



PROPEL

100% TRUST. 100% VALUE.
A range of world-class petrochemicals



INDIANOIL :
SCRIPTING SUCCESS
STORIES IN PETROCHEMICALS





IndianOil at a Glance

IndianOil is India's largest commercial enterprise and the highest ranked Indian corporate in *Fortune's* 'Global 500' listing. With a dedicated 33,000 plus workforce, widespread infrastructure, breakthrough technologies and advanced R&D facilities, IndianOil plays a significant role in fuelling the energy needs of the country.

With a turnover of ₹ 5,06,428 crore and a net profit of ₹21,346 crore in 2017-18, and a market capitalisation of ₹1,71,511 crore as on 31st March 2018, IndianOil is recognised as one of India's most valuable companies. The Company continues to be the largest contributor to the national exchequer in the form of duties and taxes.

IndianOil's core business is refining, transportation and marketing of petroleum products. Over the years, the Corporation has expanded its operations across the hydrocarbon value chain – upstream into oil & gas exploration & production and downstream into petrochemicals, besides

diversifying into natural gas and alternative energy resources.

IndianOil continues to expand its business operations abroad through its overseas establishments in Sri Lanka, Mauritius, Singapore, UAE and USA, and has set up offices in Myanmar and Bangladesh.

IndianOil is committed to creating positive life experiences for its customers through its portfolio of products & services, boosting energy access across socio-economic divides; enhancing energy efficiency in production, refining, transportation, marketing & consumption; and adding to energy sustainability through promotion of green fuels. Guided by its vision to be '*A Globally Admired Company*', IndianOil aims to create value by solving the issues being faced by people, society and our Planet Earth through the power of technology.

Visit www.iocl.com to know more.



Presenting *PROPEL* The IndianOil promise

IndianOil's corporate philosophy rests on enhancing the quality of life of people, society and its stakeholders while sustaining the Earth. We pursue business sustainability.

The brand name *PROPEL* implies propulsion or impetus with promise of growth to our customers' business. It denotes **100% trust, 100% value**. It is backed by the promise of quality and commitment that IndianOil puts into its business. Customers stand to benefit from

IndianOil's experience & expertise in the petroleum and petrochemicals businesses besides a pan-India service delivery network.

Under the umbrella brand *PROPEL*, IndianOil offers a full range of products covering all segments of petrochemicals, viz., Linear Alkyl Benzene (LAB), Purified Terephthalic Acid (PTA), Paraxylene (PX), Mono Ethylene Glycol (MEG), Polypropylene (PP), Linear Low Density Polyethylene (LLDPE), High Density Polyethylene (HDPE), etc. for a wide range

of applications across industrial, commercial and domestic segments - thus making *PROPEL* a household name.

THE ECONOMIC TIMES



**INDIANOIL'S
PETROCHEMICALS BRAND
PROPEL RECOGNISED AS A
"SYMBOL OF EXCELLENCE
IN THE PLASTICS &
POLYMERS INDUSTRY"**

BEST
PLASTICS &
POLYMERS
BRANDS
2018



Packaging, Labels, Films: Providing packaging solutions for liquids, oil, confectionery, grooming, healthcare, food. Helping extend product life and shelf life of food and medical products



Consumer Electronics: Advanced moulding & composites - contributing to a better quality of life

PROPEL Providing comprehensive solutions, creating value

IndianOil is committed to creating positive life experiences for its customers through its portfolio of products & services. *PROPEL* brand of petrochemicals covers over 80% of all conceivable applications of plastics. Our solutions and focus areas are:



Automobiles: Advanced moulding & composites for doing our bit for the environment through enhancing fuel efficiency by reducing vehicle weight while contributing towards a more mobile society



Agriculture & Infrastructure: Environment & Living solutions for improving production & efficiency in agricultural, fishery and infrastructure industries while contributing to resource & energy conservation



Healthcare: Contributing to health maintenance, better diagnostics and medical efficiency

Cutting-edge Research & Development

IndianOil has expanded its technology platforms, integrated its various core technologies and accelerated the development of new technologies in the emerging fields. Leveraging close collaboration among its Divisions, it is able to respond swiftly to market changes. Resting on the cornerstones of **Sustainability, Health and Comfort**, IndianOil's research and product application effort aims to bring out differentiated solutions with clear value propositions in a competitive landscape.



being one of the core values of IndianOil, the Company believes that Innovation is the key to being the market leader in the oil & gas sector in the country.

