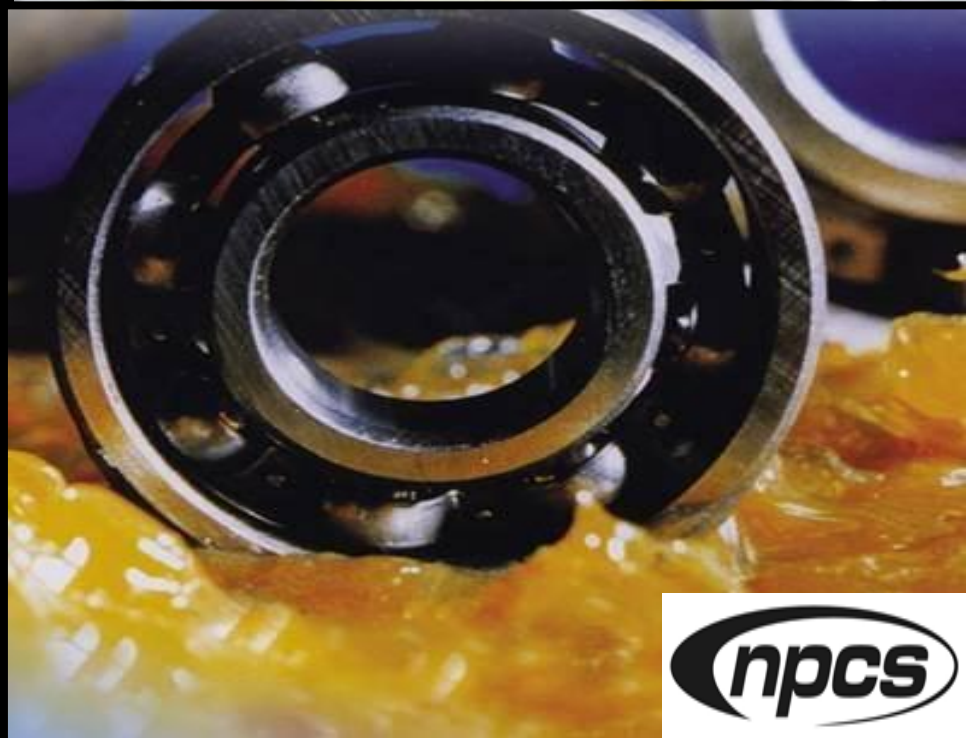
Petroleum Lubricating Oil and Grease Manufacturing Industry.

Lube Oil Blending Plant.

Industrial Lubricants, Oils and Greases Production.



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Introduction

Lubricating oil, sometimes simply called lubricant/lube, is a class of oils used to reduce the friction, heat, and wear between mechanical components that are in contact with each other. Lubricating oil is used in motorized vehicles, where it is known specifically as motor oil and transmission fluid.

Lubricating oils of different viscosities can be blended together, and it is this ability to blend them that makes some oils so useful. For example, common motor oil is generally a blend of low viscosity oil to allow for easy starting at cool temperatures and a high viscosity oil for better performance at normal running temperatures.

Lubrication is simply the use of a material to improve the smoothness if movement of one surface over another; the material which is used in this way is called a lubricant. Lubricants are usually liquids or semi-liquids, but may be solids or gases or any combination of solids, liquids, and gases.

In addition to reducing or controlling friction, lubricants are usually expected to reduce wear and often to prevent overheating and corrosion.

The importance of oil in the engine is just like blood in the body. Blood flows through all the veins to vital organs to keep them healthy and alive, similar is the function of lubricating oil in the engine. Across the world, lubricant oil is primarily used for cooling automobile engine, marine engine and for industrial purposes. Globally, more than 50% of the total lubricant volume is being used for automobile, around 40% is for industrial purpose and rest is for marine industry.

