

Avi-Oil: Exploring New Domains after Big Success in Strategic Area



V K Mathew
CEO, Avi-Oil

Avi-Oil was instrumental in developing the entire 'Lubricants Approval' process and procedures within the existing ecosystem of India's defence forces, complementing the efforts of CEMILAC and DGAQA. The company's initial objective of ensuring the nation's self-reliance in the strategic area of aviation lubricants has largely been met and, currently, Avi-Oil is focusing more on the civil aviation and the industrial & automotive segments. V K Mathew, Chief Executive Officer of the company, gives details in this interview.

AVI-OIL has achieved great success in meeting its objective of making the country self-reliant in lubricants for the defence forces. Could you elaborate?

AVI-OIL was founded in 1993 as a joint venture between Indian Oil, Balmer Lawrie and NYCO, France, specifically to ensure self-reliance in the strategic area of military lubricants for the Indian defence forces. Towards this end, we are proud to have set up the first aviation lubricants plant in India. The plant, located in Faridabad, includes a blending unit for aviation oils, an ester manufacturing unit for production of synthetic basestocks, quality assurance laboratory, filling and packaging facilities.

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. This lab also provides technical support to customers for evaluation and reinspection of the products. The Quality Management System of AVI-OIL is certified to comply with the International Standards ISO 9001:2015 and SAE AS 9100:2016. AVI-OIL has also set up an R&D Centre where

indigenous development of lubricants for specialty applications are taken up.

At the time of its inception, the knowledge levels within the defence forces on aviation lubricants were at best rudimentary. AVI-OIL has played a major part in disseminating its knowledge on aviation lubricants and its usage for the various aircrafts operated by the defence services. AVI-OIL was instrumental in developing the entire 'Lubricants Approval' process and procedures within the existing eco-system of the defence forces, complementing the efforts made by key regulatory and approving bodies like the Centre for Military Airworthiness & Certification (CEMILAC) and Directorate General of Aeronautical Quality Assurance (DGAQA).

Today, looking back at the last quarter of a century, we can proudly say that we have been contributing significantly to the country's quest for self-reliance by indigenizing these highly sophisticated products in this strategic area.

Our Honourable Prime Minister's 'Make in India' and 'Atma Nirbhar Bharat' programs have given an added impetus to

domestic production. 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 gives big importance to lubricants for the civil aviation sector. Could you describe the recent developments in this area?

The Civil Aviation sector globally is probably one of the sectors that has been hit hardest because of the COVID-19 pandemic. The last two years saw substantially limited activity in the sector globally as well as in India.

Due to the impact of COVID-19, the global picture of the aviation industry has significantly changed during these two years. The business model drifted from the massive "hub" operated with high density aircrafts to a more "point to point" model where smaller aircrafts and more sustainable ones have become the trend. We have seen multiple airlines accelerating the phase out of their B747s and A380s, replaced by the new and





smaller generation A350s & B787s. The new capacities and range of the A321 XLR or B737 MAX are also bringing opportunities to operate long-haul routes with narrow bodies, thus increasing the airline's profitability along with reducing the environmental impact. The major driver for this change is sustainability.

This new business model gives the opportunity for new players to enter, with several new airlines starting operations like Akasa Air in India, Flair Airlines in Canada and Norse Atlantic in Norway.

Our global strategy is to increase the footprint for the civil aviation market along with developing new technologies to support the drift of the aviation industry to a more sustainable operational environment. A recent strategic partnership signed between NYCO and Air France is a clear commitment to develop and support this sustainable ambition.

In India, following the Omicron variant's containment in the country, this sector is bouncing back quickly to reach pre-pandemic levels with domestic travel opening almost fully and international travel easing up with restrictions being withdrawn. Recent developments of the takeover of Air India by the Tata group, re-

emergence of Jet Airways and new airlines like Akasa Air & Flybig lighting up the skies holds new and exciting opportunities for the industry.

AVI-OIL's dominance in India has traditionally been in the Defence sector and the time is right to focus on the Civil Aviation sector. We already have most of the products and approvals in place. Now it is a question of projecting us as an ideal partner for the commercial airlines with a superior customer value proposition. With sustainability being a prime concern for airlines, we are well positioned to provide domestically produced products to shorten lead times, provide better cost economics and far superior technical services on the ground.