R&D Centre @Faridabad

IndianOil's sprawling R&D Centre in Faridabad near the National Capital, is one of Asia's finest. It holds over 600 active patents, including 388 international patents, and has won recognition for over four decades of pioneering work in lubricants formulation, refinery processes, pipeline transportation and alternative fuels.

Its Petrochemicals & Polymers vertical conducts research in polyolefin catalyst, drag reducing

agents, new grade development & post reactor modification, additives, troubleshooting & developing packaging materials, mainly polymeric, and benchmarking besides rendering technical support in customer trials to enhance product quality & reduce production costs.

An emerging Centre of Excellence in Ziegler-Natta Catalysis in polymer research, IndianOil R&D has helped standardize its polymer grades and produced new products / grades based on market requirements. It leverages the core technologies of general chemistry such as material design, synthesis and analysis technologies for developments that meet the latest needs as well as those of future technologies.



Product Application Development Centre @Panipat

Located at the mouth of the sprawling Naphtha Cracker Complex in Panipat, the state-of-art Product Application Development (PADC) promotes commercial application and customer-oriented development of niche grades and new applications, quality monitoring, technical support and customer relationship management. As an interface between the Company's polymer plants, its marketing set-up and end-use customers, PADC develops new applications, formulations and grades that are in sync with market needs. It is recognized by the Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology, Govt. of India and certified by M/s. Intertek.

IndianOil is building another state-of-the-art PADC near the Polypropylene Plant in Paradip Refinery to service customer requirements in the region.



Industrial Materials

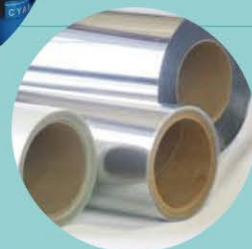
Petrochemicals

IndianOil produces olefins such as ethylene and propylene, and aromatics such as paraxylene, benzene and toluene. Our polyolefins (polyethylene and polypropylene) offer high quality performance products suitable for various industries such as automobiles, electrical wires, medical devices and food packaging.



Carbon

IndianOil produces Petcoke, Carbon Black Feedstock (CBFS) and Synthetic Rubber to support industries engaged in production of tyres, printing inks, plastic colourants, etc.

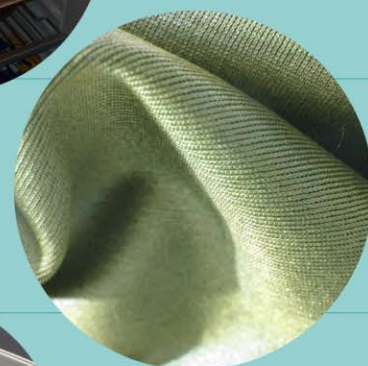


Optical Films

IndianOil also produces PTA and MEG which are used in production of optical films such as bi-axial oriented polyester film featuring well-balanced characteristics to improve the visibility of touch panels.

Food Packaging, Industrial & Medical Films

IndianOil has the capability to tweak characteristics and produce grades with added functionalities for speciality food & medical packaging, electronic parts, automobiles and building materials.



Fibres & Textiles

With a world-class PX/PTA plant producing polyester intermediates, *PROPEL* grades can be used for a wide range of applications including activewear, interiors and industrial applications.

