



EMERGING MRO HUB

With India's civil aviation sector expanding rapidly, several international firms are investing in setting up MRO facilities, writes **Rajiv Pai**.



THE civil aviation sector in India has expanded rapidly in recent years, with several new private airlines having started operations, to cater to the growing number of air travellers.

While the current economic slowdown has resulted in many carriers scaling down growth plans, the global aerospace sector, especially aircraft manufacturers, expect the Indian sector to continue flying high in the medium and long term.

In fact, according to the Ministry of Civil Aviation, domestic air traffic is expected to surge from 29.82 million passengers in 2007-08 to 52.32 million by 2016-17. Similarly, the number of international air travellers is expected to rise from

20.96 million to 32.99 million in the same period.

Growing air traffic implies larger aircraft fleet and that translates into a lucrative, associated business opportunity for India in the form of maintenance, repair and overhaul (MRO) facilities. A vital support service for the aerospace industry, MRO has largely been confined to those countries that are themselves producers of commercial aircraft.

With some deft manoeuvring, India is positioning itself to gain a slice of this profitable business. A government policy that has proved particularly advantageous relates to offset rules. These rules prescribe re-investment into the country of 30 per cent of all deals valued at over

US\$60 million, obliging aerospace partners such as Boeing and Airbus to set up units in, or source materials from, India.

The offset policy is also designed to encourage overseas investors to transfer technologies and extend licensing for indigenous production. This will help build up a credible support industry for India to eventually emerge as a major aviation manufacturing and assembly hub.

The country is now moving from parts manufacturing to engineering, information technology-enabled services and research and development (R&D).

Overseas majors are outsourcing an increasing amount of work to the domestic sub-assemblies segment. Industry watchers expect large deals and

joint ventures with global aviation majors.

India is considered to be one of the fastest-growing aerospace markets in the world and has attracted the interest of major global companies. The industry has an expanding consumer base, and a growing number of airlines, businesses and high net worth individuals. All its segments are showing a significant level of growth, driven by the inherent advantages that the country has of a well-educated and trained talent pool, manpower cost competitiveness, liberalised civil aviation and defence policies, a strong domestic manufacturing base, and the presence of specialist capabilities.

A newly released study on the MRO industry notes that though activity in the Indian aerospace industry is primarily driven by public sector units (PSUs), there are tremendous opportunities, for both public and private sectors, in the 'design to build' lifecycle.

"India's engineering workforce, its rapidly developing engineering services

India's workforce, R&D expertise and its strategic location make it a potential global hub for MRO.

and R&D expertise, and its strategic location make it a potential global hub for both manufacturing and MRO," observes the study, 'Changing Dynamics – India's Aerospace Industry.' It was undertaken by PricewaterhouseCoopers (PwC) at the behest of the Confederation of Indian Industry (CII).

Drafted by Dhiraj Mathur, Jairaj Purandare, Vivek Mallya and Nilesh Modi, PwC

specialists on aerospace and defence practice, the study suggests that while it is difficult to make projections during a global recession, from a long-term perspective, the aerospace industry's cyclical nature and strategic importance will drive a recovery. It also sets store on emerging markets, particularly India and China, driving the global civil aviation sector.

India's MRO segment, currently at a nascent stage, is estimated to grow 10 per cent year-on-year and reach US\$1.17 billion by 2010 and US\$2.6 billion by 2020. The main challenge in positioning India as an MRO hub, however, comes from the indirect tax structure, specifically customs duties and service tax.

As per the study, while the Government of India has undertaken significant liberalisation in the investment policy regime, particularly in civil aviation, there remain critical issues, especially in the tax regime, that need to be addressed if India has to claim its position as an important

MAJOR SHIFT IN MRO BUSINESS TO ASIA-PACIFIC REGION

GLOBALLY, the MRO business is witnessing a major shift from the developed world, especially North America, to the emerging markets of Asia. Cities such as Shanghai, Singapore, Bangalore, Hyderabad and Nagpur are expected to emerge as the new MRO hubs.

