







MALAYSIA: COUNTRY INFO

GLOBAL AEROSPACE INDUSTRY OUTLOOK

AEROSPACE INDUSTRY IN MALAYSIA

AEROSPACE AS DRIVER FOR MALAYSIA'S HIGH VALUE INDUSTRY
GROWTH

LATEST DEVELOPMENTS



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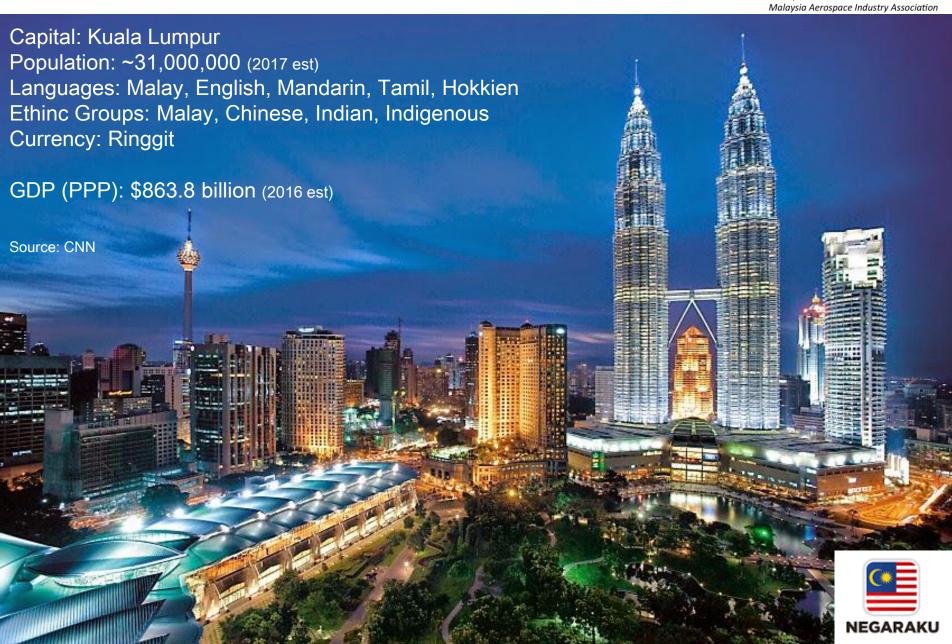
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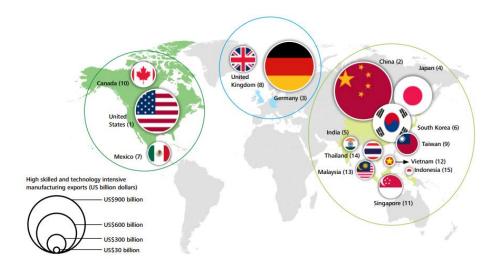
MALAYSIA



MALAYSIA RETAINS
POLE POSITION AS MOST
ATTRACTIVE MANUFACTURING
MARKET OF CHOICE FOR
FUTURE RELOCATIONS

Manufacturing Index 2017





Emerging regional clusters of manufacturing strength

- ✓ Strategically located in the heart of ASFAN
- ✓ Offers cost competitive location
- ✓ Technological advancement has become integral to Malaysia's growth as an industrialised nation
- ✓ Inclined to adopt Industry 4.0 technologies to upscale economy
- ✓ Young, educated and productive workforce
- ✓ Infrastructure among the best in ASIA
- ✓ Supportive Government Policies



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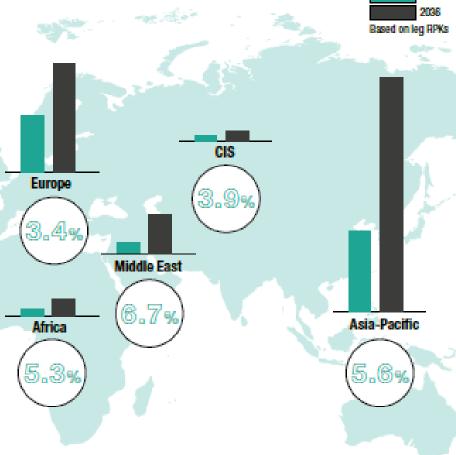
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2016



