



ONGC Petro additions Limited



**ONGC Petro additions Limited**

**REGISTERED OFFICE:**

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**PLANT SITE:**

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**REDEFINING  
PROGRESS**

## Vision



To be a world-class petrochemical company, with a dominant Indian presence and a preferred choice of customers in terms of quality and value.

## Mission



- To become preferred choice of customers through best in class products.
- To foster stakeholders' satisfaction through value enhancement and sustainable business performance.
- To achieve competitive advantage through operational excellence, innovations and good governance.
- To achieve excellence in occupational health, safety & commitment towards environment by adopting internationally certified systems and best practices.



OPaL is the brainchild of ONGC, the largest Oil & Gas E&P company of India along with GAIL & GSPC. The ambitious dream was nurtured by ONGC to add value to its Naphtha by converting it into polymers. The dream turned into reality when Shri Narendra Modi, Hon'ble PM of India dedicated the plant to the nation in March 2017. The mega greenfield petrochemical complex rolls out world-class polymers marketed under the brand name of OPaLene HDPE, OPaLene LLDPE and OPaLene PP.

2X360 KTPA of LLDPE/HDPE Swing units, 1X340 KTPA of Dedicated HDPE and 1x340 KTPA of PP.

The mega petrochemical complex is tactically located in the port-city of Dahej, Gujarat giving it a competitive edge of connectivity to domestic as well as overseas market. In a short period since commissioning, OPaL has proven its mettle in the competitive petrochemicals arena with a rapidly growing customer base. Catering to the global demand of petrochemicals, OPaL's product line has established a strong presence in the international as well as domestic market.

The mega petrochemical complex is spread over 5 Sq. KM with a capacity to produce 1.4 Millions tons of Polymers & 0.5 Millions tons of chemicals - The complex's main dual feed cracker unit has the capacity to produce 1100 KTPA Ethylene, 400 KTPA Propylene and the Associated Units consists of Pyrolysis Gasoline Hydrogenation Unit, Butadiene Extraction Unit and Benzene Extraction Unit. The Polymer plants include

The fast-growing petrochemical sector presents plenty of opportunities for OPaL to spread its footprints. While focusing on the distinct growth areas where value addition on various streams can be furthered, OPaL is marching ahead to achieve its objectives and vision.



# Redefining Values

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We promote a culture where everyone communicates candidly and creates an environment that builds trust and transparency in the organization

We believe in our people, share common goals with all our employees, customers and society at large to achieve success and create a win-win relationship

We promote a culture of accomplishment. We focus not only on the 'what' but also the 'how' to achieve standards of excellence

We believe in promoting leadership in everything that we do, from being a business leader in petrochemicals to nurturing future leaders of business who will work as visionary thinkers and inspire others for exceptional performance



# Progress Through Value Creation

A key advantage for OPaL is Feedstock flexibility. The C2-C3 extraction unit is close by while a dedicated pipeline of 97 km from ONGC-Hazira to OPaL ensure continuous stable supply of Naphtha as required.



OPaL has an unique dual feed cracker; the heart of the mega petrochemical complex which runs on C2-C3 and Naphtha. Due to our distinct dual feed configuration of Cracker, OPaL has the flexibility to use different combination of Gas and Naphtha for deriving better value creation. The facility integrates world's best technologies i.e., Linde, Ineos, Mitsui, Lurgi, Technip among others.

Such large capacities with world-class infrastructure have altered the polymer market dynamics by easing the supply positions and providing the customers with quality product options. In addition, a nearby Dahej Port and dedicated pipeline for LPG, strengthens confidence in sustaining continuous operations and our ability and agility to deliver.

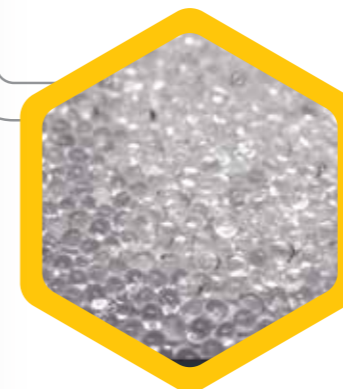
ONGC C2-C3  
Extraction Plant



ONGC - Naptha  
Hazira & Uran



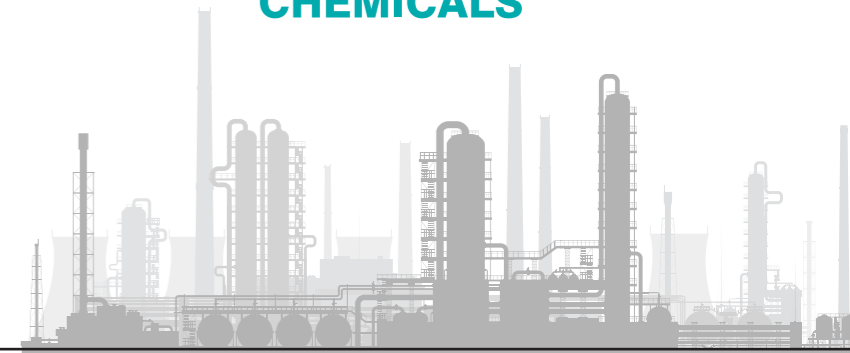
OPaL Petrochemical Complex



POLYMERS



CHEMICALS



# Our Products

## HDPE (High Density Polyethylene)



### Bulk & Rigid Packaging

High density polyethylene (HDPE) is made using a low-pressure process that has a highly linear (unbranched) structure. HDPE is more crystalline, and hence is more opaque, more rigid, and has a higher tensile strength with good chemical resistance or environmental stress crack resistance. Most of the applications of HDPE are in rigid packaging such as small to medium-volume bottles/containers for food and beverage packaging, milk packaging, edible oil, lubricating oil, etc. Medium to large volumes blow molded containers are used for packaging purpose in chemicals, oil and pharma industry.



