



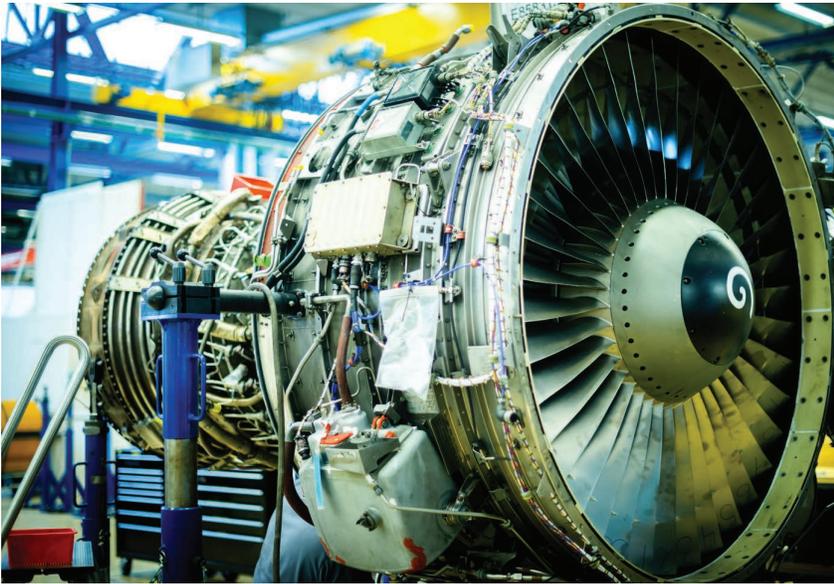
MRO
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Aero Norway boosts inventory with special facility for CFM56 Engine, introduces innovative ‘fast-track’ inspection lane

Aero Norway is an authorised CFM repair station based in Stavanger Airport, Sola, Norway. The modern facility was designed specifically to provide MRO services for CFM56 engine variants and is fully equipped with all the necessary equipment to provide high quality maintenance services with industry recognised EGT margins for CFM56-3, CFM56-5B and CFM56-7B engines. The COVID pandemic was a tough time for the entire aerospace industry and Aero Norway came out of it was flying colours. **Glenford Marston, CEO, Aero Norway** discusses the strategies that helped the company sustain and grow during the COVID times and their plans forward in an exclusive Interview with **MRO Business Today**. Read ON....

Q - The pandemic was a tough time for the entire aerospace industry, during such a time you put in extensive measures to ensure that Aero Norway would be able to sustain the commitment of faster TATs. Can you tell our readers about those measures?

A - To keep our specialist CFM56 engine MRO facility open during the pandemic we put people first. We made sure we adopted all the correct health protocols so that people felt comfortable. They understood they could be ill and stay



away from work – their jobs would be safe. We kept everyone informed about the changing business circumstances as they evolved and they all understood that there would be financial consequences for the business. I want to stress that we did not furlough anyone and there were times that we were overstaffed. But we saw a throughput of complex work during this time so we were prepared to manage that effectively.

We also took on a lot of smaller workscopes and to streamline the way we handled these, we needed to think outside our normal system. So we introduced an innovative ‘fast-track’ inspection lane for specialised workscopes. This enables us to move much more quickly and deliver exceptional TATs across many modules.

The ‘fast-track’ innovation has been very successful and it has now become part of the Aero Norway process.

Q – Six months down the line, post-pandemic – What is your take on the global MRO recovery, especially with respect to engine MRO?

A - There is a global MRO recovery, but because everyone suddenly wants to fly again, a lot of things are hurting right now. Staff shortages at airlines and airports means that operators cannot get all aircraft flights back in the air quickly enough. Across Europe and the US there have been a lot of cancellations.



The knock-on effect is that aircraft are not flying, engines are not using up their flight cycles, so they are not coming into the shop at their scheduled time. It will balance up in time but we need all of the aircraft out of storage first.

Q - With newer and more innovative and advanced engines being tested and manufactured almost every day, how do you manage to keep the engine parts inventory updated?