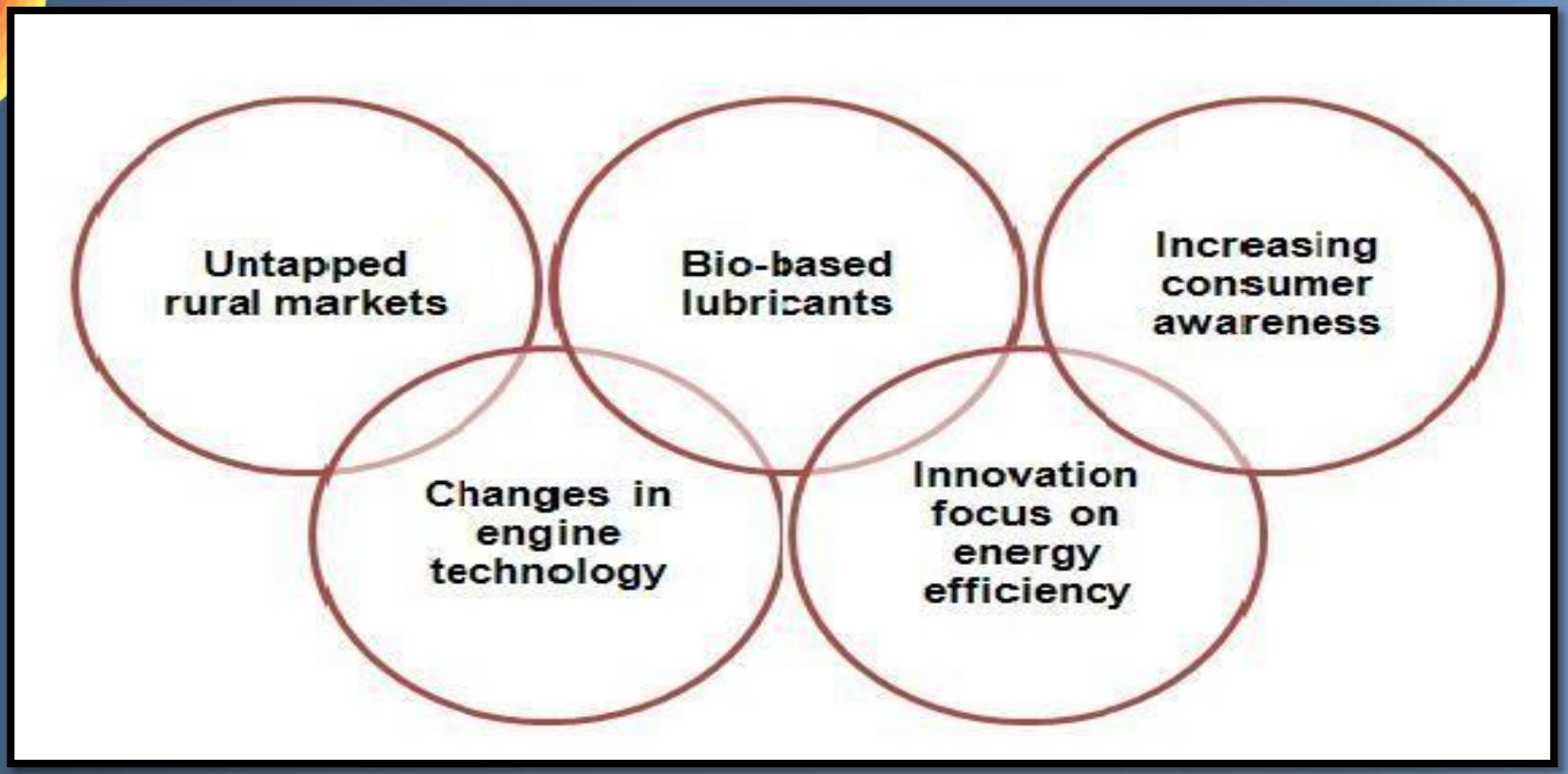
Use in Vehicles

The use of lubricating oils in vehicles is vital to their operation. When an engine is properly lubricated, it needs to put less work into moving pistons as the pistons glide easily. In the long run, this means that the car is able to operate while using less fuel and run at a lower temperature. Overall, the proper use of lubricating oil in a car improves efficiency and reduces the amount of wear and tear on moving engine parts.