PP Composites and Functional mouldings

Our grades can be used to produce a variety of products such as aluminium composite materials, plastic film-laminated steel sheets, building materials, partitions, sports good, industrial use plates, etc.



Agribusiness & Infrastructure solutions

PROPEL grades are suitable for use in producing agricultural materials such as drip laterals for irrigation pipes for submersible pumps, agri-nets for plant growing systems, etc. Contributing to a sustainable society, IndianOil petrochemicals can be used to produce piping materials, logistics materials & adhesive tapes, cable ducting, repair & reinforcement materials for roads & ridges, artificial turfs for boosting sports infrastructure, etc.



Major Production Bases

IndianOil's efforts in manufacturing innovation stem from its world-scale plants, world-class technologies, focus on safety, environmental conservation, high-quality products and high-efficiency production.

IndianOil is one of the largest players in the domestic petrochemicals market, besides exports to 75 countries. The Corporation offers a full slate of petrochemical products and intermediates under the brand name *PROPEL*.

Plants / Products

Linear Alkyl Benzene (LAB) plant @Koyali, Gujarat

- ◆ Among the world's largest single-train LAB plants, capacity: 120 TMT per annum
- ◆ Used in the production of detergents
- ◆ Based on the latest UOP's DETAL technology

Paraxylene/ Purified Terephthalic Acid (PX/PTA) plant @Panipat, Haryana

- ◆ PTA plant capacity : 553 TMTPA
- ◆ Produces polyester intermediates
- ◆ Based on Invista technology
- ◆ PX plant based on UOP technology, capacity: 360 TMTPA

Naphtha Cracker @Panipat, Haryana

- ◆ Largest operating Naphtha cracker capacity in India producing polymerplastics
- ◆ Produces over 857 TMTPA of Ethylene and 650 TMTPA of Propylene
- ◆ Based on technology from ABB Lummus

Downstream Polymer Units @Panipat, Haryana

- ◆ Polypropylene plant with two lines of 300 TMTPA capacity each
- ◆ A dedicated High Density Polyethylene (HDPE) plant of 300 TMTPA capacity
- ◆ A swing plant for LLDPE/ HDPE of 350 TMTPA capacity
- ◆ An Ethylene Glycol plant of 325 TMTPA capacity





The Polypropylene (PP) plant produces homopolymers, block co-polymers, and random co-polymers and is based on the Spheripol-II technology from M/s. LyondellBasell. It can produce grades with a broad range of MFI (0.3 to 100) with superior organoleptic properties.

The dedicated High Density Polyethylene (HDPE) plant, with a capacity of 300 TMTPA, is based on low-pressure stirred tank heavy diluents (STHD) slurry process technology (Hostalen) from M/s. LyondellBasell. It can produce bi-modal High Molecular Weight High Density Polyethylene (HMHDPE) grades besides unimodal HDPE grades. The product range includes MFI of 0.1 to 52 and a density range of 0.940 to 0.965 with the ability to produce pipes of PE 100 rating.

The Swing Polyethylene plant is based on solution process technology (Sclairtech) of M/s. Nova Chemicals. The plant can produce both LLDPE and HDPE with MFI range of 0.3 to 55. Density ranges from 0.917 to 0.965 using Butene or Octene.

The Naphtha Cracker Complex produces by-products such as Benzene, Carbon Black Feed Stock (CBFS), Polyethylene Wax (PE Wax), Diethylene Glycol (DEG) and Triethylene Glycol (TEG).

Styrene Butadiene Rubber (SBR) plant @Panipat, Haryana

- ◆ First in India
- ◆ Capacity: 120 TMTPA
- ◆ Implemented as a joint venture with TSRC, Taiwan, and Marubeni Corporation, Japan, as JV partners.

Polypropylene plant @Paradip, Odisha

- ◆ Capacity: 700 TMTPA
- ◆ Based on stranded propylene from the Indmax (high severity FCC) unit.
- ◆ To be commissioned in 2018

