During the Farnborough Air Show Airbus published its first Global Services Forecast (GSF). This forecast predicts that over the next 20 years the total industry aftermarket services spend will reach US$3 trillion. Of this total, the cumulative value of MRO activity will exceed $1.8 trillion by the year 2035. On an annual basis, Airbus predicts that the MRO spend will grow from $53 billion to over $132 billion per year, representing an average year-on-year growth of 4.6%, the report said.

Clearly, these figures indicate that MRO spend on airframes will be significant. Fleet modernisation is currently a big factor and newer aircraft types will require less base maintenance at longer intervals, thus reducing the man hour amounts of base maintenance work per aircraft.

“The new aircraft types mean less work for us, and the older types require more time in the workshop owing to the technical challenges they present. All MROs are already facing or will have to face this trend,” says Thomas Rueckert, SVP Production Network Aircraft Base Maintenance at Lufthansa Technik (LHT).

LHT initiated measures to absorb the impact as much as possible. Rueckert explains that some of the initiatives involve increasing the standardisation and flexibility of the production set-up across the globe as well as improving overall efficiencies. “Another key initiative deals with enhancing our product and services portfolio, for instance raising synergies between products by combining them in a smart way to increase customer value,” he states.

LHT offers a full range of base maintenance services from all check types up to comprehensive aircraft modification solutions for Boeing and Airbus narrow- and wide-body aircraft. The European core network offers narrow-body capabilities for all types of A320 and 737 aircraft as well as for the Boeing 757. Furthermore LHT services A320 and 737 aircraft in the Americas (Puerto Rico) and in Asia (Manila, Philippines) as well.


“Currently we are investigating the ramp-up of 787 and A350 base maintenance capability in terms of the optimal location,” Rueckert confirms.

Apart from fewer shop visits for newer airframes, Rick Townsend, VP for Business Development at Avianor reminds that the increased use of composites in today’s airframes also has had a very large effect on the amount of corrosion found when aircraft are put into heavy maintenance. “Thus, the MRO’s ability to generate labour hours billed to the operators is reduced – good for the operator but not so good for the MRO’s where approximately 75 to 80% of their revenue is generated,” Townsend stipulates.

Engine and component reliability is at an all-time high which naturally lowers removal rates and overall repair costs for the aircraft operators in the component MRO sector, Townsend adds.

Keith Mwanalushi analyses the status and trends in the global airframe MRO sector including the impact of rapid fleet modernisation, regional variations and labour challenges.
Maintenance costs for newer aircraft will be lower as they will need less work for their first few checks. “In addition, legacy aircraft checks are performed every 18 months, whereas new aircraft checks will be performed about every three years. This will be partially offset by the increased number of aircraft in the future. Also, with new aircraft coming online, modification work will increase in order to meet the operator’s fleet standards,” comments Pastor Lopez, CEO at PEMCO.

Rob Neugebauer, Technical Sales Director Airframe at AFI KLM E&M argues that new generation aircraft tend to be less man power consuming but need more planning in view of tests and software activities. “This will influence downtime. So although the new generation aircraft will be less in man hours, the crux will be planning and the correct know-how on software and the test phase before hands-on-aircraft starts,” Neugebauer states.

OEMs are now well established in aftermarket services but as Rueckert from LHT clarifies the base maintenance market has not yet been affected as much as other MRO-products (e.g. engines or components).

The major OEMs such as Airbus and Boeing are present on the base maintenance scene mostly through joint ventures, e.g. Boeing Shanghai Aviation Services. “Overall, LHT has a very good relationship with all the OEMs and is in close cooperation with them,” says Rueckert.

“Independent airframe and component MRO providers have had no choice but to adapt to this new reality,” Townsend comments. “With the OEM’s ‘invasion’ into this market space - consolidation by the larger airframe, component and supply chain providers is a common theme with more expected in the future. A very unfortunate side effect of the OEM’s moving into this market segment with such strength is that the pressure is squarely falling on the mid to smaller MRO providers,” Townsend continues.