Lubricant Classification

- **Gaseous lubricants**
- **Liquid lubricants**
- **Semi-solid lubricants**
- **Solid lubricants**

Key Drivers in Lubricant Market in India



Market Outlook

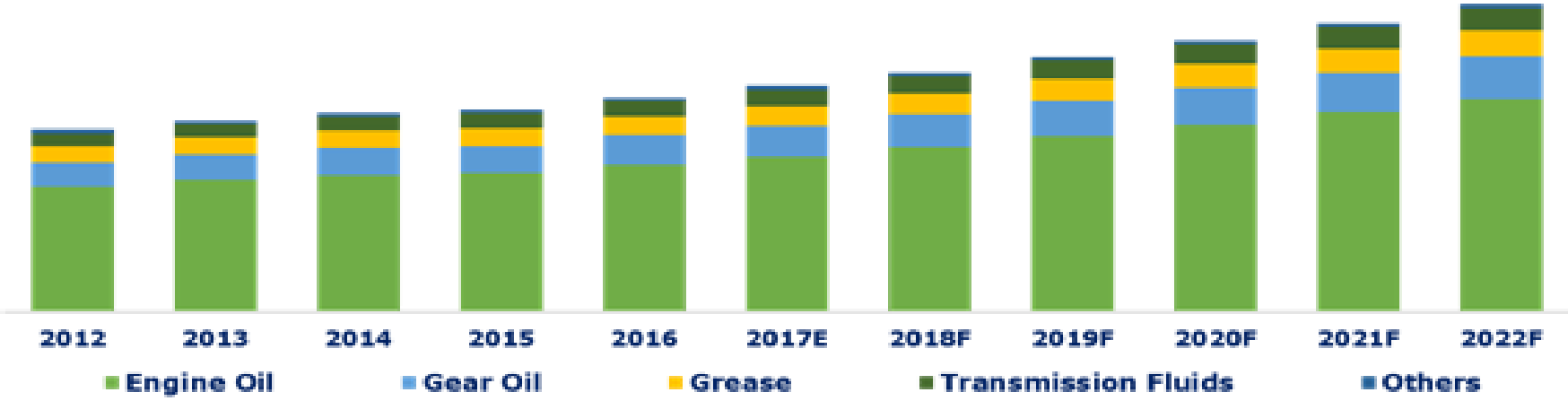
Lubricant

The Indian Market has been one of the global lubricants industry's growth engines. In 2016 India accounted for about 6% of the global lubricants demand, making it the third-largest market behind the U.S. and China.

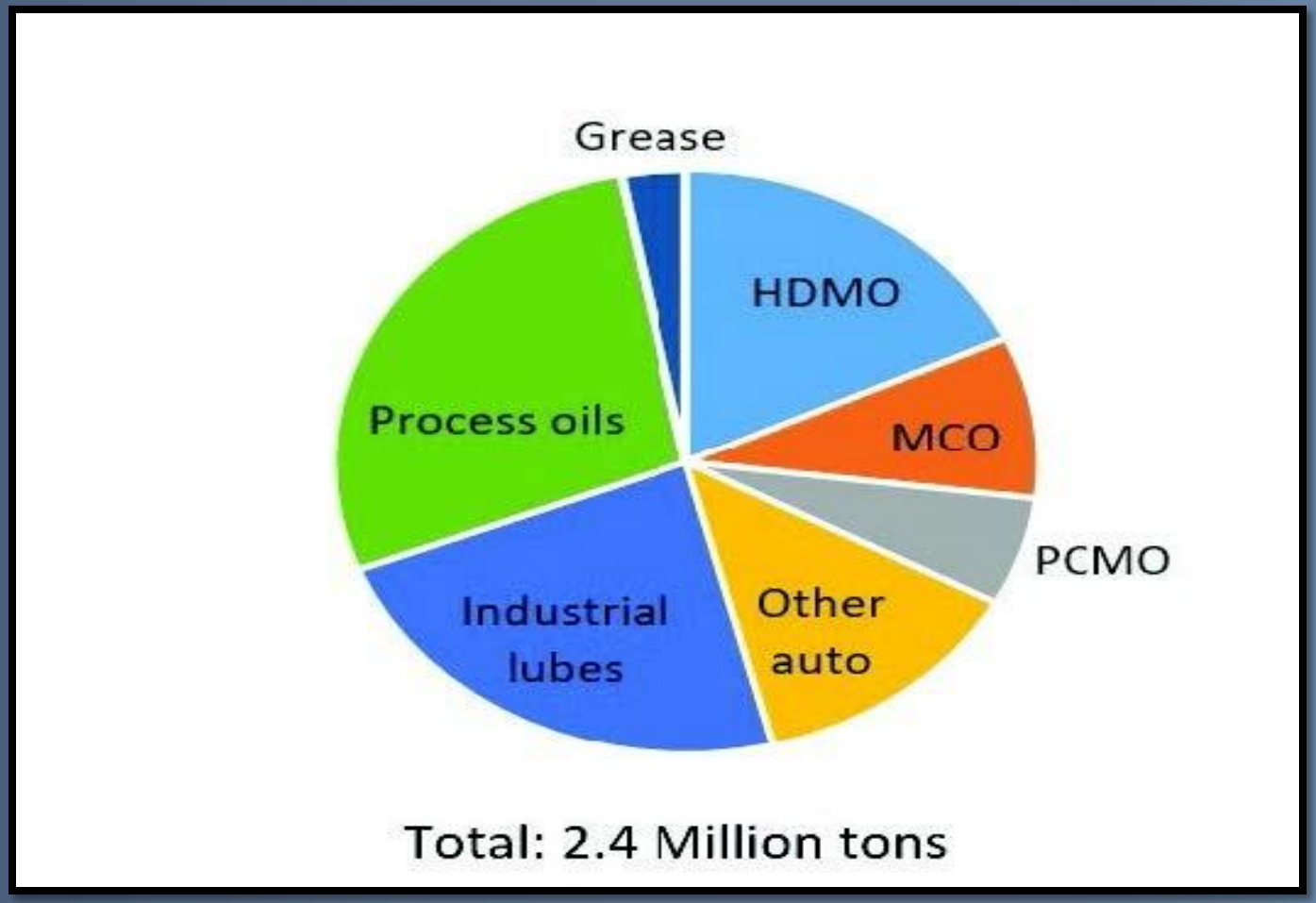
India automotive lubricants market is projected to reach $ 9.6 billion by 2022. Surging demand for automotive lubricants is anticipated on account of increasing sales of vehicles and growing consumer awareness regarding the use and advantages of engine oils and other lubricants.

Additionally, rising trend of partnerships between original equipment manufacturers (OEMs) and lubricant manufacturing companies is expected to augment demand for automotive lubricants in India over the next five years.

India Automotive Lubricants Market Size, By Lubricant Type, By Volume, 2012-2021F



