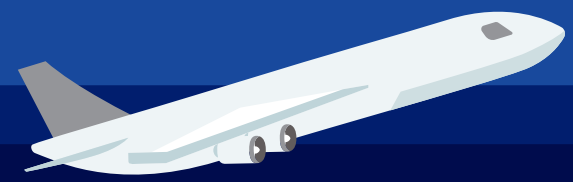


SINGAPORE



ASIA'S AEROSPACE HUB



SINGAPORE'S AEROSPACE INDUSTRY: KEY FACTS & FIGURES

 >22,000 Aerospace Professionals	 >130 Aerospace companies	 S\$11.3B Total Output (2018)	 INNOVATION Focus areas include digital & additive manufacturing	 #1 Aerospace City of the Future Ranking by FDI since 2016
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COMPETITIVE

Ranked #1 globally in the 2019 World Economic Forum Global Competitiveness Report.

TRUSTED

Ranked #1 in Asia for intellectual property rights protection in the 2019 World Economic Forum Global Competitiveness Report.

FUTURE-READY

ADVANCED MANUFACTURING
Ranked #2 globally in the 2018 World Economic Forum's Readiness for the Future of Production Report

DIGITAL READINESS
Top in the 2018 EIU Asian Digital Transformation Index

CONNECTED

TRANSPORT
Ranked #1 in the world for efficiency of sea and air transport in the 2019 World Economic Forum Global Competitiveness Report.

TRADE
Most extensive FTA network in Asia (26 implemented FTAs covering 85% of global GDP)

ACCESS
Prime location, with easy access to Asia Pacific in under 6 hours

1 DIVERSE R&D ECOSYSTEM

Community of companies, public research institutes, start-ups and regulators innovate and develop new products, technologies and services.

SINGAPORE AEROSPACE PROGRAMME
Industry collaborations between leading aerospace companies and with A*STAR research institutes on pre-competitive research. Over 140 upstream R&D projects have been completed.

MODEL FACTORIES
Model factories at the Singapore Institute of Manufacturing Technology (SIMTECH) and the Advanced Remanufacturing Technology Centre (ARTC) allow companies to learn and experiment with advanced manufacturing and digital technologies for Industry 4.0.

OTHERS

- National Additive Manufacturing Innovation Cluster (NAMIC)
- National Robotics R&D Programme Office (NR2PO)
- Polymer Matrix Composites Programme (PMCP)

2 STRONG TALENT PIPELINE

Availability of skilled manufacturing and MRO talent. Equipped with emerging skills to support industry needs of the future.

- Aerospace courses are popular engineering programmes at our institutes of higher learning. Over 2,000 students graduate from aerospace courses across ITE, polytechnics and universities annually.
- Aerospace companies partner schools to develop courses and offer attachments and on-the-job training.

SKILLSFUTURE SERIES
Industry-relevant training modules developed to equip workforce with emerging skills in areas such as advanced manufacturing, data analytics, and cybersecurity.

PROFESSIONAL CONVERSION PROGRAMME
Career conversion programme to help PMETs gain relevant skills to enter the aerospace industry.

3 DEDICATED INFRASTRUCTURE

Strategic investments to develop industrial infrastructure for the aerospace industry.

SELETAR AEROSPACE PARK
320 hectare industrial park home to a vibrant aerospace industry cluster. New standard facilities provide "plug-and-play" solutions for manufacturing and MRO.

CHANGI EAST INDUSTRIAL ZONE (CEIZ)
Developments at the CEIZ will cater to MRO, air cargo and air freight activities.

SINGAPORE - YOUR GLOBAL AEROSPACE PARTNER

SINGAPORE IS HOME TO LEADING AEROSPACE COMPANIES

INNOVATION

Airbus

- Airbus' Hangar of the Future develops and demonstrates digital MRO technologies aimed at increasing operational efficiency.
- Airbus' Skyways project carries out engineering and operations, development and test-bedding of unmanned aerial systems (UAS) in urban and maritime environments.

Collins Aerospace

Collins Aerospace's innovation hub will develop technologies to assist with the digitalisation and automation of its MRO and manufacturing footprint. The hub is also the company's first additive manufacturing facility with titanium capability.

Rolls-Royce

Smart Manufacturing Joint Lab with A*STAR and SAESL on I4.0 capabilities for next-generation aerospace manufacturing and MRO capabilities, including technology to repair high-value engine components.

ST Engineering

Smart MRO initiative with 4 key technology areas of digitalization, robotics, additive manufacturing and data analytics, to improve workforce productivity and value-add to customers.

