



MRO INDUSTRIES PARK Maintenance Repair Overhaul Aviation Service



TAI - THAI AEROSPACE INDUSTRIES AVIATION MAINTENANCE CENTRE

EXECUTIVE SUMMARY

Mission Statement:

“TAI’s mission is to set up a world class MRO Center in the AEC region, duly certified by the international Aviation Agencies, with proper accreditations for quality, and offer the best MRO services to Military as well as Civil clients for all types and classes of aircrafts and helicopters, at competitive pricing. Be a one-stop-shop for standard service protocols and also develop state of the art customized solutions to ensure client satisfaction.”

Objectives:

- *To be a complete Aerospace and MRO aviation center.*
- *To promote MRO services as well as Satellite, and Customized Defense solutions business.*
- *Secure global standard service certification as FAA, EASA, CAA and ICAO.*
- *To acquire talent pool and develop their skills further in Aviation industry.*
- *To develop Thailand as MRO service center hub in AEC region.*
- *To develop pilot training center.*
- *To develop world class R&D Center for customized Defense solutions.*

- *To facilitate indigenous production of spare parts and set up centralized AOG for AEC region.*
- *To set up/acquire charter aircrafts/helicopters business for AEC region.*

Preamble:

Southeast Asia's civil aviation sector is one of most dynamic in the world, with an estimated 27 percent annual passenger traffic growth rate triggering fleet expansion among the country's airline, as well as the expansion and modernization of airport infrastructure. With a significant and sudden rise in the total fleet size in Southeast Asia, the demand for MRO service has also increased rapidly, unfortunately aircraft maintenance has not received adequate focus and coverage.

The rapid growth of the country has attracted major global aerospace companies for establishing their MRO facility. Great geographic location, technically oriented, educated talent pool and competitive labor cost are some of the advantageous factors for Thailand as a MRO destination. The major challenge for Thailand being a cost-effective MRO Hub is high taxes, regulatory issues, shortage of space at major airports, long term contract of airlines with foreign MRO service providers. Thailand MRO companies lack globally recognized certification, such as those issued by the European Aviation Safety Agency (EASA) or the Federal Aviation Administration (FAA), which result into not being able to service leased airline of domestic and international airlines. Major players such as Thai Airways, Bangkok Airways, Air Asia, Nok Air etc., have established their own MRO teams and have adequate maintenance capability. However, several other players such as R Airline, New Gen etc., do not have adequate manpower and skills for MRO and therefore source their maintenance requirements from abroad, so Thailand faces stiff competition from neighboring MRO hubs like Singapore, Malaysia and China.

Market Overview:

To support and catalyze growth in the Thailand airline industry and make Thailand as a MRO destination a reality, the government should focus on providing benefits similar to those that have been extended to other service sector (IT & Motor). Government's support is required in several areas such as clarity in policy as well as easing and rationalizing taxation and providing incentives to companies which will help in developing and promoting the aerospace sector. Without this support the Thailand MRO industry is likely to be a myth rather than reality.

Airline industry has grown exponentially over the past 30 years. It is estimated that the demand for new aircraft during 2013 - 2023 be 36,770 aircrafts. Of which, 36.6% or 13,460 aircrafts will be delivered to the Asia and Pacific Region, which will translate into a paid expansion of the region's MRO business

Airbus* predicts that air traffic will grow 4.7% annually over the next 20 year (2013-2032), requiring more than 29,000 new passenger and freight aircraft valued at nearly \$4.4Tn. Some 10,400 planes will replace existing aircrafts, which means that the worldwide fleet

will double to around 36,500 aircrafts by 2032. By the same date, trade organization ADS** estimates that more than 24,000 business jets, 5,800 regional aircrafts and 40,000 helicopters will be required.

Asia-Pacific will lead the world in traffic by 2032, say Airbus, overtaking Europe and North America. Today a fifth of the population in emerging market take a flight annually, but by 2032 this will rise to two thirds as global passenger numbers more than double to 6.7 billion.

Maintenance, Repair and Overhaul (MRO):

With the civil air transport fleet doubling to more than 50,000 aircrafts within 15 years, there will be significant increase in outsourcing of maintenance operations, while aircraft OEMs are also extending their reach into the MRO business.