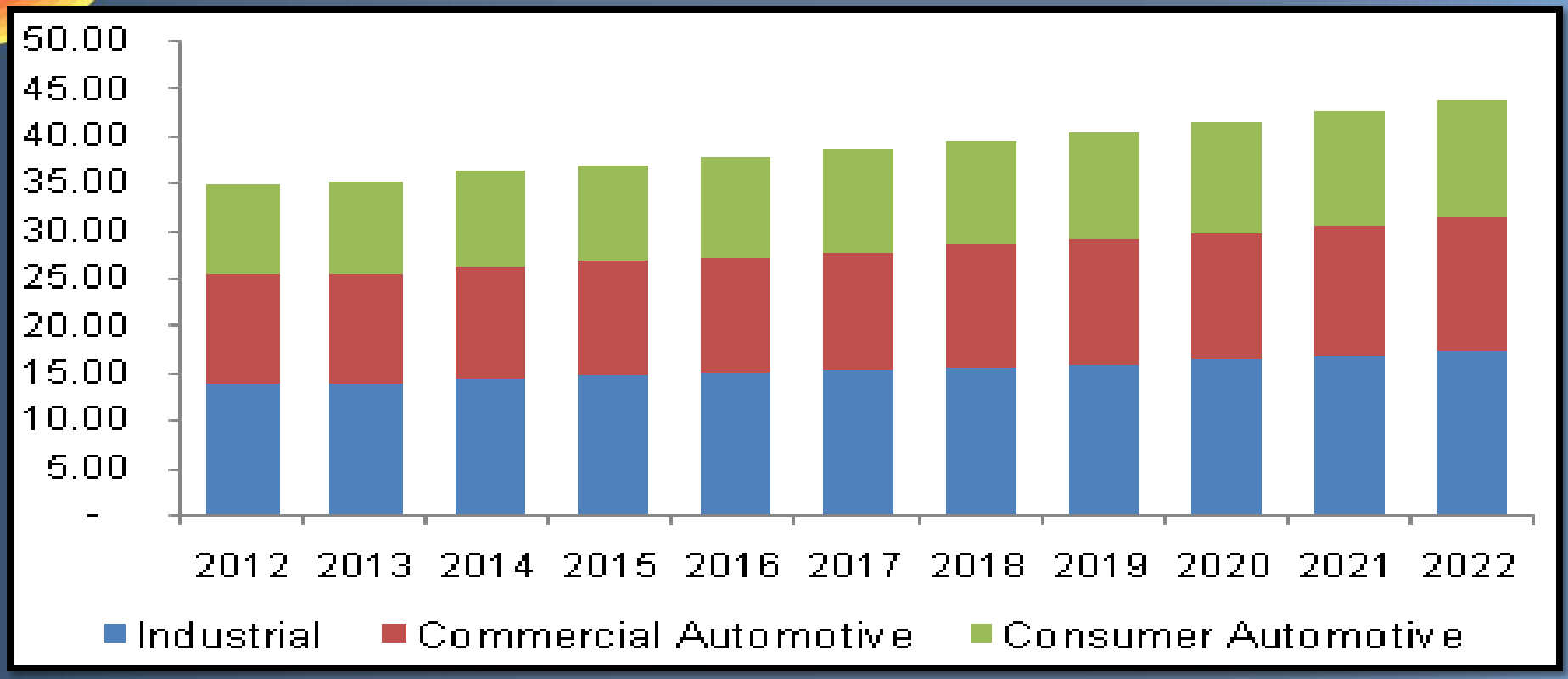
Lubricant Demand in India by Product Type, 2016



The global lubricants market was 36.36 million tons in 2014 and is projected to grow to 43.87 million tons by 2022, at an estimated CAGR of 2.4%. High demand from automotive, industrial machinery and construction are expected to drive industry growth over the forecast period. Increasing polyamide resins demand has generated growing need for lubricants used in these compounds including stearic acid derivatives, modified ethylene waxes and montanic waxes. They are also widely used in a plethora of automotive applications to reduce friction and wear while enhancing the function of bearing surfaces.

Increasing demand for lightweight passenger cars and heavy-duty commercial vehicles has fostered global automotive production, which in turn is conducive to the development of lubricants for application in this field. Rapid industrialization in China, India, Brazil, and Mexico has encouraged applications in industrial machinery maintenance.

