (MAIB2030) to help drive the industry's growth.

Underscoring the Asia-Pacific region's air travel market growth, The Boeing Company predicts that demand for planes will pick up over the next decade, with the region needing almost 17,485 planes. The region will also account for 39 per cent of global deliveries of passenger and freight planes over the same period.

With 40 per cent of aerospace industry growth coming from Asia-Pacific alone, and a collective GDP of four ASEAN countries exceeding US\$1 trillion by 2030, the future of the industry is in Asia.

Given the robust industry growth outlook for the Asia-Pacific region, opportunities abound in:



The manufacture of parts and components



Aircraft/components maintenance, repair, and overhaul (MRO) activities



The manufacture/assembly base for light aircraft and corporate planes



Aircraft conversion and modification activities



Aerospace supply chain activities such as engineering, electronics, composite materials, as well as manufacturing and systems integration

Southeast Asia's Second-Largest Hub

The Malaysian aerospace industry has grown significantly to become the second-largest in Southeast Asia, providing more than 27,500 jobs mostly in the MRO and aero-manufacturing subsectors. In the industry's latest figures, MIDA has approved a total of 31 projects between 2017 and 2019, with a total investment value of RM3.54 billion that has created some 4.038 job opportunities.

In its early days, the Malaysian aerospace industry had a small base and catered primarily to the domestic market; now, the industry has more than 230 domestic and foreign companies invested, with RM16.2 billion in total revenue generated as of 2019. By 2030, the industry is projected to contribute revenue of RM20.4 billion for MRO, RM21.2 billion for aero-manufacturing, and RM13.6 billion for engineering and design services.

In MRO services, Malaysia ranks in the top three within the Asia-Pacific region and will continue to remain competitive due to the country's strategic location and access to the region, as well as its affordable costs and talent availability.



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The 2030 target

Under the MAIB2030, which runs from 2015 to 2030, Malaysia aims to become **Southeast Asia's top** aerospace nation by 2030 through becoming an integral part of the global aerospace supply chain. The blueprint targets a total revenue of **RM55.2 billion** and the creation of more than **32,000** high-income jobs.

MIDA's role under the blueprint is to promote aerospace investments through incentives and matching funds. The organisation also serves to help prospective investors from the planning stage until the project is realised.



MAIB2030 lays out Malaysia's aerospace industry focus on the following five areas, with R&T integral in supporting these areas:



MRO

To capture at least 5% of global market share



To be ranked **first** for aerospace parts and component

and component
sourcing by
becoming a large
sub-assembly,
Tier-1, and Risk
Sharing Partner