The Global MRO business is divided into 5 main sectors: component MRO (36%), engine MRO (30%), runway maintenance (17%), heavy maintenance (10%) and modifications (7%). It is estimated that, during 2015-2024, the largest MRO expenses will be on Landing wheels and Brakes which will total to USD 529.3 million, followed by APU (Auxiliary Power Unit) USD 434 million, IFE (Inflight Entertainment) USD 297.8 million, Engine Fuel and Control 222.8 million, and Landing Gear USD 216.5 million.

Commercial Airline's MRO expense for 2015 is estimated to be about USD 12 billion and over USD 167 billion during the next decade (2015-2024) in the Asia Pacific Region. Our share of the total amount, about 6.3% will be carried out in Thailand which will be approximately USD 772 million in MRO incomes. The MRO income is expected to top USD 10.6 billion over the course of the next ten years.

The purpose of this business plan is to provide investors with a comprehensive synopsis of Thai Aerospace Industries established in 2012. We are the Thailand's largest independent aerospace, satellite as well as defense technology companies, to deliver innovation and excellence in servicing through comprehensive one-stop-shop solution for Maintenance Repair Overhaul (MRO) of selected civil and military aircrafts and helicopters. These services ensure continued functionality and performance of platforms down to the component level. Our solutions are tailored to your specific requirements, and ensure that recognized quality management system with advance quality assured procedures are deployed to deliver and support fully-certified services.

Location address:

Nakhonsawan Province

- MRO aviation for Civilian and Military (Aircraft, Helicopter and UAV)
- Pilot and Crew Training Centre
- Faculty of Aerospace Engineering (joint with University)
- R&D for Aerospace (Aviation and Satellite)

Project Owner:

THAI AEROSPACE INDUSTRIES COMPANY LIMITED. (TAI)

Core Business:

- Airframe MRO
- Engine MRO
- Component MRO (Landing Gear, wheel & Brake, APU, engine fuel & control, IFE)
Avionic repair and customization
- Component manufacturing
- Training Centre
- Training Institute
- Trading of new & used Aircrafts
- Satellite operation
- Defense Research & Development Center
- Aircraft/Helicopter charter services

Capabilities:

- Major/minor airframe modification & structure repair
- Routine, calendar, hourly and monthly inspections
- Pre-Purchase Evaluations
- Green Aircraft Completion
- Interior refurbishment & Modifications
- Special Mission Modification & integration
- Avionics upgrades
- Exterior Paint
- Heavy Global & Challenger Authorized Service Facilities

Certification requirement (Global Standard):

- FAA, USA
- EASA, Europe
- ISO 9001:2008
- ASA (Parts Association)
- DCAT (Department of Civil Aviation, Thailand)

Total Staff:

800 -1,200 of Employee

Business and Management Consultants:

- Bureau Veritas (France) is a global leader in testing, inspection and certification, Bureau Veritas serves clients’ needs around the world in inspector quality and certification (FAA, EASA).
- Lockheed Martin (US) is a global leader in Aircraft and Defense
- Canwest Aerospace (CANADA) is a large helicopters MRO Center
- General Military group with Arm Force Development Command (for EIA issue)
- Ghafari Association, Michigan, (USA)

Total Capital requirement:

- MRO Hub Centre: Euro 2 Billion
- Satellite: Euro 1 Billion
- Homeland Security R&D: Euro 500 Million
- Charter services: Euro 1.5 Billion

Total Capital: Euro 5 Billion

Capital Investment purpose:

- Land
- Building
- Infrastructure
- Equipment
- System
- Acquisition
- Operation

Profile of senior management:

Position	Name	Current Job
CEO	<p>Thanakrit Atswalongkorn</p> <p>Mr. Thanakrit graduated with MS (MBA) and B.Sc. (Engineering). He has over 10 years of experience with aircrafts from military and defense. He was deputed on special assignment to work with US and UK government organization. Mr. Thanakrit also possesses over a decade of experience in Telecommunication within the AEC region.</p>	Lockheed Technology

COO	<p>Tawat Thongprasart</p> <p>Mr. Twat has over 25 years of experience in aircraft maintenance and piloting of military and civilian aircrafts. He was deputed on special assignment to work with US Airforce and France Transportation Organization</p>	Royal Thai Ministry of Natural Resource and Environment
CFO	<p>Dr. Sataporn Amornsawandwattana</p> <p>Dr. Sataporn received his Doctorate degree in Manufacturing Engineering. He also has rich experience in financial management, business development and planning for several years. He has been offering his consultancy services to some of the leading companies in Thailand.</p>	UTTC Vice President

Organization Structure:



