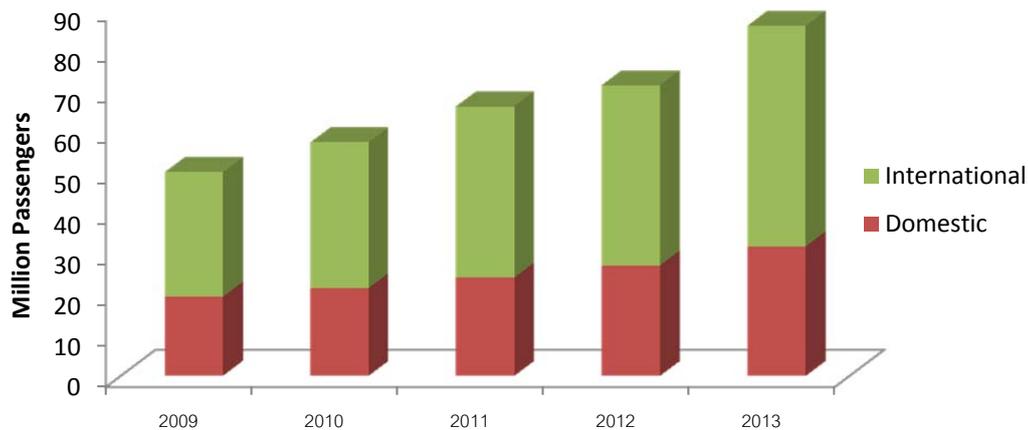


THAILAND: EXCELLENT HUB FOR AIRCRAFT SERVICE AND MAINTENANCE

The Thai aviation industry has grown rapidly over the past few decades. Geographically located in the center of Southeast Asia and sharing borders with four ASEAN nations, the country has firmly established itself as an aviation hub for the region. With this conflux of aviation activity, Thailand has also evolved into a regional aircraft service and maintenance center providing services such as refueling, repairing, maintaining and refitting aircraft.

Thailand experienced steady growth in air passengers over the past several years. Air passenger movement in Thailand grew at an average annual rate of 14.6% from 2009-2013 as Bangkok becomes one of the world's top tourist destinations while Thai travelers increasingly flew.

Air Passenger Movement in Thailand 2009-2013*



*Note: *Fiscal year 2009-2013(Oct 2008-Sep 2013)*

Source: Airport of Thailand (AOT)

In 2013, Suvarnabhumi International airport transported 50.9 million passengers, making it the third busiest airport in ASEAN behind Indonesia's Soekarno - Hatta and Singapore's Changi. According to the Airports Council International, Suvarnabhumi International airport was also ranked 20th in the world for cargo traffic in 2013, with approximately 1.27 million metric tons flowing into and out of the airport. It is expected that the number of flights passing through Suvarnabhumi and Don Mueang Airports will continue growing at a rate of 10% in 2014 and 11% in 2015. Based on

this solid growth, both the aircraft maintenance industry and aviation supply companies have significant opportunities to profit.

In early 2014, Boeing, the world's largest airplane manufacturer, forecast that air travel in Asia Pacific will triple in size over the next two decades. This is expected to account for nearly 50% of the entire world's air traffic growth. Based on these figures, the company believes this progression will generate demand for 13,000 new planes worth approximately US\$1.9 trillion.

Southeast Asia is projected to be one of the highest passenger traffic growth markets worldwide. Thailand, Malaysia, and Indonesia are expected to account for a majority of this growth as the emerging consumer class can increasingly afford to travel. Boeing predicts that commercial fleets in Southeast Asia will increase aircraft market value to US\$450 billion, a majority of which will come from budget airlines.

In order to strengthen the Thai aviation industry and increase its competitiveness, the Ministry of Transportation will establish an Aviation Industrial Estate (AIE) and Aircraft Maintenance Repair and Overhaul (MRO) Center at Nakorn Ratchasima Airport. The feasibility study of this project is aimed to be finished by the end of 2015 to support the AEC.

Thailand's standing as a one of the top global tourist destination bolstered by six major international airports enhances the aviation industry's potential to expand. Today, five major, local airlines have emerged to control approximately 50% of the Thai market, taking both tourists and freight around the country. Thai Airways International, Bangkok Airways, Air Asia Thailand, Nok Air, Thai Smile Air, Thai Lion Air and Orient Thai provide regular domestic and/or international flights to many destinations.