"In the long run, MRO activity will shift towards the Asia-Pacific region as China and India are slated to establish their importance as MRO centres," says Nagib Ramli, Frost & Sullivan's Asia-Pacific research associate for the aerospace and defense practice.

Ramli notes that the global MRO market is witnessing a steady annual growth of around 4 per cent; the market value is expected to top US\$65 billion within the next decade, from around US\$45 billion at present.

"Over the next few years, it is estimated that North America will see a decrease in its market share. Reasonable growth in the Low Cost Carrier (LCC) passenger traffic within Asia-Pacific on short flights and even in the long haul segment could potentially provide stimulus for the increase in MRO activities," he adds.

The Asia-Pacific region is expected to record growth from all maintenance segments, the bulk of which will be driven by the engine segment. This is in part due to long-term demand emanating from the major economies in the region that are expecting new aircraft deliveries from leading manufacturers.

"It is expected that deliveries in 2009 would be close to some 500 aircraft, adding backlogs from 2008," says Ramli. "Since MRO operators in Asia are typically involved in the maintenance of wide-body aircraft, it is estimated that more long-term MRO contracts will be put in place."

The Frost & Sullivan analyst points out that labour costs in the region are relatively cheaper. "As the MRO industry adopts cost-cutting measures to minimise operational and maintenance expenditure, to provide the necessary cash flow for sustainability and growth, the labour aspects of the business as a whole should not be discounted," he adds. "The establishment of MRO facilities across Asia will also bolster standard competencies of aircraft technicians and hence produce a strong demand for engineering talent."



global manufacturing hub in this sector.

Recognising India's locational and cost advantages, foreign companies are bullish regarding India's potential as an MRO hub and several alliances with local firms have been announced.

International aircraft manufacturers, including Boeing and Airbus, are investing large sums in the MRO sector in India. "Boeing has committed up to US\$100 million for an MRO centre, US\$75 million for a pilot training centre and US\$10 million for pilot training grants," reveals Dinesh Keskar, vice-president (sales), Boeing Inc. The MRO facility is planned to be set up at the Nagpur Special Economic Zone (SEZ), being developed by the Maharashtra Airport Development Company. A joint venture between Seattle-based Boeing and Air India, the centre is expected to be operational by 2010.

Keskar deems Nagpur a logical choice for setting up the MRO as the dry weather there is conducive for overhauling aircraft, with parts not prone to corrosion in low

humidity. Boeing's first MRO in Asia was established at Shanghai in China. "We are yet to finalise our requirement, but we will be recruiting locally as talent is available here and will prove to be cost-effective," says Keskar. Air India will provide the technical expertise and support for running the MRO.

Underscoring Boeing's deep commitment to the success of the aerospace sector, Keskar maintains the company is pursuing an integrated enterprise strategy to become India's preferred aerospace and defence partner and provider. According to him, Boeing has had relationships with Indian suppliers since 1991, but is now increasing the pace and depth of its engagement not only through its products and services, but also via software development, engineering and technology as part of its globalisation strategy.

Boeing also has a deal with Tata Motors subsidiary, TAL Manufacturing Solutions Ltd, for manufacturing floor beams using new technology with advanced titanium

and composite materials for Boeing's 787 Dreamliner aircraft. TAL has already commenced operations at the Nagpur SEZ. Moreover, Boeing has an agreement with the Indian Institute of Science (IISc) and IT firms Wipro and HCL to develop wireless and other network technologies for aerospace-related applications. Other R&D projects have been conducted with companies such as National Aeronautics Ltd and with the Indian Institute of Technology (IIT) Kanpur.

An MRO facility, as the one planned at Nagpur, gives India-based operators the option of avoiding the higher cost and additional time of flying aircraft and support staff to other countries for scheduled heavy maintenance checks.

For example, though Air India currently does minor in-house maintenance work, it will be able to conduct heavy maintenance checks at the MRO centre once it comes up in Nagpur, instead of getting it done abroad.

"We hope that other carriers will take

WORLD-CLASS MRO FACILITY AT HYDERABAD

A WORLD-CLASS MRO facility is being developed at the Rajiv Gandhi International Airport at Hyderabad. The new, nearly US\$70 million facility, is being developed by a joint venture between MAS Engineering, a part of Malaysia Airlines (MAS), and GMR Hyderabad International Airport Ltd (GHIAL).