TRAFFIC FORECAST

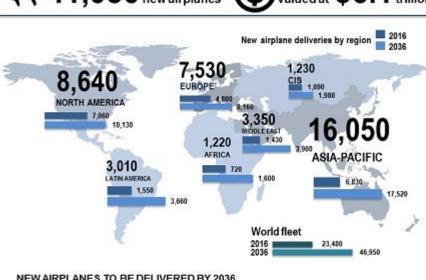
 Asia-Pacific will lead world traffic by 2036, with a three fold increase in the traffic serving this region by the end of the forecast period.



ASIAN TRAFFIC SET TO GROW STRONGLY

Source: Alrbus GMF 2017







MANUFACTURING GLOBAL MARKET OUTLOOK



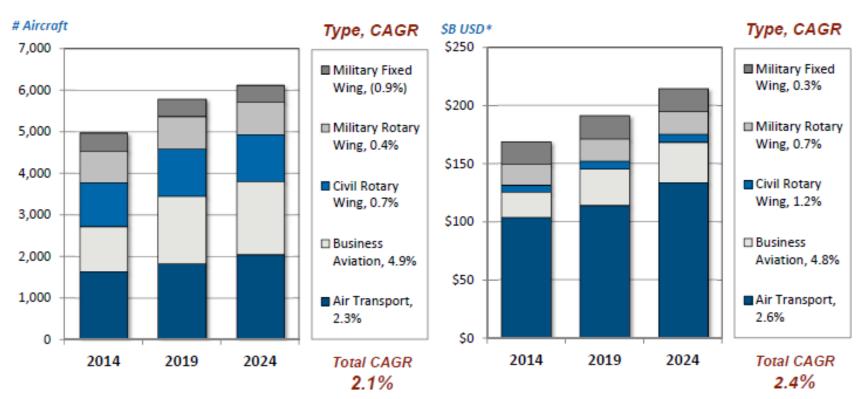
AEROSPACE MANUFACTURING OUTLOOK



Annual production value is expected to reach more than \$200B, with unit production eclipsing 6,000 aircraft by 2024

Aircraft Production 2014-2024

By Market Segment



AEROSPACE INDUSTRY OUTLOOK SUMMARY





ICF's 2015 data shows that the Aerospace Manufacturing and MRO industries are both showing strong positive trends despite the global economic challenges. The latest information shows some effects of the challenges faced which has reduced ICF's RPK growth predictions by 1% from previous.

	MRO	Manufacturing
Trends	 Asia Pacific regions account for 21% (USD 27.3 billion) of global MRO market demand Airframe MRO offshoring to Asia is peaking due to equalizing labour rates Aircraft OEM endeavouring to become major MRO players Component OEMs are adopting licensed service centre strategies. 	 30% of new aircraft deliveries in APAC Supply chain (Tier 4) consolidation OEMs push for cost-reduction as OEMs target double-digit profitability Decline of new aircraft development programs.
Implications	Focus on both airframe and component MRO activities, in alignment with OEMs' strategy:	Offshoring of manufacturing activities to Asia due to COST Alignment of manufacturing industry with
	 Component (e.g. engine) MRO is mainly an OEM game Airframe MRO is seeing increasing OEM involvement. 	OEMs for cost-reduction, ramp-up and efficiency.



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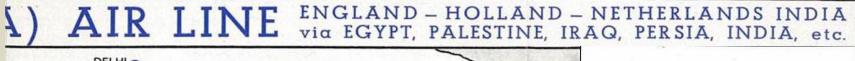
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MALAYSIAN AVIATION HISTORY HIGHLIGHTS







Amsterdam – Batavia (now Java) Postal Service by KLM, 1930s By Koyal Sutch Rin Line London Paris Vingapore - How Star - London Paris W. a Mrs Evan Plas - newsydd, Covanaum Wales . Lampeter, Cardo.

Malayan Airways Limited, 1947 commercial flights using DC-3



connecting airlines.





Aero Tiga, MD3
Aero Trainer
production in
Malaysia, early
1990s

MADE IN MALAYSIA, SINCE 1990'S









The Spirit Aerosystems facility in Subang assembles the Wing Leading Edge for the Airbus A350XWB and Boeing B787 aircraft globally

Source: MITI/Matrade



















MALAYSIA – PARTNER TO OEM AIRCRAFT PROGRAMS





Malaysia is a partner nation on the Airbus Military A400M program

Malaysian companies are re-engineering the entire Dornier SeaStar amphibious aircraft for today's production



MALAYSIAN AEROSPACE INDUSTRY HIGHLIGHTS



Feb 2014

Aug 2015

Nov 2015

Feb 2016

Mar 2016

In progress

AIRBUS

Airbus Customer Services Malaysia Sdn. Bhd started operations.



ROLLS ROYCE / UMW

Jet engine fan casing manufacturing contract awarded by Rolls Royce to UMW.





GIFAS

French
Aerospace
Industry
Association
(GIFAS) opening
a regional office
in Kuala Lumpur.



AIRBUS / SDMK

Tooling Supply Chain handover project between a major OEM and a local tooling manufacturer.



MAIA

Launch of the Malaysia Aerospace Industry Association (MAIA)



SPIRIT/CTRM

Expansion of Spirit Aerosystems Malaysia and CTRM.







Aeropolis: Runway to Success 2020 Development



Expansion of Honeywell Aerospace and SR Technics in Malaysia



Honeywell

SR Technics 🔊





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STRATEGIC HUB TO CATER FOR APAC AEROSPACE GROWTH





- Strategically located at the heart of the region
- Thriving manufacturing and technological landscape, primed for collaborative prospects to become an integral part of regional value chain.
- Government initiatives to support and enable viable and sustainable long-term partnerships

MALAYSIA'S PERFORMANCE IN GLOBAL COMPETITIVENESS REPORT (GCR)



- Malaysia is ranked 25th out of 138 economies in the GCR 2016-2017 and continues to lead the East Asia and Pacific region among emerging
 economies.
- Malaysia is the most competitive economy among the 19 economies in the transition stage from an efficiency-driven to innovation stage of development with a GDP per capita of USD 9,556.80 in 2016.
- Malaysia maintained its 2nd position in ASEAN after Singapore and 7th among the Asia-Pacific countries ahead of Korea Rep., China and Thailand.

AEROSPACE SPEARHEADING INDUSTRY 4.0 EMERGENCE

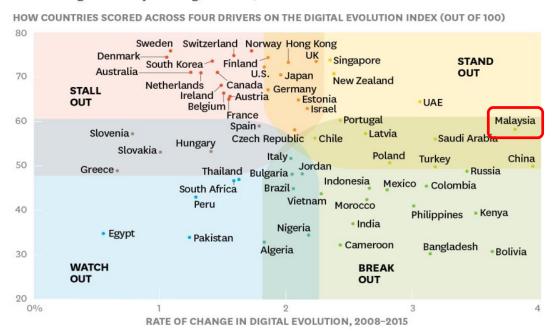


- Aircraft production rates are increasing. Malaysia is a key element in the global Aerospace supply chain.
- Manufacturing and Services represent 80% of Malaysia's GDP. These industries are primed for disruption from the Fourth Industrial Revolution technologies.
- Industry 4.0 will be a critical element of Malaysia's transformation plan for 2050, through Aerospace industry entry points.
- Malaysia is primed to be a "Stand Out" country according to the Harvard Business Review - Digital Competitiveness Index 2017.

Plotting the Digital Evolution Index, 2017

Where the digital economy is moving the fastest, and where it's in trouble.

"Stand Out countries are highly digitally advanced and exhibit high momentum. They are leaders in driving innovation, building on their existing advantages in efficient and effective ways." —HBR, July 2017



AEROSPACE: PRIORITISED INDUSTRY FOR MALAYSIA









- **EPP 1 Growing Aviation MRO**
- **EPP5 -** Growing Pure-play Engineering Services
- EPP7 Making Malaysia The Hub For The **OEMs**
- **EPP8** Building The Malaysian Aerospace Supply Chain Through SME Development

Aero-manufacturing as a key growth area to champion parts & components sourcing in SEA region in 2030

- Promotion of investments into aeromanufacturing especially aerostructures, avionics, airframe equipment and engines
- Prioritisation of industry-led collaborative R&T through National Aerospace R&T Roadmap
- Promotion of investment into automation

- Moving towards diverse & complex products
- Enhancing productivity through automation i.e. Industry 4.0
- Stimulation innovation-led growth
- Strengthening growth enablers
- Ramping up internationalization















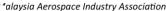






MAIA AND THE GOVERNMENT AGENCIES











MALAYSIA AEROSPACE COUNCIL (CHAIRED BY MITI MINISTER)



Technical Sub-committees to the Board

Manufacturing	Engineering Services	MRO
Human Capital	Systems Integration	Space

Industry Data Collation



Responsible for aerospace industry development, policy



Coordinate industry development at Ministry level



Promotion of Malaysia aerospace; business matching



PEMANDU

Investments and incentives









ETP KPI Monitoring

Policy, Human Capital Roadmap, Industrialization, Catalytic Functions

MAC, NAICO AND MAIA





Malaysian Aerospace Council Chaired by Minister MITI. Purpose to drive national level aerospace industry development.

Established National Aerospace Coordinating Office (NAICO) and Malaysia Aerospace Industry Association (MAIA) to drive industry growth.



- Represent joint interest of industry players
- Represent industry to the Government
- Business development opportunities
- International voice of Malaysian aerospace industry



FOREIGN DIRECT INVESTMENT (FDIs)





The Malaysian Investment Development Authority (MIDA) will intensify foreign direct investments into Malaysia by
establishing smart partnerships through regional/bilateral trade agreements and targeting cutting edge technologies
e.g. 3D printing, in an effort to position Malaysia as the regional hub for high value manufacturing. An example of
MIDA's role in that effort is the development of the Serendah Aerospace Hard Metal Ecosystem with UMW Land.



Complex and diverse are what best describe products of Industry 4.0. MIDA will focus on promoting the frontier
products for incentives to encourage local manufacturers to diversify into these products whereas the Malaysia
External Trade Development Corporation (MATRADE) will facilitate the cooperation of large multinational
corporations (MNCs) to assist promising local small-medium enterprises (SMEs) to gain access to untapped export
markets. MATRADE is also responsible for the export of Malaysian products and services and for high value
industries, will require upskilling of their personnel (at both domestic and international levels) to be able to effectively
sell those industries.