Systems integration

To become selfreliant (with at least

70%

local content) in integration and upgrading of strategic assets



Engineering and design services

To capture at least 3.5% of global market share

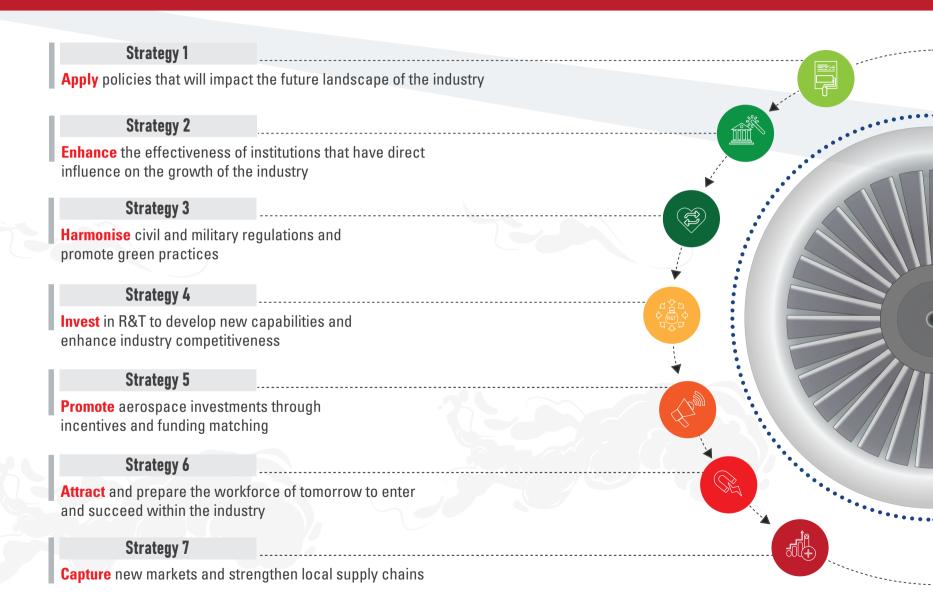


Education and training

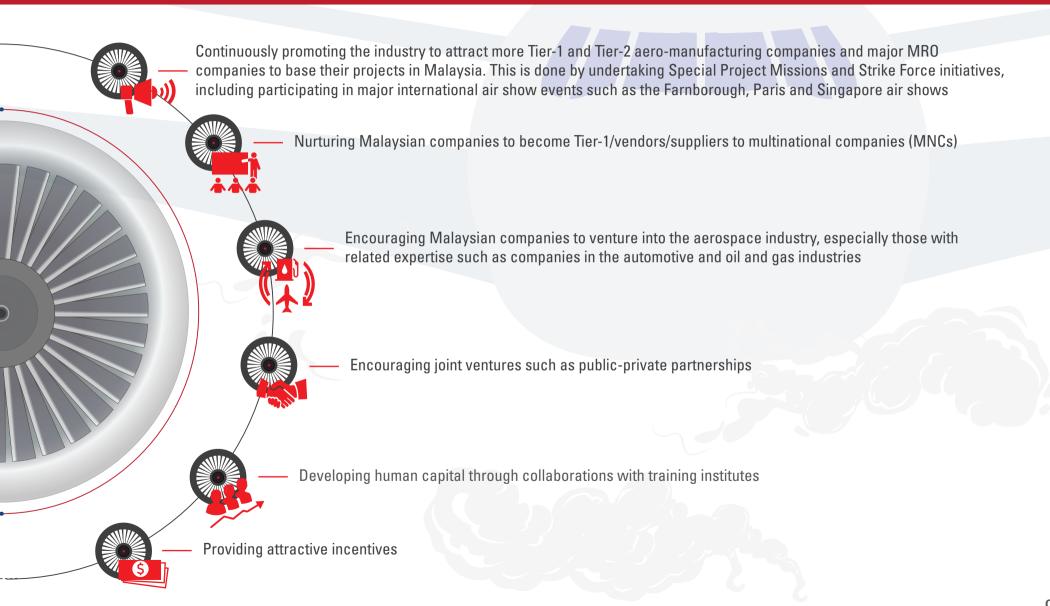
To be the

No.1
supplier of industry
talent within
Southeast Asia

MAIB2030 key initiatives:



To assist the industry to achieve these targets, MIDA has undertaken the following measures:



Five core areas

The aerospace industry in Malaysia is segmented into five key areas that cut across other industries within the manufacturing and services sectors:







Engineering and design capabilities





Aerospace manufacturing

Aerospace manufacturing is one of the fastest growing subsectors within the industry, both in the areas of metallic and composite details and assemblies. In Malaysia, aerospace manufacturing has overtaken all other subsectors in the industry as the main contributor to total revenue. There are efforts underway to further develop local supply chains and vendors (Tier 2 and below) to support demand. The subsector covers:



Aero-structure (composite and metallic)

Avionics; engines; and airframe equipment

Tier 1 setups such as UMW Holdings Berhad's plant (which manufactures Rolls-Royce fan cases) serve as a catalyst for lower tier industry growth. The company's new aerospace hard metal manufacturing park provides an excellent platform to nurture this subsector.

Leading aerostructure manufacturing firms with a presence in Malaysia include Spirit AeroSystems Malaysia Sdn Bhd, Composites Technology Research Malaysia Sdn Bhd, Asian Composites Manufacturing Sdn Bhd, SME Aerospace Sdn Bhd, Upeca Aerotech Sdn Bhd (part of Senior plc), Singapore Aerospace Manufacturing (SAM), and Honeywell.