Thailand Aircraft Traffic in 2013*

Airport	Total Movement		
	Passenger (Million)	Aircraft Movement	Freight (Ton)
Suvarnabhumi	50.90	288,004	1,269,341
Don Mueang	15.56	135,988	17,149
Phuket	10.98	70,198	34,799
Chiang Mai	5.17	41,295	18,451
Hat Yai	2.47	17,056	13,953
Chiang Rai	1.05	6,882	4,565
Total	86.13	559,423	1,358,258

Note: *Fiscal year 2013(Oct 2012-Sep 2013)

Source: Airport of Thailand (AOT)

Suvarnabhumi International Airport is Thailand's primary airport where a majority of international flights flow through. This airport, with an initial capacity of 45 million passengers and 3 million tons of cargo per year at 76 flights per hour has significantly boosted the growth potential for the Thai aerospace industry. In 2012, Suvarnabhumi expanded to service up to 53 million passengers per year. With so many passengers flowing through the airport, 2013 Airport Council International (ACI) report, ranked Suvarnabhumi the 18th busiest airport in the world and the 7th busiest in Asia.

Don Mueang International Airport, Bangkok's former international airport before Suvarnabhumi, has reopened for both domestic and international flights. Currently, Don Mueang serves general aviation, state aircraft, military aircraft, government aircraft, pure technical landing and charter flights. Moreover, Don Mueang Airport has become the hub for budget airlines. Today, Nok Air, Thai Air Asia, Thai Lion Air and Orient Thai Airlines all operate out of Don Mueang. In 2013, Don Mueang Airport served 136,000 flights, 17,000 tons of cargo and almost 16 million passengers, a 400% increase from the previous year.

Phuket International Airport is the third busiest airport in Thailand. In 2013, Phuket International serviced around 11 million passengers, a 20% year-on-year increase. In the same year, Phuket International Airport serviced 70,000 flights and 35,000 tons of cargos.

Chiang Mai International Airport is the major gateway to Northern Thailand and is the fourth busiest airport in the country. In 2013, Chiang Mai Airport serviced more

than 5 million passengers, a 19% increase from the previous year. In the same year, a total of 41,300 flights and 18,000 tons of cargo were handled at this airport.

Hat Yai International Airport is located in southern Thailand, 9 km. from downtown Hat Yai. In 2013, Hat Yai International Airport served more than 17,000 flights and 14,000 tons of cargo. Additionally, passenger movement at this airport increased 23% from the previous year to 2.5 million passengers.

Mae Fah Luang-Chiang Rai International Airport is located in Chiang Rai province in Northern Thailand. This airport is 10 km from the city center. In 2013, it served almost 7,000 flights, more than 1 million passengers, and nearly 4,600 tons of cargo.

THAILAND: AN EXCELLENT AND EXPANDING MARKET

Thailand’s aircraft and aircraft parts and equipment market has shown continual and robust growth over the past few years. In 2013, the value of aircraft parts and equipment imports increased approximately 87% from the previous year, a testament to the strong growth of the aircraft industry in Thailand.

Imports and Exports of Aircraft Parts and Equipment, 2013

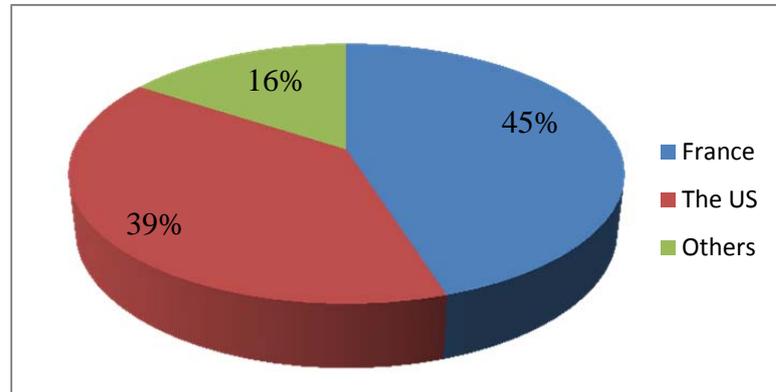
HS Code	Description	Imports (US\$ million)	Exports (US\$ million)
88	Aircraft, spacecraft and parts	4,696.01	1,080.85
854430	Ignition wiring sets & other wiring sets for vehicles and aircraft	247.72	426.17
840710	Aircraft engines	237.31	49.82
401130	Pneumatic tires new of rubber for aircraft	9.13	89.05
700721	Laminated safety glass for vehicles and aircraft	12.93	42.20
940110	Seats for aircraft	0.31	10.29
840910	Parts for spark-ignition type aircraft engines	1.76	3.03
401213	Retreaded pneumatic tires, of rubber, of a kind used on aircraft	2.27	0.95