The facility, for both narrow- and wide-body aircraft, is expected to be ready later this year. According to Tengku Azmil, executive director, MAS, many aircraft from India are flown to Malaysia and other countries for heavy maintenance. "The new venture will be able to capitalise on these opportunities and will emerge as a leading MRO player in the sub-continent."

The GMR Group is also bullish about the prospects of the new MRO facility. "The new facility is strategically located in close proximity to New Delhi, Mumbai and Chennai," remarks P S Nair, ceo, GHIAL. The Indian civil aviation sector is expected to see rapid growth, with the number of aircraft expected to rise from 300 at present to 500 over the next two years, and to 2,000 in about a decade.

Also, GHIAL recently signed an agreement with CFM International, a leading aircraft engine manufacturer, for setting up a new maintenance training centre in Hyderabad for CFM56 engines. The centre will be located in the new aerospace park being developed in the 250-acre aviation special economic zone (SEZ), which forms part of the airport complex.

"The centre will help India's airline companies to considerably reduce costs, conserve time and valuable foreign

exchange, and create huge employment opportunities," notes G M Rao, chairman, GMR Group. "This is also a significant leap in our vision to develop the Rajiv Gandhi International Airport as an MRO hub in South Asia."

According to Nair of GHIAL: "This facility marks the beginning of our plans to create a comprehensive, international aviation support cluster in Hyderabad. We have two SEZs of 250 acres each, and our plan is to bring to India all aviation and avionics related activities that are currently outsourced overseas."

Paul-Andre Chevrin, CFM International's vice-president for India, explains that the new centre will mirror its facilities currently operating in France, the US and China. "Once the facility is fully operational, it will be capable of training up to 500 engineers each year," he adds.





advantage of this opportunity that could potentially reduce the cost and time that other options might require," observes Keskar. "Nagpur was selected because it will provide a convenient, centralised location for India- and regional-based airlines to schedule routine maintenance and overhaul work, and to have repairs completed."

European Aeronautic Defence and Space Co NV (EADS), the parent company of Airbus Industrie, has formed a joint venture with the National Aviation Company of India Ltd (NACIL), to build an aircraft MRO centre in New Delhi. The company, which will be investing US\$40 million over five years, will initially maintain and repair airframes of NACIL's Airbus fleet and subsequently expand these services to other airlines, as well non-Airbus aircraft.

The group operates a US\$250 million Airbus Engineering Centre in Bangalore, which focusses on modelling simulation and aerodynamics for all Airbus aircraft, including the A350 and the A380, and is primarily for high-end engineering analysis and design.

The Bangalore centre, which was established in 2007, is developing a simulated A380 flight management system (FMS), as part of a trans-continental cooperation between engineers in the Indian city and in Toulouse, France. The development will help Airbus systems engineers provide

We hope other carriers will take advantage of this opportunity that could potentially reduce costs.

mature specifications for the suppliers of FMS, which are key elements of modern jetliners, and can also be used in R&D work on evolved FMS functions for new programmes such as the A350 XWB.

Delivery of the simulated system's first operational version is scheduled by the end of this year – an ambitious timeline given the nature of the project. Once the simulated FMS is complete, the team will be looking at expanding the functionality to include all Airbus aircraft families, as well as extending its compatibility with other simulation means, such as the research cockpit simulator.

Some 300 engineers will be employed by next year at the centre, which will eventually be fully integrated into Airbus's global engineering network.

Another initiative was the joint setting up by Airbus and CAE, a Canadian provider of simulation and modelling technologies and integrated training solutions, of a centre in Bangalore for training pilots and maintenance crews. The centre will in due course have the capacity to train 1,000 pilots a year to help bridge the demand and supply gap in India. As part of the overall training package, Airbus will provide pilot screening and refresher courses. Pilot screening will be free of charge and will evaluate candidates selected by airlines to be Airbus type rated.