HUMAN CAPITAL DEVELOPMENT PROGRAMS













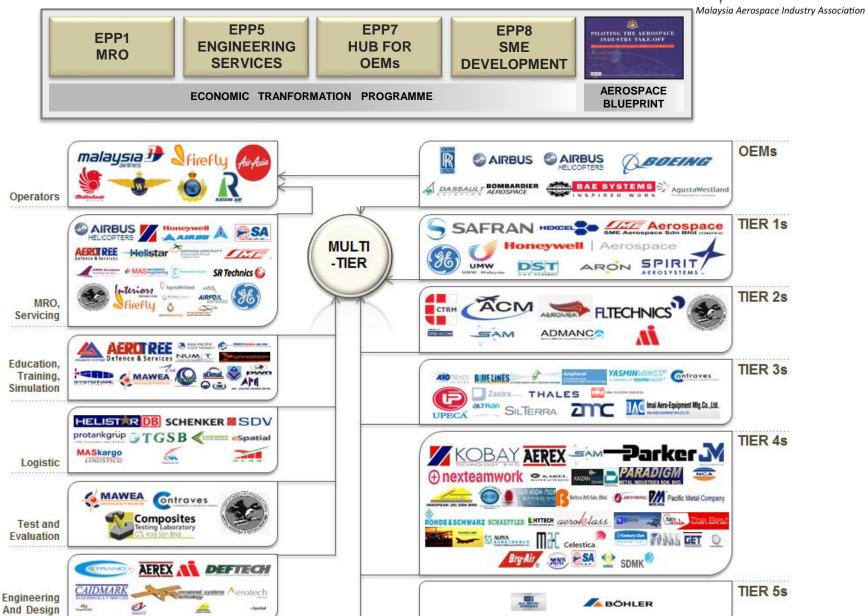


Asia Aerospace City's Professional Development Centre has been running high value Human Capital Development programs partnership with the above OEM's for several years now in the UK, based on an apprenticeship model with industry.

The aim of these programs is to produce tailor made Human Capital to Industry Specification.

CATALYTIC INITIATIVES FOR AEROSPACE INDUSTRY







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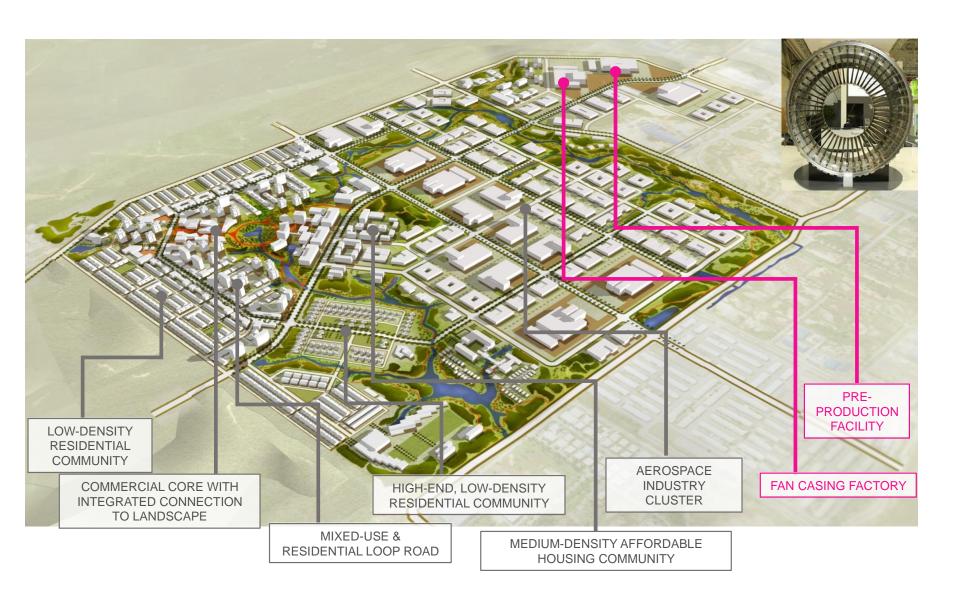
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SERENDAH HIGH VALUE MANUFACTURING PARK





SERENDAH HIGH VALUE MANUFACTURING PARK – SUMMER 2017





TARGETED ECOSYSTEM



UMW HVM PARK TARGETED ECOSYSTEM

OEMs/Tier 1s in High Value industries keen on expansion in APAC

Precision manufacturing (machining, stamping, forging, casting, sheet metalwork, welding, etc.)

Industrial technology providers (new manufacturing technologies, automation, Industrie 4.0, etc.)

