

# Polyalphaolefins: Changing Market Landscape for Synthetic Lubricants



### **Background**

Despite low growth in the overall lubricants industry, evolving trends are changing the market landscape for synthetic lubricants. These trends focus on key objectives in achieving greater energy efficiency, meeting tighter environmental standards, and optimizing costs. This is driving the need for lubricants that can perform under more extreme operating conditions and extended service intervals.



Polyalphaolefins (PAOs) represent the major type of synthetic base stock. Key end-use sector trends impacting PAO consumption include:

- Regulations targeting emission reductions and fuel economy in the automotive sector
- Advances in automotive engine technologies and penetration of electric vehicles (EVs) in the overall fleet
- Trends towards equipment downsizing, reduced maintenance downtime, and increased focus on environmental protection and safety in the industrial sector

### Objective

The objective is to assess end-use sector trends and the global market outlook for PAOs. This detailed study reviews:

- Key government regulations for the automotive industry, developments in motor oil standards, and trends in the vehicle fleet including number of vehicles in use and penetration of EVs
- Global PAO supply, demand, and net trade dynamics, including global demand sensitivities on multiple scenarios of the automotive industry to evaluate key demand uncertainties
- PAO price forecasts for multiple crude oil price scenarios, as well as PAO production costs in different regions to evaluate delivered cost competitiveness to major target markets

This report draws from NexantECA's strong qualifications and recent experience in conducting market analysis on the linear alpha olefin (LAO) and PAO sectors. The information used to develop this report is derived from in-house sources, publicly available resources, and conversations with experts in the area.

## What is Included in the Report?

- Industry overview: lubricants industry trends, overview of base stocks, and outlook for synthetic base stocks
- End-use sector trends: key relevant trends in the automotive and industrial sectors, including vehicle fleet, government regulations, motor oil standards, penetration of EVs, and wind turbine applications
- Market analysis: global demand trends, supply developments, and net trade flows by region in 2010-2040, including demand breakdown by application and global plant capacity list
- Pricing and profitability analysis: low- and high-viscosity PAO pricing, and integrated LAO and PAO profitability
- Cost competitiveness analysis: cash costs of major producing regions and delivered costs to key regional markets

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## **Appendices**

- A Assumptions and Methodologies
- B Pricing and Profitability Data

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