Global lubricants market volume by product, 2012 - 2022 (Million Tons)

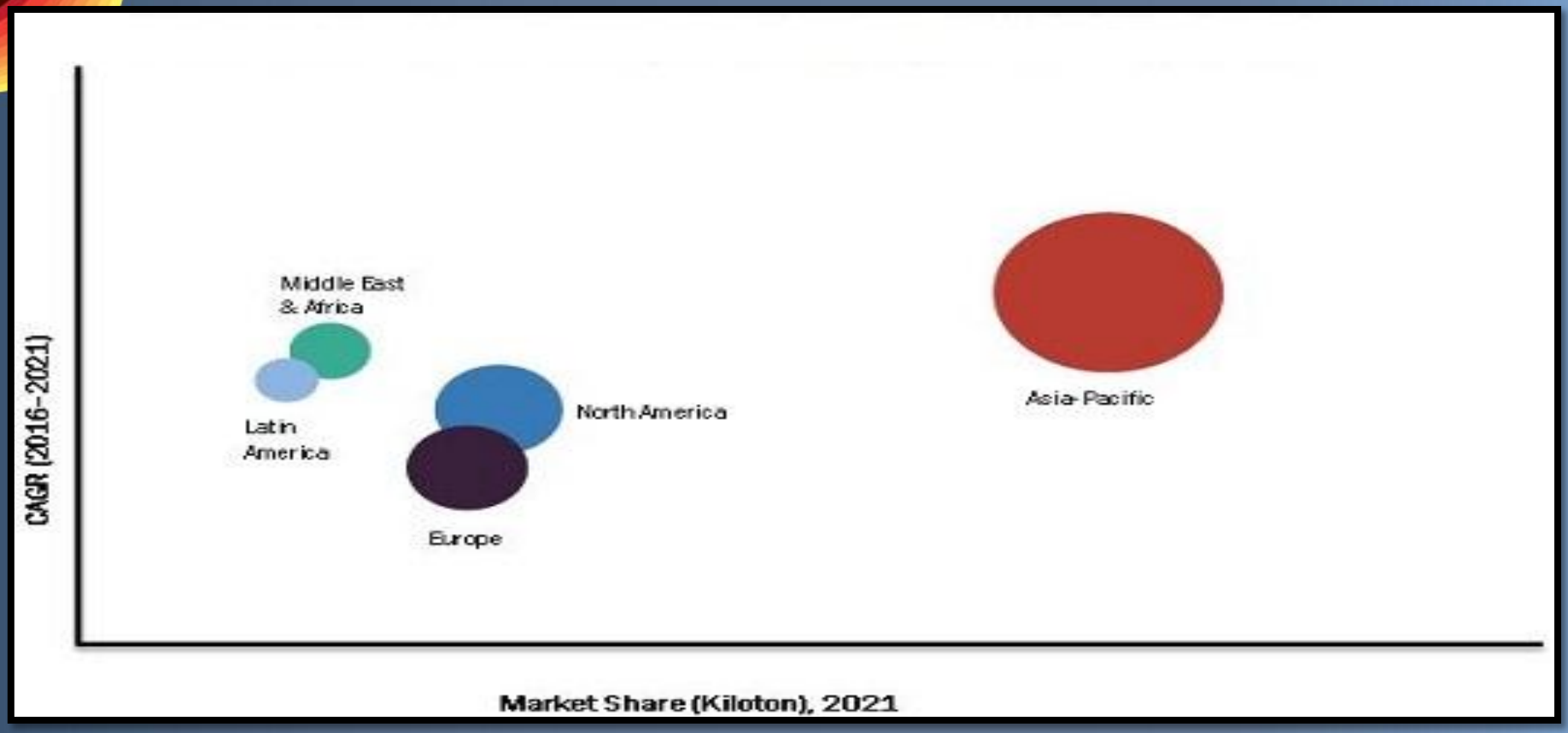


Grease

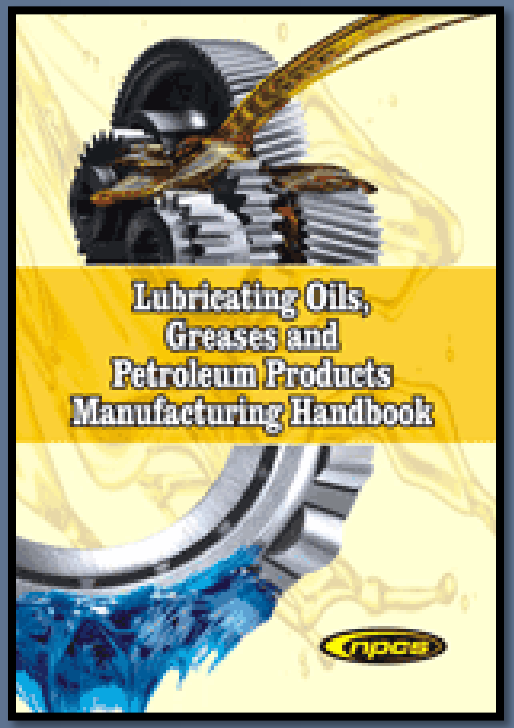
Automotive is the largest and fastest-growing end-use industry for grease. The passenger vehicles and commercial vehicles are driving the demand for high performance grease in the automotive industry. In the automotive industry, grease is extensively used in various auto parts such as wheel bearings, universal joints, suspensions, gears, switches, and connectors because of their excellent properties such as mechanical stability, temperature tolerance, water resistance, and anti-oxidants. The need for high performance grease is rising in the increasing manufacturing of machines and equipment for end-use industries.

The global grease market was valued at USD 2.04 billion in 2015, and is projected to reach USD 2.28 billion by 2021 at a CAGR of 2.0% between 2016and 2021. In this report, 2015 is considered as the base year and forecast period is 2016–2021.

Grease Market Share, by Region, 2021 (Kiloton)



Lubricating Oils, Greases and Petroleum Products Manufacturing Handbook



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Lubricating oils are specially formulated oils that reduce friction between moving parts and help maintain mechanical parts. Lubricating oil is a thick fatty oil used to make the parts of a machine move smoothly.

The lubricants market is growing due to the growing automotive industry, increased consumer awareness and government regulations regarding lubricants. Lubricants are used in vehicles to reduce friction, which leads to a longer lifespan and reduced wear and tear on the vehicles.

The growth of lubricants usage in the automotive industry is mainly due to an increasing demand for heavy duty vehicles and light passenger vehicles, and an increase in the average lifespan of the vehicles. As saving conventional resources and cutting emissions and energy have become central environmental matters, the lubricants are progressively attracting more consumer awareness.