A - Currently Aero Norway exclusively works with in-service CFM 56 engines. No-one wants a huge inventory of parts but we do need to keep some stock of course. With an engine throughput of circa 120 engines per annum our optimum is to keep to about \$26 million of stock. This is not a big number. To remain cost-effective and deliver the TATs we strive for we have developed ‘preferred customer’ relationships and consignment stock agreements. For example, if we have a lessor customer wanting to bring 20-30 engines into shop work we put in place supplier

agreements that guarantee materials for Aero Norway, in return we establish an exclusive procurement agreement with the supplier.

Q - In Inventory management how do you tackle the problem of uncertain demand, around 80% of aircraft spare parts, where planners can’t predict what part will need to be replaced, where, or when?

A - This is not true for engine MRO. Aero Norway’s business model is based on core-performance restoration. We know what is needed and we keep parts available in stock for these scheduled repairs. If you look at HPC blades for example it is evident that during a work scope around 20 to 50% will be scrapped – so we hold a well-balanced stock. We do that for all parts.

Q- There is a general observation that MROs end up buying surplus spare parts leading to excess spending and surplus inventory, leading to tied-up capital in inventory. Despite this many times, the target service levels are not achieved. Is there a way to reduce the inventory investment while improving service levels?

A - As already mentioned, Aero Norway already keeps our inventory of parts as low as possible. Also, the stock we do hold is predominantly USM. This reduces costs for customers, minimises any supply chain issues, and is perceived as better for the environment as it ‘recycles’.

Q – How do you see the future of the aircraft teardown business going ahead?

A - Very healthy. Every owner/operator/lessor is looking to have as much USM in their engine as possible – 95%+ is wanted. That being said there will always be a need for LLPs from the OEMs which need to be purchased new to get the lifecycles required. Currently, demand is outstripping supply for USM. There are engines available – but fewer are being torn down. Many aircraft have seen a new lease of life during the pandemic as fleets renewals were deferred/cancelled due to uncertainty about the levels of air traffic – therefore expected teardowns have



not yet happened and it will be a good couple of years before that situation resolves itself.

Q – Now that the pandemic is history, the problem of skilled labor shortage especially in the MRO sector has sprung up again. Your views

A - There is a huge shortage of skilled labour across all MRO operations. This is something we at Aero Norway predicted would happen. We have not yet reached the peak surge but already some of our repair vendors' TAT has doubled because of staff shortages and shorter working hours.

