

# MRO

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## 2019: A year in review

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MRO activities were worth around \$82 billion in 2019.  
Photo: S7 Technics

# A growth momentum

Incoming technologies, consolidation in the industry and the changing composition of the global fleet have driven growth in the MRO sector. **AviTrader MRO** looks back at the trends that shaped the past year.

**T**he commercial air transport MRO market has been valued at around \$82 billion in 2019, according to a report by experts at Oliver Wyman. With an exceedingly healthy MRO market in 2019, Brian Sartain, AAR's SVP of Repair and Engineering saw a significant trend in consolidation amongst OEMs, as well as MRO capacity being added - "Airbus and Boeing have continued their push for greater participation and control of the MRO aftermarket."

Certainly, the aviation industry's emphasis on data analytics and digital capabilities has increased over the last 12 months. Sartain says AAR has stayed ahead of the trend in developing several digital platforms tailored to customers and business, as well as investing in digital innovations to increase efficiency, reduce costs and capture as much data as possible within the MRO space.

"Our data generation and capabilities enable us to provide our customers with optimal quality assurance, repair tracking, and inventory demand forecasting — plus return their aircraft to service faster. In that vein, we just launched the pilot phase of our new drone programme."



Brian Sartain, AAR's SVP of Repair & Engineering

Over the next year, AAR will be testing drone technology at their MRO hangar in Miami for aircraft inspections, which Sartain predicts will cut inspection time significantly and deliver crucial data capabilities. AAR's cloud-based, streamlined component repair management system, Airvolution®, has already been

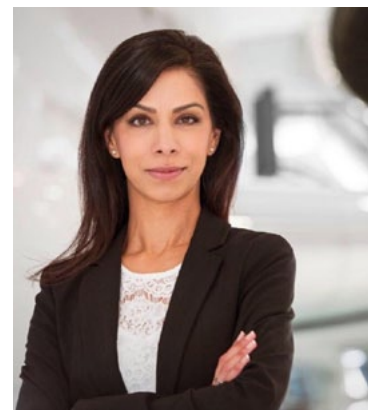
integrated by a key global airline this past year. Also, AAR's PAART-STM Store, with over 1 million parts available online for customers to purchase and ship instantly, continues to break revenue records every month, Sartain reports - "The aviation industry's demand and shift toward digitisation is only moving forward in the new year."

Another noticeable trend is the rapid expansion and growth across China and the wider Asia Pacific region with several airports being built and increasing passenger numbers making the market extremely lucrative reckons Sajedah Rustom, CEO AJW Technique.

Further, Sajedah states the gradual maturing of China's relatively young aircraft fleet has boosted demand for rotatable components. "A knock-on effect of this is the increased demand for skilled MRO talent in the Asian region. We have already started to see an increase in highly-skilled engineering professionals coming through and this will only increase as the Asian market is forecast to be home to 40% of the global aircraft fleet by 2027."

Having predicted this rapid growth, AJW has held a presence in the Asian market for over 20 years and it is very much a core part of the strategy for the future.

A notable change in the industry has been airframe OEMs' expansion into the aftermarket, Sajedah also observes. Airlines and aircraft manufacturers often desire a nose-to-tail aftermarket solution that



Sajedah Rustom, CEO AJW Technique





CFM56 MRO taking place at Standard Aero.

delivers benefits that stretch far beyond keeping up with day-to-day maintenance requirements. "AJW offers airlines a complimentary mix between the airline, OEMs and third-party MRO partnerships. By using AJW as an integrator, airlines can greatly streamline their maintenance requirements."

AJW benefits from these partnerships too, especially the technical, reliability and Service Bulletin/Airworthiness Directive support that a component OEM can provide – "So rather than taking a competitive approach, teaming with OEMs enables aftermarket providers, like AJW, to build highly effective agreements that deliver the streamlined and cost-effective solutions that the airlines want and need."

In 2019, Liebherr-Aerospace benefited from a solid activity in MRO, led by rewarding landing gear overhaul campaigns in Europe, America,

Asia and Africa. Another key fact has been the expansion of the Liebherr-Aerospace heat exchanger cleaning network, with the qualification of selected partners. Joël Cadaux, Director Business and Services – Customer Services, Liebherr-Aerospace and Transportation SAS says: "The dedicated organisation that we put in place has been a success: we were able to celebrate the maintenance of the 5000th heat exchanger in our US-American repair station in Saline, Michigan."



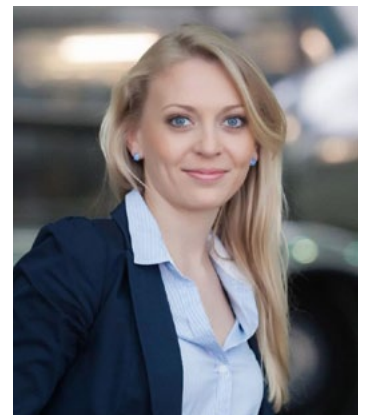
Joël Cadaux, Director Business and Services – Customer Services, Liebherr-Aerospace and Transportation SAS

Cadaux echoes other observations on the rising positioning of the aircraft OEMs on the aftermarket – "Major OEMs are developing their MRO services, on their own platforms as well as ones abroad, and they are launching new activities such as USM (Used Serviceable Materials). This verticalization of the air framers aims at an increased involvement in the supply chain to better control their costs."