Machine manufacturers and tool suppliers

Special processes suppliers

Industry-driven R&D platform

Logistics players

Raw material suppliers

Human Capital Development centre

Other HVM-related activities



Over **800 acres** of land around the **UMW Aerospace factory** to host various companies involved in high technology sectors:

Aerospace . Medical . Automotive Rail . Pharmaceuticals

DEVELOPMENT MILESTONES







CONSTRUCTION PERIOD FROM SIGNING DATE: 15 MONTHS

CURRENT FLOOR AREA: 270, 000 ft²

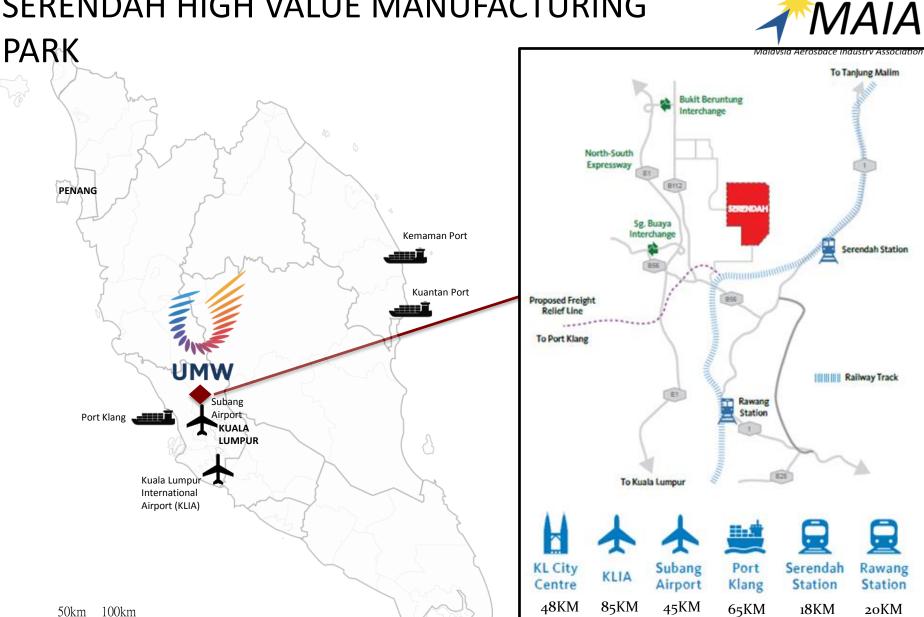
BUILDING CONSTRUCTION: 10.5

MONTHS

COMPLETION DATE: 31ST DECEMBER 2016



SERENDAH HIGH VALUE MANUFACTURING



SINGAPORE

KLIA AEROPOLIS

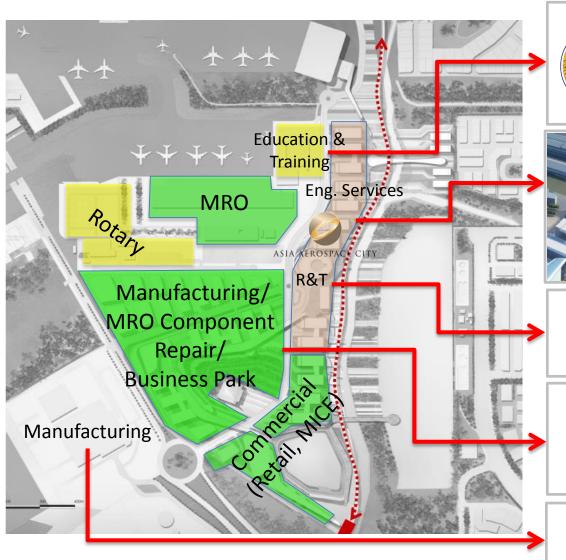






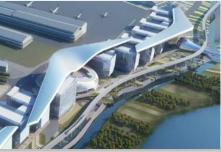
ASIA AEROSPACE CITY @ SUBANG NEXUS







UniKL MIAT: To Produce 400 aircraft technicians/year and Degree Holders



Asia Aerospace
City (AAC) Subang
Nexus: Hub for
Engineering
Services anchoring
EPP5



AMIC relocation into Subang, completing the ecosystem with R&T capabilities



Centre for MRO related to rotary, propeller aircrafts, GA, driving EPP1



Tier 1 manufacturer to OEM, part of **EPP7**