Source: United Nations Trade map

In 2013, aircraft, spacecraft, and parts (HS code 88) was Thailand’s largest aircraft import sector, with imports valued at US\$4.7 billion, a 94% increase from the

previous year. Major import markets of aircraft, spacecraft, and parts were France (45%) and the US (39%).

Thailand's major aircraft, spacecraft and parts import market, 2013



Source: United Nations Trade map

The Thai government has supported the growth of the aerospace industry by providing benefits and incentives through the Board of Investment (BOI). BOI incentives bolster Thailand's potential to attract new aerospace investment projects.

Today, the leading aircraft parts producers in Thailand include Ducommun Technologies, Weston SEA, Triumph Structures, Dreissen Aircraft Interior Systems and Leistritz.

Ducommun Technologies (DTI) is a California-based company that produces structural and electronic components and subassemblies for a wide range of aircraft. In Thailand, DTI has a manufacturing facility in Saraburi province that is able to produce up to 2,000 high performances, reliable commercial microwave switches per month to service the growing demand from international markets.

Weston SEA is a private company wholly owned by Weston EU. The company manufactures complex precision components and related assemblies for the aero-engine, aero-structures and aircraft interiors industries. Its 3,250 m² facility is located in Chonburi province.

Triumph Structures is a Tier II integrator of aircraft parts and assemblies. The company is the industry leader in swaged tubular products and wire rope mechanical cables. Triumph Structures is also an industry leader in high technology composites

including acoustically treated engine liners, aircraft structures and medical applications. Triumph Structures produces a number of products in Thailand, including machined and composite parts, and assemblies.

Driessen Aircraft Interior Systems is part of Zodiac Aerospace, who specializes in designing, manufacturing, and marketing high quality galleys, galley equipment and cargo equipment. Driessen's manufacturing facilities are located in Lamphun and Samutprakarn provinces where they manufacture the aforementioned products as well as airline products, trolleys and associated parts.

Leistritz is a German company founded in 1905. Leistritz manufactures turbine blades for aircraft and rocket engines as well as gas and steam turbines. Leistritz is a global supplier of components for the international aero engine and power generation industry. Leistritz signed a manufacturing agreement with Rolls-Royce Aerospace to establish a manufacturing base in Chonburi to forge compressor blades for Tier II Rolls-Royce products.

EXCELLENT AEROSPACE MAINTENANCE, REPAIR & OVERHAUL CENTER (MRO)

Situated in the heart of Asia, Thailand is gearing up to become a full service aerospace hub and major player in the region's multi-billion dollar a year aircraft maintenance industry. In 2012, Thailand's aircraft maintenance industry had a market value of US\$637 million, a 20% increase from 2011. This industry is expected to continue growing in the coming years and further accelerate with the launch of the ASEAN Economic Community (AEC) in 2015.

Thailand will be more competitive in the aerospace industry in comparison to many other ASEAN countries as the Kingdom already has the infrastructure in place for repair services, including overhaul of aircraft engines, and is already a major hub for the electronics and electrical appliances (E&E) industry. Moreover, Thailand has commenced training aerospace professionals and technicians to service the industry. This opens great opportunities for cluster development for both avionics and communications equipment.

Today, there are numerous aerospace maintenance, repair & overhaul (MRO) companies and organizations in Thailand. The largest companies include, among others, Thai Airways International, Scandinavian Aircraft Maintenance, Thai Aviation Industries, Triumph Aviation Services Asia and Eurocopter.

Thai Airways International

THAI technical department of Thai Airways International Public Company is one of the leading transportation maintenance centers in Asia with more than 50 years of experience in the air and on the ground. THAI's Aircraft Component and Accessory Repair Department received the "Requalifying Identification Certificate" from the US Department of Transportation (DOT) which signifies the quality of THAI's aircraft emergency equipment maintenance process. THAI provides a full range of maintenance services including certified Heavy Maintenance (D-checks) and complete aircraft overhaul.

THAI has three maintenance centers located at Suvarnabhumi International Airport, Don Mueang International Airport and U-Tapao Airport. The centers service aircraft belonging to other airlines in addition to THAI aircraft.

- 1. Suvarnabhumi base:** the THAI technical department offers modern line and light maintenance services. The THAI maintenance center covers an area of 190,400 m², including a 24,300 m² hangar, making it the largest hangar in Southeast Asia. It can simultaneously accommodate three extra-wide-body aircraft such as the Airbus A380. The aircraft maintenance center strictly follows the rules and regulations required by international organizations including the Department of Civil Aviation of Thailand.

Suvarnabhumi's capabilities include technical support for small aircraft for the B747 & A380 series, landing gear changes, wheel & brake maintenance, sheet metal work, painting, NDT services, welding, emergency facilities, tools & equipment repair, ground support equipment (GSE) service, and A-checks and C-checks for A380 and maintenance control center (MCC) to handle all problems in line maintenance. Facilities at Suvarnabhumi include:

- 3 bays for A380 size aircraft hangar
- Size: length 270m. by width 90m. by height 45m.
- 26,100 m² of maintenance apron
- 21,450 m² of office & building
- 19,872 m² of aircraft spare parts store
- 5,315 m² of workshop
- 4,833 m² of GSE

2. Don Mueang base: the THAI technical department has 50 years of experience with structural, hydro-mechanical, engine, instrument, radio, electronics and avionics overhaul for all Airbus A300-600, A310, A330 and Boeing B737, B747, B777 series. Total area facilities are 170,000 m² including:

- 5 Hangars (6 Bays) of B747 size with full support system for wide-body aircraft
- 1 bay of B737 size or equivalent
- 20,000 m² of apron area
- 46,100 m² of workshop
- 29,000 m² of spare parts storage area
- 100,000 lbs and 150,000 lbs thrust computerized engine test cell

3. U-Tapao base: is a facility located 125 km southeast of Bangkok and is 240,000 m² in size. This facility was awarded the JAR-145 Certificate by the Joint Aviation Authorities (JAA), a European body which sets and supervises quality control standards in aircraft maintenance to ensure the highest possible standards of service and safety for air passengers.

The THAI Technical Department at U-Tapao offers heavy maintenance services for both C-CHECK and D-CHECK on 3 aircrafts simultaneously, 2 wide-body aircraft and 1 small aircraft type. The facilities include:

- 24,000 m² of wide-body aircraft maintenance facility (twin hangar)
- 43,000 m² of aircraft parking
- 1,409 m² of management and training offices

- Others – workshop, storage space, canteen and water treatment facilities.

Scandinavian Aircraft Maintenance

Scandinavian Aircraft Maintenance (SAMTHAI) was founded in 2009 as a subsidiary of SAM AERO AS. The company entered into a joint venture with Thai Aviation Industries to plan and develop the construction and operation of the Aviation MRO & Centre of Excellence in Bangkok. SAMTHAI also signed an agreement with the Directorate of Aeronautical Engineering (DAE) to support & supply the Thai Royal Flight, Royal Thai Air Force, Royal Thai Army and Thai Police with spare parts for numerous aircraft & helicopters through the Associated Aircraft Group (AAG) Canada. SAMTHAI is also cooperating with Geven to supply and install new seating for Thai International Airways aircraft.

Thai Aviation Industries

Thai Aviation Industries (TAI) is an aircraft repair and maintenance service center in Thailand. TAI was established in 2003, driven by the surge of aviation activities resulting from the government's policy to make Thailand the aviation hub of the Asia Pacific region. The facilities of TAI include:

- an aircraft repair services center
- two maintenance service centers for light planes and flight training
- a tool and measurement testing and calibration center
- a piston engine repairing division
- a propeller repairing facility
- an aviation electronics repairing center

The Office of Small and Medium Enterprises Promotion (OSMEP) and the Royal Thai Air Force (RTAF) are the major shareholders of TAI, owning 51% and 49%, respectively. TAI has more than 400 experienced engineers and aviation technicians from the Royal Thai Air Force.