Thales

- Joint Aviation Innovation Research (AIR) Lab with CAAS will drive innovation in new air traffic management (ATM) technologies.
- Thales' Digital Factory delivers digital solutions in collaboration with customers in Asia Pacific, leveraging big data, artificial intelligence and cloud computing.

MANUFACTURING

Collins Aerospace

Collins' Singapore facilities houses its global Centre of Excellence for gear manufacturing, and manufactures components for electric power generation, air management systems and engine controls.

GE Aviation

GE Aviation manufactures aircraft engine components for the high pressure compressor section of the GE9X engine at the Seletar Aerospace Park.

Rolls-Royce

Rolls Royce assembles and tests its Trent 1000 and 7000 aero engines in Singapore. The facility is also the first of its kind outside of the UK to manufacture the titanium Wide Chord Fan Blade.

SIA Engineering Company (SIAEC)

Additive Flight Solutions, a joint venture with Stratasys, is a service bureau providing design, engineering, production and certification support for additive manufactured aerospace components.

Pratt & Whitney

Its Singapore manufacturing facility is one of 2 Pratt & Whitney global sites manufacturing hybrid metallic fan blades for the Geared Turbofan (GTF) family of engines.

Thales

Thales' avionics production facility in Singapore manufactures key systems for the A320, A350, and B787 fleets, including flight control computers, displays and electrical systems.

MRO

AFI KLM E&M and Sabena Technics

Singapore Component Solutions, a joint venture of AFI KLM E&M and Sabena Technics, supports A320 and ATR component repairs in Singapore.

Bombardier

Bombardier's Singapore Service Centre provides maintenance, refurbishment and modification services to customers, and is introducing an aircraft painting facility and will more than double the size of its integrated parts depot.

Collins Aerospace

Collins' Singapore facilities provide MRO services for actuation systems, interiors, composite nacelle systems, engine control, electrical power systems, sensors & integrated systems, engine components and other aerostructures.

GE Aviation

GE Aviation's Centre of Excellence for combustor & airfoil component repairs in Singapore repairs a wide range of components for GE and CFM commercial Engines.

Meggitt

Meggitt provides a range of spares distribution and MRO services for components including heat exchangers, valves, sensors, fires & safety equipment, as well as wheels and brakes.

Moog and SIAEC

Moog Aircraft Services Asia, a joint venture with SIAEC, provides flight control actuation component MRO services for the Boeing 787 and Airbus A350.

ST Engineering

Expanding capabilities to include A350 for Airframe MRO as well as engine MRO for CFM LEAP-1B Quick Turn.

Pratt & Whitney

Eagle Services Asia, a joint venture between Pratt & Whitney and SIAEC, carries out MRO for various engine families including the PW 4000, GP7200 and new GTF PW1100G-JM engine.

AFTERMARKET SERVICES

LEASING

BOC Aviation

Singapore's largest aircraft leasing company, and one of the top lessors in the world by fleet value. BOC Aviation offers a wide range of services to airlines and aircraft owners, including direct operating leases, sale and leaseback facilities as well as third party asset management.

SUPPLY CHAIN & MANAGEMENT

Aviall

Aviall, a wholly-owned subsidiary of The Boeing Company, markets services, and distributes products for more than 250 manufacturers and offers approximately 2 million catalog items from 30 customer service centres located in North America, Europe and Asia Pacific.

AFTERMARKET SERVICES

CONVERSIONS, MODIFICATIONS & REFURBISHMENTS

ST Engineering

ST Engineering developed a passenger-to-freighter solution for A320 and A330 platforms as well as passenger cabin interior modification. The first A321 converted freighter is undergoing certification flight tests while the first A320 P2F conversion is scheduled to induct in 4Q2020.

SERVICES ENGINEERING & FLEET MANAGEMENT

Airbus

Airbus' Customer Support Hub providing customer support and technical services for the region.

Boeing

Boeing provides engineering, materials management and fleet support solutions, including Boeing Global Fleet Care, for customers in Asia Pacific and beyond.

Rolls Royce

Offers service engineering, operational planning and engine health monitoring services, with the engineering authority to make airworthiness decisions for the regional engine fleet.

SUPPLY CHAIN & MANAGEMENT

Satair

Satair's state-of-the-art support and service centre houses Airbus's spare parts inventory for the Asia-Pacific region, as well as for other aerospace OEMs for avionics, electrical and instrument repair equipment.

PILOT & TECHNICAL TRAINING

Airbus

The Airbus Asia Training Centre is the company's largest flight crew training centre worldwide, serving airlines across the Asia-Pacific region.

HAITE

Haite's Singapore facility is its first pilot simulator training facility outside of China to serve the region.

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For more information, please visit www.edb.gov.sg