Greases are made by using oil (typically mineral oil) and mixing it with thickeners (such as lithium-based soaps).

They may also contain additional lubricating particles, such as graphite, molybdenum disulfide, or polytetrafluoroethylene (PTFE, aka Teflon). White grease is made from inedible hog fat and has a low content of free fatty acids. Yellow grease is made from darker parts of the hog and may include parts used to make white grease. Brown grease contains beef and mutton fats as well as hog fats. Synthetic grease may consist of synthetic oils containing standard soaps or may be a mixture of synthetic thickeners, or bases, in petroleum oils. Silicones are greases in which both the base and the oil are synthetic.

Asia-Pacific represents the largest and the fastest growing market, with volume sales projected to grow at a CAGR of 5% over the analysis period. Automotive lubricants represents the largest product market, with engine oils generating a major chunk of the revenues. The market for industrial lubricants is supported by the huge demand for industrial engine oils and growing consumption of process oils.

The major content of the book are Food and Technical Grade White Oils and Highly Refined Paraffins, Base Oils from Petroleum, Formulation of Automotive Lubricants, Lubricating Grease, Aviation Lubricants, Formulation and Structure of Lubricating Greases, Marine Lubricants, Industrial Lubricants, Refining of Petroleum, Lubricating Oils, Greases and Solid Lubricants, Refinery Products, Crude Distillation and Photographs of Machinery with Suppliers Contact Details.

This book will be a mile stone for its readers who are new to this sector, will also find useful for professionals, entrepreneurs, those studying and researching in this important area.

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