"India has an abundance of people with highly-developed IT skills and is also one of the world's largest-growing aviation markets, so it makes sound business sense to want to share and be a part of it," notes Miranda Mills, vice president (sales), Airbus India.

Indian carriers have in-house technical capabilities for minor work, explains Mills, but MRO work such as overhauls and major checks is carried out in Singapore and Dubai. Airbus estimates that the Asia-Pacific aircraft and engine MRO market will touch US\$12.90 billion by 2011.

India already has some niche players in the aircraft maintenance field, one of them being Hyderabad Aircraft Maintenance Company (HAMCO). A third-party aircraft maintenance organisation for commercial planes, HAMCO offers services that include avionics, electrical wiring inspections, an airframe and simulator division and component manufacturing services.

Max Aerospace Limited is another player. Established in 1994, the company provides engineering support for all the major commercial airlines and aircraft operators in India and the Middle East. Its engineering facility in Mumbai supports a range of aircraft and components.

Air Works India Engineering Pvt Ltd, established in 1951, proposes an investment of US\$120 million over the next three years for establishing an aircraft maintenance centre.

The firm has 500 professionals working across 10 Indian airports, providing comprehensive services for fixed and rotary wing aircraft, including airframe, avionics, and engine maintenance, modifications, aircraft management, charter services, aircraft sales, aviation staffing and training.



MRO PROMOTERS OPT FOR SPECIAL ECONOMIC ZONES

PROMOTERS of MROs are increasingly opting to go the SEZ route for setting up their operations. Besides the Nagpur and Hyderabad MROs, a third aerospace-related SEZ is coming up in Belgaum, in the southern state of Karnataka.

Textron Systems, part of American aerospace major Textron Inc (which includes brands such as Bell Helicopter and Cessna Aircraft), recently announced a tie-up with QuEST Global, a leading provider of outsourced engineering services and manufacturing, to develop a 300-acre aerospace SEZ in Belgaum.

The sector-specific SEZ will provide build-to-suit requirements to companies seeking to establish facilities in the aerospace and defence, industrial and automotive industries.

"With growing demands for state-of-the-art defence services and solutions, India is a key country in a region that is important to our international growth," says Frank Tempesta, president and ceo, Textron Systems.

According to Aravind Melligeri, chairman and co-founder, QuEST Global: "This relationship marks the beginning

of the aerospace and defence industry's development at the SEZ."

The SEZ has already attracted a processing facility catering to the needs of the aerospace industry. Aerospace Processing India (API), promoted by Magellan Aerospace and QuEST Global, has just set up a metal finishing treatment facility, not readily available in India, at the SEZ.

Both Airbus and Boeing have supported the setting up of the facility. "API provides a much needed, standalone third-party metal finishing treatment service in India," points out Dr Srinivasan Dwarakanath, director, international cooperation, Airbus. "We are proud to have supported API and to have helped enhance the local aerospace industry."

API has invested in capabilities, which would enable fulfilling the demand for sourcing fully finished parts from India.

In the initial phase, the facility would be focussed on processes for aluminum, titanium and stainless steel components for aero-structure and aero-engine components.

Fredrik Groth, ceo, Air Works, believes his company will require an infusion of an additional US\$100 million and a strategic partner as it gets into advanced engineering projects over the next two years. In its second phase, Air Works plans to overhaul engines and parts such as landing gear.

MRO manpower costs in India are said to range from US\$30 to US\$35 per hour. This is almost 60 per cent cheaper than in Western Europe or the US, but not significantly dissimilar to wage rates in China or Indonesia. India is also endowed with a vast talent pool, whereas developed countries are facing a dwindling supply of high quality engineering talent, apart from an ageing workforce.

There is, however, an increasing trend of aerospace engineers choosing to work abroad, many even being poached from India-based carriers. To address this, MRO companies are in the early stages of working with educational institutions to guide graduates towards the aerospace sector and also institute after-graduation employment programmes.

The Indian civil aviation sector, expected to fly out of the current turbulence much earlier than the industry in the developed world, offers tremendous scope for growth for the MRO industry. Not surprisingly, most of the leading players are holding firmly to their original plans and will roll out additional investments in due course. ✈️