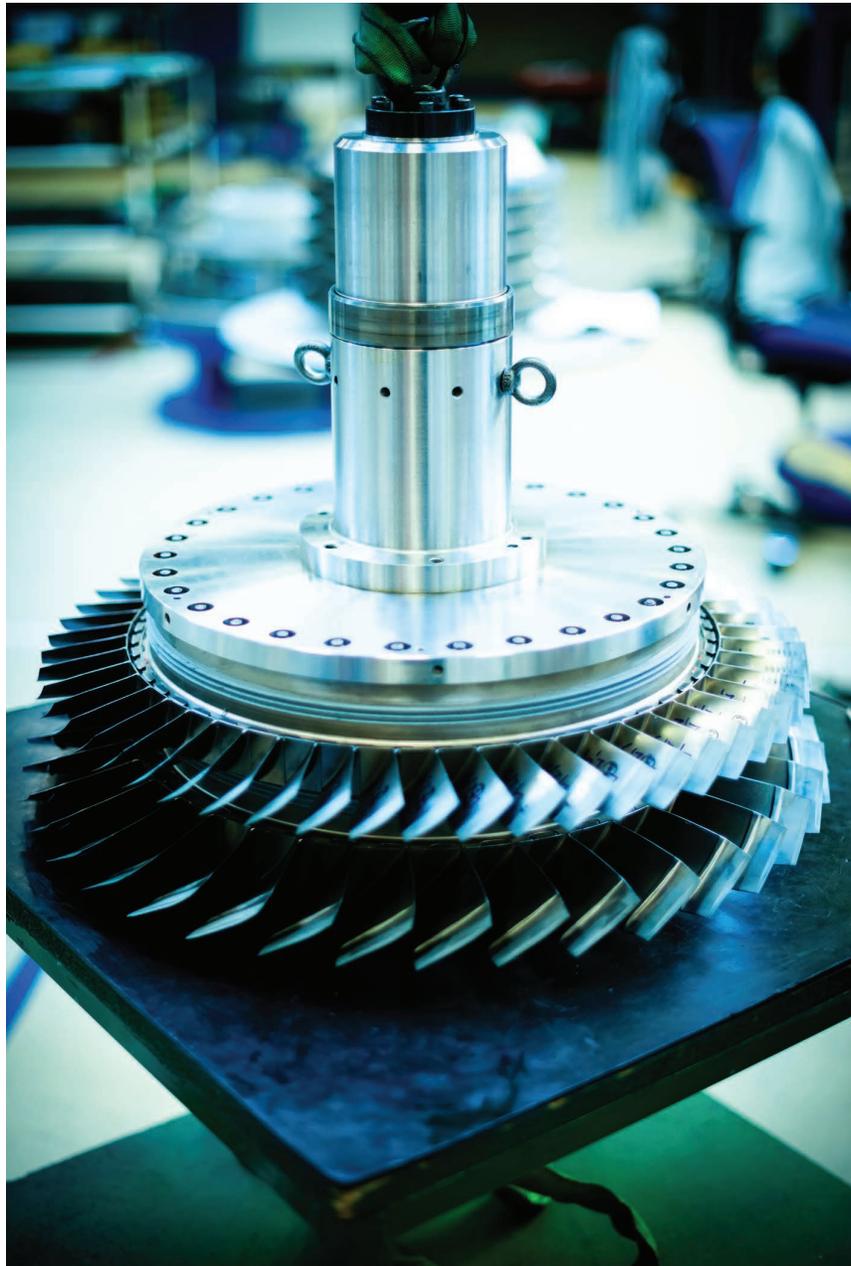
Whilst we have taken precautions at Aero Norway, we are not 100% cushioned. Our trained engineers can still pursue opportunities in the oil industry, luckily they also return after taking new opportunities. Our turnover of staff is low for Norway, but it is proving harder to recruit skilled aerospace personnel from abroad because people can now find jobs in their own country.

Q – What is Aero Norway's contribution towards developing a sound AME training eco-system to tackle the problem of labor shortage?

A - Fortunately, we have developed a strong apprentice scheme programme and this is now yielding value because we have fully trained engineers lined up ready to work, just as some of our older people retire. Home-grown skills are very important to Aero Norway. Additionally, over the last 12 months we have put a great deal of energy into establishing relationships with technical schools across Norway. Our support is enabling us to choose the best of the best for future training. This programme will be rolled out across all technical schools in Scandinavia over the coming years.

Q – You have recently made significant upgrades to the equipment with the addition of high-speed grinding and plasma spraying machines. Can you elaborate on how these upgrades will enhance the operations?

A - The plasma spraying expands our internal repair capabilities and broadens the scope of what we can offer. This helps sustain Aero Norway's TAT guarantees by



reducing the time needed for repairs. We are in the process of introducing a new shot peening machine which eventually will compliment the plasma machine in extending repair capability for fan blades.

Q – The future of MRO is in technology, Digitalization, Additive Maintenance, Robotics, AI, etc. Your views. What are your plans for leading the technology race?

A - All developments in technology are important to us and we're moving closer to being fully paperless via digitalisation

of all processes. This will make us faster. Robotics and Ai are a long way off in engine MRO, but we do anticipate greater application of these technologies in manufacturing.

Q – Any expansion plans on the cards in the recent future?

A - Aero Norway's expansion plans are focused on the induction of LEAP 1A and 1B engine MRO capabilities at the end of 2023.

We have no plans to enlarge our global footprint, just to improve what we already have.