Triumph Aviation Services Asia

Triumph Aviation Services - Asia (TASA) stands as Triumph Group's Asia-Pacific aftermarket services headquarters and a single-source service center for commercial aviation across the region.

TASA was specifically designed, built and staffed to provide repair and overhaul services to a broad mix of products and customers. TASA's in-house capabilities include full auxiliary power units (APU) diagnostics, test and certification processes, rotating group balancing, curvic grinding, piece part machining, paint application, sheet-metal repair and full pneumatics, electric service, and fuel accessory repair and test. TASA Capabilities include:

- Auxiliary power units (APU) and related accessories (LRU)
- Engine nacelle
- Components including thrust reversers, nose cowls and fan cowls
- Accessory (LRU) support
- Composites & bonded airframe structures
- Core APU & piece part repairs
- Structural repairs
- Aircraft accessories

Eurocopter

The Eurocopter Group was founded in 1992 when Aerospatiale-matra (France) and Daimler Chrysler Aerospace (Germany) merged. Eurocopter is now a subsidiary owned 100% by Airbus Group, one of the largest aerospace groups in the world. Eurocopter provides a wide range of helicopter services including maintenance, repair, and overhaul services (MRO), spare parts, training, and full technical assistance to customers.

Eurocopter opened its maintenance center in Thailand in 2009. The company's mission is to maintain helicopters and train Thai pilots and technicians. Eurocopter also supplies helicopters to the Thai military and Royal Thai Police.

Other aviation related & support companies in Thailand

Due to strong growth in the Thai aviation market, several leading global aviation corporations are reaping significant profits and expanding services. Other aviation related companies in Thailand include:

Airports of Thailand Public Company Limited (AOT) was privatized from a state owned enterprise to a limited public company in 2002. AOT is Thailand's leading airport business operator. AOT's main business lines are managing, operating and developing airports. AOT has strong experience and excellent expertise in airport operations management including airport development planning and airport improvement to meet international standards and to be able to respond to various clients' needs. Currently, AOT manages 6 international airports including Suvarnabhumi, Don Mueang, Chiang Mai, Chiang Rai, Hat Yai and Phuket.

Aeronautical Radio of Thailand (AEROTHAI) is a state owned enterprise under the Ministry of Transportation and Communications. AEROTHAI was founded in 1948 with the approval from the Royal Thai Government to provide air traffic control and aeronautical communication services for airline operations.

With more than 50 years of experience, AEROTHAI has been providing Air Traffic and related services with recognized international standards to both civilian and military flights. With its ambition to grow, AEROTHAI has expanded its business outside of Thailand, focusing on the Asia region. The business expansion includes:

- Air traffic and related services
- Communication network services
- Airline and airport communication services
- Flight inspection service

WHY THAILAND

“Thailand provides a very friendly import/export environment so that Ducommun can easily move merchandise and capital. Thailand offers an abundant, high quality, hardworking and stable workforce. Also, Thailand’s sophisticated logistics network allows us to move the finished product to our customer rapidly.”

-Andy Wu, Vice President of Offshore Operations & Continuous Improvement,
Ducommun Technologies-

Thailand is a major hub of airline services and aircraft maintenance. The country offers many advantages for maintenance, repair and overhaul (MRO) of aircraft and equipment. These include:

Competitive skilled workforce supply

According to Oxford Economics, there were approximately 393,000 people employed in Thailand’s aviation sector in 2012. Thailand offers well-qualified workers at competitive wages. Moreover, the Thai workforce continuously improves its skill base through the utilization of the eight approved training schools which include:

- Civil Aviation Training Center
- Bangkok Aviation Training Center
- Nakhon Phanom University
- Royal Sky Co., Ltd.
- Thai General Aviation Technology
- SRI-RACHA Aviation Co., Ltd.
- Young Eagle Co., Ltd.
- Thai Flight Training Co., Ltd.