MRO

MRO is considered a mature subsector in Malaysia – companies within this space already serve industry giants such as Airbus SE, GKN Aerospace, GE Engine Services Malaysia Sdn Bhd, Leonardo Helicopters, SR Tecnics Malaysia Sdn Bhd, Hamilton Sundstrand Malaysia, ExecuJet Malaysia as well as local companies such as Airod Sdn Bhd, Asia AeroTechnic Sdn Bhd and Sapura Technics. Malaysia is targeting to capture 50 per cent of the Southeast Asian MRO business and five per cent of the global market by 2030, which will position the country as Southeast Asia's top aerospace hub. Subang Aerotech Park, which offers a competitive cost base, is the largest MRO centre in the country with both local and global service providers.

In Malaysia, the MRO focus areas are:





Engines



Components



Modifications



Malaysia is targeting to capture 50 per cent of the Southeast Asian MRO business and five per cent of the global market by 2030, which will position the country as Southeast Asia's top aerospace hub. Subang Aerotech Park, which offers a competitive cost base, is the largest MRO centre in the country with both local and global service providers



Engineering and design capabilities

Engineering and design services provide a full range of engineering solutions and support, providing analysis for any given piece of aerospace structure from the beginning stages to certification. It is expected that 35 per cent of the US\$352.5 billion in total value of the global aerospace market by 2030 will come from these services.

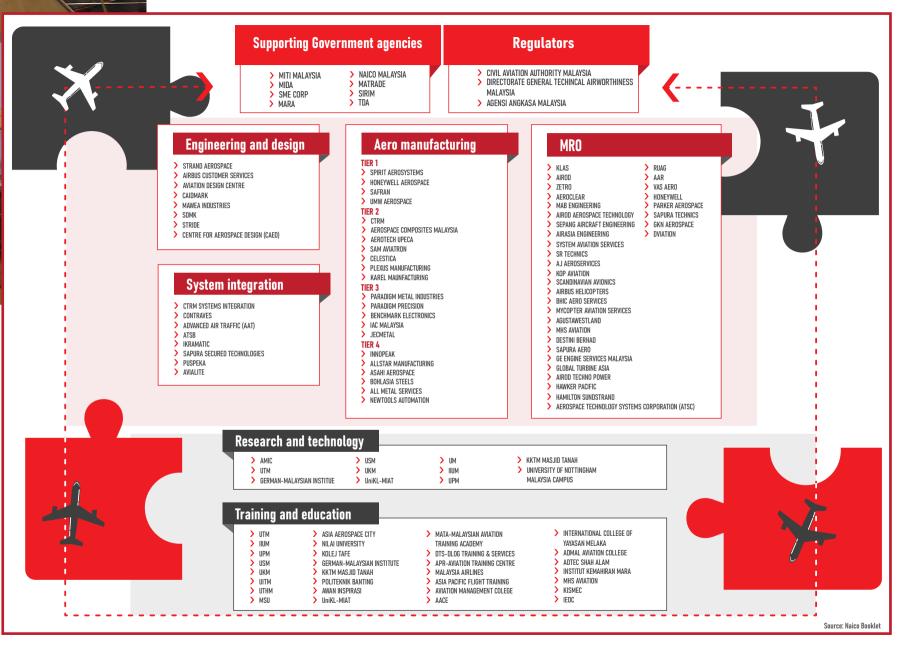
Also known as "pure play" engineering services, this is expected to be a game-changing subsector for the Malaysian aerospace industry and there are plans to generate up to RM3.5 billion in revenue and 11,500 jobs. Strand Aerospace Malaysia Sdn Bhd is one example of a local firm that serves the global original equipment manufacturers (OEMs) that execute primary structure work packages for Airbus and Boeing.

R&T

The industry-leading Aerospace Malaysia Innovation Centre (AMIC) was set up in 2010 to ensure Malaysia's aerospace industry maintains its competitive edge globally. Through its R&T centres and partnerships, AMIC develops innovative technology solutions for the industry to help it move up the value chain. The centre is among the first of its kind in Southeast Asia and is led by Airbus SE and Rolls-Royce.