Lopez from PEMCO is fully aware that OEMs have been trying to take a share of the aftermarket segment for a long time. “The issue with OEMs is that they are incentivised to replace material with new OEM material instead of extensively using repairs to lower the operator cost. There is also the OEM tendency to treat customers as if they do not have a choice of service. Thus, independent MROs will have to position their business differently than OEMs,” says Lopez.

One only has to compare old generation aircraft with new ones, which have ensured the protection of the OEM’s Intellectual Property (IP). “For new entrants, it used to be easier to establish a new company off the ground but now greater authorisation, IP and licenses are required and if they have no leverage on them [OEMs], then this can be troublesome,” Neugebauer warns.

However it all depends on where a company is operating as competition is very tough as Neugebauer acknowledges. “There’s also a lot of pressure on parts prices because component OEMs are really active in the market and more aggressive now. But through initiatives like our Transform 2015 and Perform 2020 plans, we managed to stay competitive and improve our competitiveness against other MRO suppliers.”

Furthermore AFI KLM E&M is part of an airline group and therefore benefits from the experience of actually flying aircraft and therefore understands what other carriers need in terms of MRO. “For us the real value creation is being able to think from the perspective of airline customers and knowing exactly what they want and being able to offer a full nose-to-tail tailor-made maintenance package covering engines, components, aircraft, line maintenance, training and so on. This differentiates us from the OEMs,” Neugebauer declares.

According to Airbus and with the accelerating demand for aviation and its burgeoning airline fleets, Asia-Pacific will represent the largest portion of the market for both MRO activity and the need for new qualified pilots and technicians, while Europe and North America combined will account for approximately one third of the total MRO market spend.

LHT recognised the Asia-Pacific region as being one of the key players of the worldwide airline and MRO markets years ago and established airframe MROs in Manila (Philippines) together with Philippine Airlines and in Beijing, together with Air China.

In terms of base maintenance MROs the Asia-Pacific region is an extremely important and strong part of the worldwide market, being home to numerous, significant competitors. “Although the Asian MROs are tough competitors for LHT, the base maintenance division has good relationships with many of them, based on overflow subcontracting or cooperation,” notes Rueckert.

The Asia-Pacific region has established itself as highly important for base maintenance services, especially for wide-body aircraft but the high amount of dynamically growing low cost carriers (LCCs) within the region will also further increase the need for local narrow-body MRO solutions.

Shane King VP of Maintenance at PEMCO is convinced that as long as fuel prices stay low, the Asia-Pacific market will have a slight advan-
tage. “However, as fuel prices rise, the cost of moving materials to the Asia-Pacific region will make the US a more favourable choice for MRO services.”

Moreover, the cost is rising rapidly to the extent that some airlines are considering in-sourcing work back to the US. “Some MROs are creating new capacity in the marketplace to accommodate this potential work. The problem with this philosophy is that there is plenty of capacity in conjunction with lack of technicians. This increases the cost of maintenance in the US as the supply of technicians will not meet the supply of MROs,” King analyses.

Mr Neugebauer adds that growth in Asia-Pacific and specific countries like China is no surprise and AFI KLM E&M has been very attentive towards what’s going on there. He says in the past two years, the company has signed some large MRO contracts, such as a US$1.5 billion deal with Air China and its cargo arm to service the GE90 engines on their 777s for 10 years and more recently, a GE9X maintenance contract with Xiamen Airlines. “We have a small facility in China but are expecting the flow of work to increase so we are becoming much more active.”

AFI KLM E&M observes that MRO specialists are still available but they see the inflow on younger generation to be very low. Mr King also concurs; “MROs are partnering with aviation colleges and high schools to groom their own ‘home grown’ technicians. As baby boomers start to retire, aviation companies must create an interest in the industry for the next generation.”

LHT has observed the same problem, but Rueckert feels his company has not been impacted too badly. “The problem of course does affect the industry, having different possible impacts on the market, as specialists have become highly sought after.”

For a number of years now LHT has had close cooperation with colleges and universities across the globe offering internship, apprenticeships and trainings in order to attract students to the company while at the beginning of their professional career.

Only time will tell how the story unfolds.