

AVI-OIL: Powering Defence with Synthetic Lubricants



AVI-OIL, a leading player in the aviation lubricant sector, has been pivotal in supporting India's defence and Aerospace needs. The company's product range includes turbine oils, hydraulic fluids, greases, and lubricants for helicopters and aircraft. "In India, we have traditionally focussed on the military sector and acknowledge that this is the ideal opportunity for us to focus on the Civil Aviation sector. We already have most of the products / approvals in place," says V K Mathew, CEO, AVI-OIL. In an interview with Aeromag he discusses the company's contributions and future plans.

V K Mathew
CEO, AVI-OIL

How significant is AVI-OIL's role in supporting the Indian Defence sector, and what specific products does the company supply to meet the needs of the Indian Armed Forces?

The raison d'être of AVI-OIL is to cater to the lubrication needs of the Defence Services in India. Our stated mission is to ensure the nation's self-reliance in the strategic area of Aviation Lubricants. Towards this objective, we are proud to have set up the first Aviation Lubricants plant in India. The plant, located at Faridabad, includes a blending unit for aviation oils, an ester manufacturing unit for production of synthetic base-stocks, Quality Assurance, filling, and packaging facilities. More than 90% of the requirements of the Defence forces are manufactured at our plant.

AVI-OIL offers a comprehensive range of turbine oils, hydraulic fluids, multi-purpose greases and lubricants for helicopters, business jets and aircraft. We offer high performance products as well as cost-effective, customized solutions to meet the needs of our customers.

Our products are approved by major OEMs like Safran, CFM, GE, Rolls-Royce, Pratt & Whitney, and Pratt & Whitney

Canada etc. and airframers like Airbus, Boeing, Bombardier, ATR, Eurocopter, Dassault Aviation, Embraer and many others.

At the time of its inception, the knowledge levels within the Defence forces on Aviation Lubricants was at best rudimentary. AVI-OIL has played a major part in disseminating its knowledge on Aviation Lubricants and its usage for the various aircraft operated by the Defence. AVI-OIL was key in developing the entire Lubricants Approval process and procedures within the existing eco-system of the Defence forces and the regulatory bodies.

How does AVI-OIL support the Indian civil aviation sector?

The Civil Aviation sector in India is witnessing major growth and has already become the third largest market in the world. India stands as one of the world's premier domestic aviation hubs. Following the challenges posed by COVID-19, the sector has exhibited remarkable resilience, full recovery and showing promising signs of expansive growth. This growth is evidenced not only by the surging number of air passengers but also by the influx of

new aircraft entering the Indian airspace and the infrastructure development of airports.

AVI-OIL has firmly positioned itself within this dynamic landscape, consistently addressing the lubricant needs of India's leading airlines. Our comprehensive product lineup, backed by essential OEM approvals and unmatched Technical Services, offers customers a distinct advantage, presenting them with a compelling opportunity to source their lubricant requirements directly from us.

AVI-OIL is approved by the Directorate General of Civil Aviation (DGCA) under Section 2, Category 'E' of CAR.

With our Joint venture partner NYCO's experience across the world, we can bring the latest technologies, products and customer references globally. NYCO has a long-term partnership with Airbus which has helped us in converting some of the major airlines like Air France, EasyJet and several more.

In India, we have traditionally focussed on the military sector and acknowledge that this is the ideal opportunity for us to focus on the Civil Aviation sector. We already have most of the products / approvals in place. With a superior value



proposition, we intend to be the ideal partner for the commercial airlines in India.

Could you explain how AVI-OIL is working on innovative and environmentally friendly products?

AVI-OIL is a Joint venture between Indian Oil Corporation, Balmer Lawrie & Co and NYCO, France. However, NYCO, France provides the technology to manufacture these high-performance lubricants required for the aviation sector. The Technology transfer also covers expertise in production of niche high quality synthetic esters which are used in the blending of Aviation Lubricants.