Human capital

To continue realising the country's ambition to become Southeast Asia's aerospace hub, a steady flow of human capital is needed. Malaysia has invested in building this talent pipeline by working with leading institutions such as Majlis Amanah Rakyat (MARA), which supplies 30 per cent of the country's total human capital needs. Some 2,300 graduates and paraprofessionals out of 20,000 graduating engineers in 2018 came from an aerospace background.



The Malaysian Aerospace Ecosystem



Top Reasons to Locate in Malaysia



There are many reasons for companies to locate their aerospace activities here. Besides its topnotch infrastructure (both generally and industry-specific), Malaysia is committed to making the aerospace industry a key contributor to the manufacturing sector, in line with the nation's drive towards becoming a high-income economy based on innovation, creativity and high-value activities.

Malaysia is a growing market in Southeast Asia that is host to some of the biggest global aerospace companies. There is a complete ecosystem ranging from research and development, engineering and design, manufacturing, MRO, and human capital development. Malaysian companies are experienced with quickly adapting to evolving technologies and working in a borderless business world, which includes enabling OEMs to explore collaborations with any partner, from anywhere in the world.

Having a business-friendly Government, which has welcomed investors from across the globe over the decades, helps to ease the process of setting up operations. Malaysia's 12MP – which will run from 2021 to 2025 – will continue to support the growth of the industry, as the Government pushes for Malaysia to be a global aerospace centre in the Asia-Pacific region. The industry, which has grown substantially in the past 20 years, is integral to the country's industrialisation and technological development programmes.

A crucial point to note is that Malaysia aims to be the preferred global aerospace outsourcing centre through participation in 'design and build' activities in aircraft programmes. Besides that, the country is also aiming to secure a greater share of the aero manufacturing and MRO market as well as develop its capability in avionics and systems integration.

As costs escalate for global aerospace players, they will explore opportunities to relocate their operations to more cost-competitive locations such as Malaysia, a country which offers a dynamic business environment, technologically innovative firms, first-class infrastructure, political stability, as well as skilled manpower. These factors lead to an attractive proposition for companies within the region.

The Malaysian Government is also encouraging joint ventures between domestic and foreign companies, as it seeks to build up local capability as well as strengthen the industry ecosystem to better serve customers throughout the world.

As the strategic gateway to key markets leveraging Free Trade Area (FTAs), Malaysia has implemented 14 FTAs:

ASEAN

- ASEAN Free Trade Area (2002)
- ASEAN-China (2004)
- ASEAN-Korea (2006)
- ASEAN-Japan (2008)
- ASEAN-India (2009)
- ASEAN-Australia-New Zealand (2009)
- ASEAN-Hong Kong Free Trade Agreement (AHKFTA)

Bilateral



Japan (2005)



India (2011)



Pakistan (2007)



Australia (2012)





Turkey (2015)



Chile (2010)

Multilateral*

Regional Comprehensive Economic Partnership (RCEP)
ASEAN + Australia, New Zealand, Korea, Japan and China

*Note: FTA signed but pending ratification and entry into force

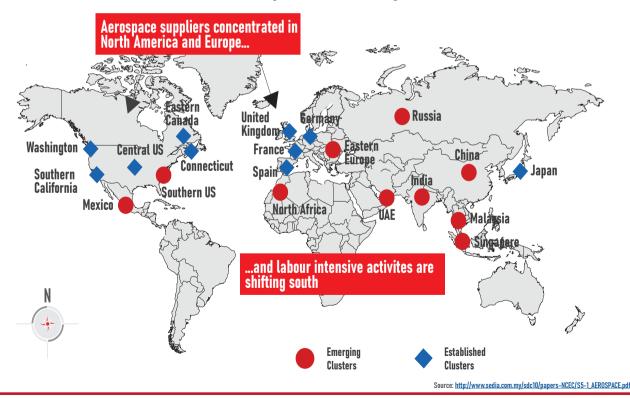
Manufacturing Global Market Outlook



IMPLICATIONS

Drive for lower cost and access to markets has led to new aerospace clusters emerging in southern latitudes

Global aerospace manufacturing clusters



Malaysia continually aims to be the preferred global aerospace outsourcing centre with MIDA the lead agency attracting investments from OEM and Tier 1 companies. MIDA links these companies through its overseas missions, industry linkage and supplychain programmes to Malaysian companies to be part of the domestic supply-chain ecosystem



Success stories



GKN Aerospace

GKN Aerospace Services Ltd is a Tier 1 supplier of airframe and engine structures, landing gear, electrical interconnection systems and transparencies.

