

Speciality Lubricant Strategies for Enhancing EV Efficiency and Performance

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*In an interaction with Industry Outlook, **Kushal Desai, Chairman & Managing Director of APAR Industries Limited** (<https://apar.com/>), discusses how the specialty **lubricants industry** is evolving with advancements in base oils, additive technologies, and low-viscosity formulations to enhance efficiency, performance, and sustainability. He also emphasizes the growing demand for specialized lubricants in EVs and how companies are addressing **supply chain challenges** through diversification, predictive analytics, and regulatory compliance. With over two decades of expertise, Kushal Desai blends **technical knowledge** with strategic leadership, having co-founded APAR Infotech, led global expansions, and contributed to industry bodies and philanthropic initiatives.*

With the increasing demand for high-performance lubricants in the automotive and industrial sectors, how can innovation be managed without compromising cost efficiency?

The specialty lubricants industry is continuously evolving, with efficiency, performance, and sustainability driving new developments. Innovation must be guided by industry trends—whether it's meeting stringent emission norms, improving equipment longevity, or reducing the total cost of ownership. Manufacturers must adopt advanced base oils and **additive technologies** to ensure products that enhance efficiency while remaining cost-effective.

One approach that has gained traction is the use of highly refined hydrocracked base oils, which improve oxidation stability and reduce volatility, leading to better lubricant longevity and reduced consumption. At APAR, we integrate these advancements into our Eni and POWEROIL lubricant formulations to ensure maximum efficiency and cost-effectiveness for industrial applications. The shift towards **lower-viscosity lubricants** is also helping industries optimize fuel efficiency while maintaining protection for modern machinery.

As machinery complexity grows, how do specialty lubricants address the evolving needs for enhanced wear resistance and reduced maintenance costs in modern equipment?

The industry is seeing a growing need for lubricants tailored to high-precision machinery and evolving material compositions, particularly in high-load applications. Innovations in synthetic and semi-synthetic lubricants are enabling greater protection against wear, oxidation, and extreme operating conditions.

For example, our biodegradable metalworking fluids, such as POWEROIL Ultra Edge and Ultra Grind series, are being increasingly adopted to reduce environmental impact while maintaining high-performance machining standards. The rise of electric vehicles has also led to the development of specialized cooling and transmission fluids designed to handle the unique thermal and frictional demands of **EV components**. (<https://www.theindustryoutlook.com/manufacturing/vendor/seg-automotive-bringing-over-a-decade-s-excellence-in-ev-components-manufacturing-cid-12436.html>)

Considering the pressure to optimize fuel consumption, how are specialty lubricants adapting to help industries meet energy efficiency targets without sacrificing performance?

Energy efficiency is a critical focus across industrial sectors, from automotive to manufacturing. Advanced lubricant formulations with low-friction properties are playing a key role in reducing energy losses in mechanical systems. The latest innovations include lubricants that lower internal drag enhances thermal stability, and extend drain intervals—helping industries cut down on operational costs while meeting regulatory requirements.

With the increasing regulatory push for carbon reduction, fuel-efficient lubricants designed to lower CO2 emissions are becoming the industry standard. APAR's Eni I-Sint Levo Ultra and POWEROIL Cruise Sonic LS are prime examples of lubricants that help improve fuel efficiency while ensuring wear protection, aligning with global API SP and ILSAC GF-6 standards.

In light of the rising demand for electric vehicles, how do specialty lubricants specifically address the unique needs of EVs, especially regarding battery cooling and drivetrain optimization?

The electrification of mobility brings new challenges for lubrication and thermal management. Unlike traditional internal combustion engines, EVs require specialized fluids for battery cooling, e-motor lubrication, and transmission efficiency. The transition to electric mobility demands a fresh approach to lubrication. **Thermal management** (<https://www.theindustryoutlook.com/manufacturing/vendor/hibachi-engineering-industrial-thermal-oil-heater-manufacturer-reducing-net-operational-costs-cid-12531.html>) fluids are critical for maintaining battery efficiency and preventing overheating, while specialized driveline lubricants help reduce frictional losses in high-speed electric motors. Industry-wide, we are seeing a shift

toward low-viscosity, high-dielectric strength lubricants that improve energy efficiency and extend component life. We are staying abreast with this shift, working on next-generation e-mobility lubricants tailored to these evolving demands.

As global supply chains face disruptions, how can companies ensure a steady supply of critical raw materials for specialty lubricants while maintaining product consistency and quality?

In an increasingly volatile supply chain environment, companies are prioritizing risk mitigation through diversified sourcing, advanced inventory management, and digital demand forecasting.

The specialty lubricants sector is deeply connected to global supply chains, making resilience and flexibility essential. Companies are integrating predictive analytics to anticipate demand fluctuations and implementing robust supplier diversification strategies. Additionally, investments in localized manufacturing and sustainable sourcing practices are helping stabilize supply chains while maintaining product quality.

The specialty lubricants industry is evolving rapidly, driven by advancements in technology, sustainability initiatives, and regulatory pressures. Keeping a pulse on these trends is essential for staying ahead. We are staying engaged and listening to the industry's evolving needs to continuously refine our solutions to meet the demands of the future.

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