Guided by the international chemical industry guidelines Responsible Care®, an ambitious program was built to reduce NYCO's products and activities' impact on the environment and to mitigate risks on human health. This is directly applicable to the activities of AVI-OIL in India as we follow the same processes here too.

Carbon footprint assessment has allowed to measure the impact of each stage of the processes and to identify the main emission sources. Decarbonization strategy focuses on two main domains.

Firstly, reducing products' carbon footprint through a review of its purchasing policy, promoting selection of low carbon footprint biobased raw materials.

Secondly, improving manufacturing processes to achieve eco-efficiency and better management of energy and water consumptions.

Furthermore, waste recovery and recycling possibilities are studied to promote circular economy in the lubricant industry.

Additionally, a number of these products will show biodegradability features, as well as no toxicity to the aquatic environment, making some of them compliant with environmental standards like the European Ecolabel. These are key features in any application where the lubricant may be released to the environment or the ocean, accidentally or by design.

Such products, even though they display a good environmental profile, will also demonstrate excellent technical performance, making for further improved environmental impact through extended

lifetime in operation and frictional benefits increasing energy efficiency.

NYCO's commitment to risks mitigation led to the development of a new approach method to characterize a substances' toxicity.

How does AVI-OIL plan to showcase its capabilities at Aero India 2025, and what role do you see the event playing in expanding your presence in the aviation sector?

Aero India is the premier platform in India for the Aeronautics and Defence community and is now acknowledged to be one of the best Air shows and Aviation exhibitions in the world. We would like to take advantage of this confluence of Industry experts and decision makers to showcase our prowess in this strategic arena.

While we will be present at this exhibition through our booth where we will be displaying our products, we look forward to welcoming our customers and anyone with interest in our products to our booth. Our Sales and Technical teams will be available for discussions.

How does AVI-OIL / NYCO work with OEMs globally to bring value to its customers and the Aviation sector in general?

Collaboration with OEMs is fundamental to deliver innovative solutions that benefit both our customers and the broader aviation industry.

NYCO's long-standing partnership with Airbus exemplifies this commitment. By working closely with one of the world's leading aerospace manufacturers, we ensure that our products align with their cutting-edge technological needs, while meeting the rigorous standards of the aviation sector.

Innovation is at the core of what we do. Integrating new technologies in line with our company's philosophy and innovation roadmap, ensuring our formulations remain ahead of the curve in performance, efficiency, and environmental responsibility. The approval process for our product formulations is carefully coordinated with OEMs to ensure seamless integration into their systems,

maintaining reliability and compliance across all platforms.

Our technical teams provide dedicated support, offering expertise to troubleshoot challenges, optimize performance, and deliver customized solutions to OEMs for both existing and emerging applications. This technical service also extends to helping OEMs and operators navigate challenges such as obsolescence by developing modern replacements that meet or exceed the performance of legacy products.

Can you describe what differentiates AVI-OIL from the competition in the Aviation sector in India?

AVI-OIL is probably the only domestic manufacturer of synthetic and mineral based aviation lubricants in India. Around 90% of our supplies to the Defence forces in India are manufactured at our modern plant in Faridabad. Customers are now seeing the benefit of shorter lead times and competitive prices and acknowledge that products manufactured in India are as good as, if not better than the products manufactured globally.

AVI-OIL has always laid emphasis on the quality of its products. To achieve this, we have established a modern state-of-the-art laboratory for Quality Assurance. The Quality Management System of AVI-OIL is certified to comply with the International Standards ISO 9001:2015 and SAE AS 9100:2016. This enhances the reliability of operation of the aircraft and provides confidence to the users.

Aviation lubricants per se must conform to the same governing specifications and approval procedures irrespective of the country in which they are produced. There cannot be any compromise on the Quality of these products.

AVI-OIL has laid emphasis on these issues from day one, and today its Quality Assurance organization is approved by the Directorate General of Aeronautical Quality Assurance (DGAQA) and the Directorate General of Civil Aviation (DGCA) for the military and civil aircraft respectively.

AVI-OIL also set up an R&D centre where indigenous development of lubricants for specialty applications is taken up.