Meanwhile, Cadaux says some Tier1 suppliers tend to consolidate through mergers and acquisitions in order to create major groups that can manage nose-to-tail aftermarket. "Liebherr-Aerospace prefers to concentrate on its core expertise in order to offer a complete range of services around its own products. This unique strategy leads to high-level quality, on-time performance and control of its costs."

Inga Douglas, Commercial Director at Magnetic MRO says another trend observed is that operators are shifting towards long-term airframe maintenance contracts. "This trend is influenced by many factors in the aviation market, as well as growth of the fleet of narrowbody aircraft in general, also an increase of natural maintenance demand for the ageing fleet of narrowbodies."

"The shift in European market with classics going away and new aircraft types coming can both be seen as a disruption and as an opportunity for MROs in the region," comments Douglas.



Inga Douglas, Commercial Director at Magnetic MRO



Roger Ross, President – Airlines and Fleets for StandardAero

The underlying trend of the growth of the MRO market – primarily reflecting the continued growth in commercial airline revenue passenger miles – should not be overlooked, Roger Ross, President - Airlines and Fleets for StandardAero points out.

While business economists have expressed concern over the potential for a recession in 2020 or 2021, for now demand in our sector remains strong, as reflected by the volume of engine inductions in 2019, Ross states. “While the industry does continue to experience some material supply issues, caused by the strong MRO cycle having coincided with the ramp-up in production of new generation engines, this has not prevented us from achieving another year of strong sales and output growth in 2019.”

The second obvious trend Ross mentions is that of consolidation, both horizontal and vertical. “The MRO industry is still seen as being an attractive space for investment, as witnessed by The Carlyle Group’s acquisition of StandardAero earlier this year. MRO companies continue to command strong prices, reportedly averaging 11x EBITDA over the past two years, encouraged both by the strong revenue growth in our industry as well as by the robust order backlogs currently reported by the major aircraft and engine OEMs.”

A third and widely discussed trend is that of labour shortage concerns - “While we have not yet seen the same supply-demand dynamics as witnessed in the pilot labour force, where salaries have increased dramatically in recent years, the availability of trained technicians certainly is a longer-term concern for the industry. Fortunately, we are able to proactively address this concern, both by partnering with local colleges to foster and train the next generation of technicians, as well as by ensuring that StandardAero remains a place where skilled mechanics want to come to work,” Ross highlights.

The growth and changing composition of the global fleet certainly has an impact on the MRO business. “It will definitely require MROs to adjust, invest into developments and trainings to continue serve the needs of customers,” Douglas from Magnetic MRO mentions. “New engine types in the market changes the engine line service as well – the ability to react and service such engines promptly especially on the wings are becoming increasingly important and will be a core service in the future.”



James Bennett, Director Sales and Marketing, AerFin

Firstly, Ross from StandardAero says it’s worth remembering that the impact of new generation aircraft will take time to be fully felt, both due to the long timescales associated with the replacement of the current fleet of 26,000+ airliners, as well as due to the subsequent delay that will occur until these new generation aircraft begin to generate significant MRO demand. Many of the existing aircraft will continue service in new locations as the world industrialises.



The availability of trained technicians certainly is a longer-term concern. Photo: StandardAero

“One clear hope of operators is that new generation aircraft and engines will continue to push the ‘time on wing’ at the same time as the new engine models are industrialised,” he states.

The use of new materials and technologies will obviously require MRO providers to update their shop capabilities in turn, and the ever-greater reliance on engine health monitoring – for example through real-time prognostics – will also have an impact. “Such technology will likely favour those MRO providers who are able to support operators with analytical capabilities, as well potentially increasing the importance of ‘on-wing’ support services as TBOs lengthen. High capability service providers, such as StandardAero, will become even more relevant as the advanced technology of new engines requires close partnerships with OEMs as well as sophisticated technical, repair and operational capabilities.”

The impact of electric aircraft on the MRO industry remains to be seen, Ross continues, just as it does on the broader market itself. “While electric propulsion does appear to have good near-term potential as a solution for shorter-range vehicles – most notably those serving the urban air mobility segment – the question of exactly how big a disruptor such technology will represent in the long haul marketplace has yet to be established.”

For engines - James Bennett, Director – Sales and Marketing at AerFin expects to see very limited impact in 2020 or even in the short-term. Especially, given that the CF34-8 and CFM56-5B/7B engines have yet to see their first major maintenance event which isn’t predicted peak until 2023.