Additionally, over 60 public and private engineering institutes across the country are accredited by the Council of Engineers. In 2013, Thailand had approximately 180,000 graduates in engineering and 200,000 graduates in science and technology. There are many curricula in aerospace engineering and technology in Thailand such as:

- Civil Aviation Training Center
 - Bachelor of Engineering in Aviation Engineering Program (AEE)

- Bachelor of Technology in Aviation: Air Traffic Management Program (ATM)
- Bachelor of Technology in Aviation: Airport Management Program (APM)
- Bachelor of Technology in Aviation: Air Cargo Management Program (ACM)
- Kasetsart University
 - Bachelor of Engineering in Aerospace Engineering
 - Bachelor of Engineering in Aerospace Engineering and Business Administration (International Program)
 - Bachelor of Science in Aviation Technology Management
 - Master of Engineering in Aerospace Engineering
- Chulalongkorn University
 - Bachelor of Engineering in Aerospace Engineering (International Program)
- King Mongkut's University of Technology North Bangkok
 - Bachelor of Engineering in Aerospace Engineering
 - Master of Engineering in Aerospace Engineering
- Thammasat University: Sirindhorn International Institute of Technology (SIIT)
 - Bachelor of Engineering in Mechanical Engineering - Aerospace
- Assumption University of Thailand
 - Bachelor of Engineering in Aeronautic Engineering
- Suranaree University of Technology
 - Bachelor of Engineering in Aeronautical Engineering
- Southeast Asia University
 - Bachelor of Engineering in Aircraft Maintenance Engineering

Strong Business Climate

Thailand's economy is one of the fastest growing in Asia. According to the World Bank, Thailand was ranked 18th in the world and 3rd in Southeast Asia in terms of ease of doing business in 2013.

Thailand's Excellent Infrastructure and logistics systems

Thailand has an advantageous geographical location in Southeast Asia, which makes it easy to access all neighboring countries including Laos, Cambodia, Vietnam,

Myanmar, Malaysia and Singapore. Thailand's extensive road network, bolstered by the east-west and north-south corridors facilitates smooth internal transportation as well as external travel to neighboring countries. Moreover, Bangkok's Suvarnabhumi International Airport, Laem Chabang — a leading deep-sea port — and rail links to all regions across the country provides numerous options for international transportation and shipment. With solid transportation infrastructure, the country offers cheap, easy, and efficient logistics.

Thailand's Trade Liberalization

Thailand has bilateral free trade agreements with various countries including Japan, India, Australia, New Zealand, and members of ASEAN. Furthermore, the establishment of ASEAN Economic Community (AEC) in 2015 will expand the market of Thailand to the 10 member countries of ASEAN that collectively comprise a market of 600 million consumers.

The AEC will serve as a massive single market that is fully integrated into the global economy. The AEC will open new doors to manufacturers by transforming ASEAN into a region with the free flow of goods, investment, capital, skilled labor, and services.

ATTRACTIVE INVESTMENT INCENTIVES

Thailand Board of Investment offers a wide range of tax and non-tax incentives for investments in a variety of activities. Tax-based incentives include exemption or reduction of import duties on machinery and raw materials, and corporate income tax exemptions and reductions. Non-tax incentives include permission to bring into the Kingdom skilled workers and experts to work in investment promoted activities, to own land and take or remit foreign currency abroad. Additionally, foreign businesses are entitled to 100% ownership for manufacturing and some services sectors such as aircraft service and maintenance.

Recognizing the potential of the aerospace industry in Thailand's future technological development, the BOI has classified the manufacture, repair or conversion of aircraft, including aircraft parts and equipment or onboard equipment as a ***priority activity of***

special importance and benefit to the country. As such, projects receive an uncapped eight-year corporate income tax holiday and are exempt from import duties on machinery, regardless of location. Projects in these activities are also eligible to receive location-based incentives.

FOR FURTHER INFORMATION:

Thailand Board of Investment (BOI): www.boi.go.th

Department of Civil Aviation (DCA): www.aviation.go.th

Aeronautical Radio of Thailand (AEROTHAI): www.aerothai.co.th

Airport of Thailand Public Company Limited (AOT): www.airportthai.co.th