The UK-based company has set up its seventh Asian repair facility for aircraft engine components and its first engine systems business in the region at Nusajaya Techpark located on the southern tip of the Peninsular Malaysia.

This facility, which requires 150 – 300 workers, focuses on servicing engines with low-pressure compressor (LPC) components, while its research will be centred on the application of additive manufacturing (3D-printing) technology into engine parts repair. The facility's location was identified with the help of the Malaysian Government and the Malaysian Investment Development Authority (MIDA) and also serves as a state-of-the-art repair and research site for customers in Asia-Pacific.





UMW Aerospace Sdn. Bhd

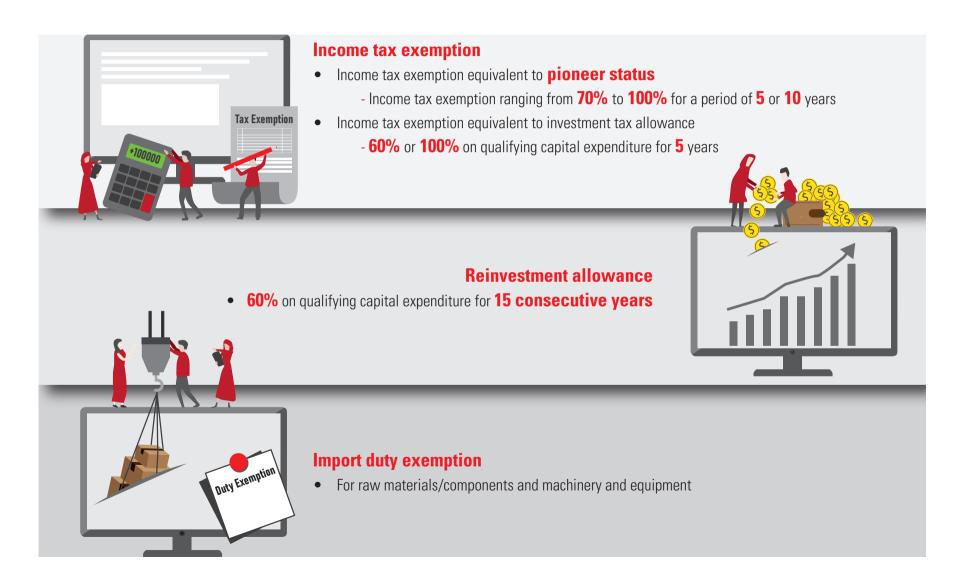
Among local companies in the aerospace ecosystem, UMW Aerospace Sdn. Bhd., a wholly-owned company of the UMW Group, stands out for being the first Malaysian Tier 1 aerospace engine component manufacturer. UMW Aerospace's skilled workforce located in its plant in Serendah, Malaysia, produces fan cases, one of the largest and most complex parts of the engine to manufacture, for Rolls-Royce aero engines.

The Serendah plant complements the Rolls-Royce assembly plant in Singapore and rolled out its maiden fan case for Rolls-Royce Trent 1000 engines in November 2017. UMW Aerospace has a 25 + 5-year contract with Rolls-Royce Plc and the production of these fan cases will also have spill-over effects for the aerospace ecosystem as it will further develop the supply chain.





Aerospace Industry Incentives





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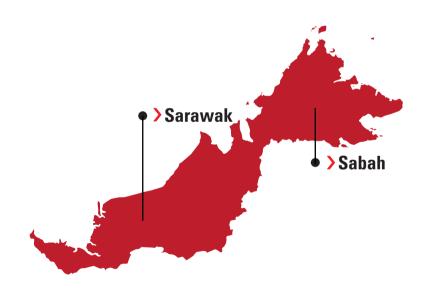
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