Considering the rising threats to the environment globally, AVI-OIL manufactures environmentally-considerate esters and lubricants. Please share details.

AVI-OIL's products contribute to reducing the environmental impact in several aspects. The use of bio-sourced raw materials is obviously an important area to focus on. 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.

Synthetic ester base for lubricants, plasticizers and dielectric fluids is also a part of Avi-Oil's product portfolio. Could you tell us more about this line-up?

Synthetic esters have long known to be of use in lubricants for their excellent fire safety performance and thermo-oxidative stability over a wide operating temperature and hence used in Aviation Lubricants.

Synthetic esters may be used as synthetic base stocks, co-basestocks or as additives in high end products that are focussed on performance, fuel economy, energy efficiency, longer drain periods and for their biodegradability profile which can

aid in enhanced EHS consideration.

In India this trend is slowly catching on and oil formulators are increasingly seeing the value of using esters in such high-end applications. This can be for both Automotive and Industrial applications.

In Automotive, they are used for engine oils for MCO and PCMO applications and for transmissions oils. In Industrial applications esters can be of significant advantage in high temperature chain oils, refrigeration oils, transformer oils, air compressor oils. They can also be used for Hydraulic Oils, Metal working fluids and greases. Esters may also be used as plasticizers for certain applications. The key is to find the right balance between performance and cost.

Avi-Oil is one of the leaders in Aviation Lubricants and has integrated backwards to manufacture the esters which are the key base stocks for Aviation Lubricants at our plant in Faridabad. We are now promoting many of these esters to oil companies for use in their high-end formulations. Additionally, we have a few finished oil formulations which can also be made available to oil cos. for re-brand.

Lubricants for ground gas turbines are also an important area of focus for the company. What are the major products and markets?

AVI-OIL provides tried and tested products for the efficient lubrication of marine and industrial aero-derivative ground gas turbines. These high-performance turbine oils are dedicated to

aero-derivative gas turbine performance, with excellent thermal oxidation stability, engine cleanliness and superior lubricity. Our aero-derivative gas turbine oils, Turbonycoil 600 and Turbonycoil 640 cover the gamut of operations in the Power Generation (simple and combined cycle, cogeneration etc.), oil & gas applications and marine propulsion.

Turbonycoil 600 is the standard grade turbine oil used for GE LM series, Avon & RB 211 engines.

Turbonycoil 640 is designed for high temperature equipment. We also have in our portfolio Turbonycoil 321 which is an analogue of Russian Oil MS-8p for the majority of Russian designed gas turbines (Mashproekt) and Turbonycoil 210 A which is an analogue of the Russian Oil IPM-10.

AVI-OIL has been successful in various ventures. Now what are the future plans of the company? Are there plans to launch new units?

While our initial objective of ensuring the nation's self-reliance in the strategic area of Aviation Lubricants has largely been met, we now look to the future where our thrust for growth will be on the Civil Aviation and the Industrial & Automotive segments.

Despite the COVID-19 pandemic being a dampener for the Civil Aviation sector, the industry is quickly returning to pre COVID levels.

In the Industrial & automotive sector, the use of synthetic base stocks in lubricants is

currently low. This is an evolving market, and we expect to play a major part in this arena as and when the industry develops with a higher share of synthetics. The industry is certainly changing, and we have seen this happen globally and it is only a question of time when this happens in India too.

We currently manufacture our products at our plant in Faridabad where we have a lubes blending plant and an ester manufacturing facility, which are adequate to meet our current marketing plans. We still have spare capacity for the present and remain flexible to add capacity as and when the need arises.

The company manufactures a large number of lubricants, esters and greases. Among them, which is the product that witnesses the highest production?

We have a wide range of products developed for the various sectors we are working in. For the Aviation sector, we have the complete product range of Engine Oils, Turbine Oils, Hydraulic Fluids, Greases & Speciality products. On the Industrial & Automotive side we have a range of polyol esters and Complex esters and a few fully formulated industrial products.

Currently our maximum sales are of Aviation Turbine Oils and Hydraulic Oils. However, with the increased interest shown in our esters for Automotive & Industrial applications we expect these products to grow exponentially in the near future. ■