### Drainage Pipes

Industrial and Agriculture processes typically require drainage pipes to transfer fluids or gasses. HDPE is now the industry standard, as it is impermeable and has a strong molecular bond. These qualities make it perfect for use in high-pressure pipelines and drainage pipes. As a tough and resilient material capable of lasting up to 100 years or more with minimal maintenance, HDPE pipe has proven to be superior to many other piping materials as a means of transporting and distributing potable water at a longer distance.



### Agriculture & Sanitation

HDPE is a common material for irrigation pipes thanks to its high resistance to corrosion and exceptional weather tolerance. HDPE is lightweight and flexible which are desirable qualities for agriculture, sanitation and irrigation pipes.



### Infrastructure & Industrial

Out of all the qualities, being waterproof has been one of the most significant features which makes it a favorite of fertilizer manufacturers. Woven Bags made from HDPE material are flexible, durable, and tear-resistant, making the material ideal for heavy-duty packaging applications. HDPE Yarn also called monofilaments are widely used for day-to-day life applications like mosquito nets, fishing nets, and also ropes and twines.



### Housewares

HDPE is the most favored material for making houseware given its features like durability and weather resistance. HDPE is also resistant to mold, mildew, rotting, and insects. Also, it can be easily molded into almost any shape—making it perfect for any number of products that may spend a lot of time indoors or outdoors e.g. outdoor patio furniture; playground equipment, storage containers, trash, and recycling bins, etc.



## LLDPE (Linear Low Density Polyethylene)



### Flexible Packaging/FMCG

LLDPE is the largest volume commodity thermoplastic and the cheapest packaging material. LLDPE has higher tensile strength and higher impact and puncture resistance than LDPE. LLDPE film is an important part of any multi-layer packaging films/flexible laminates used for FMCG products such as biscuits, chips, milk pouches, edible oil pouches, PET foods, spices, Coffee & Tea, Shampoos & Detergents, etc.



### Infrastructure & Industrial

One of the key applications of LLDPE is the manufacturing of rotational molded products used in a wide range of indoor/outdoor applications like water tanks, road barriers, traffic cones, industrial storage tanks for chemicals, Golf carts, components of effluent and drainage systems.



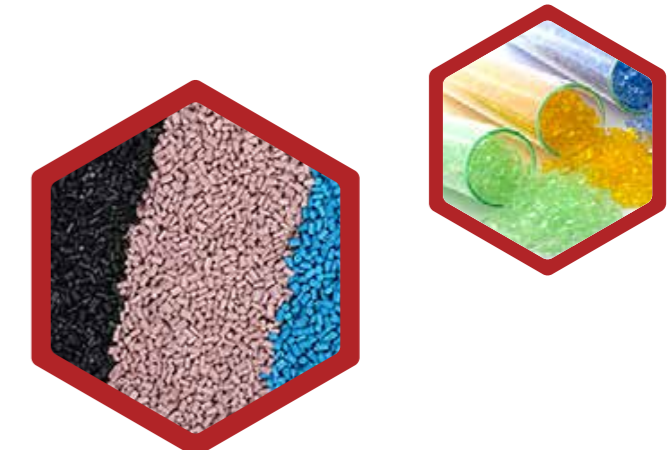
### Plasticulture

The term plasticulture refers to the practice of using plastic materials in agricultural applications. Plastic is omnipresent on farms. LLDPE is used in some of the most important applications in the agriculture sector. By far the biggest use of plastic in agriculture is for plastic mulch films and silage wrap, typically made from polyethylene (LLDPE) because it is cheap, easily processed, highly durable, and flexible. Other key application is for drip irrigation pipes which helps immensely in water conservation.



### Masterbatch and Compounding

LLDPE high-flow grades are used as a carrier resin for the production of a wide range of color and additive masterbatches (concentrates) as well as specialty compounds. Higher flow and narrow to broad molecular weight distribution properties of LLDPE material help in the high levels of pigment, additive, and filler loading due to excellent dispersion behavior resulting in true compatibility for a wide range of applications.



# Our Products

## PP (Polypropylene)

### Automotive Industry

High performance plastics used in cars are helping shape the future of transportation while providing us the safety and security we need as well as improving fuel efficiency by reducing car or two-wheeler weight. Polypropylene, being a thermoplastic polymer, can easily be formed into almost any shape. Polypropylene is frequently found in applications in car bumpers, gas cans, and even the carpet fibers of a car's flooring.



### Furniture & Housewares

Due to its low density, furniture made of polypropylene is extremely light which makes it easy to transport. Additionally, this furniture is distinguished by its strength and rigidity, which guarantees a long-lasting product that is difficult to break.



### Medical & Healthcare

Some of the properties of Polypropylene make it ideal for healthcare products. It has wide range of application from non-woven fabrics used for protecting healthcare workers from any infections such as face masks, caps, and coveralls, sanitary diapers used for maintaining the health & hygiene of children, women, and old age people to disposable injection syringes, medicine packaging, transparent IV fluid bags and so on.



### Infrastructure

Polypropylene is used in construction applications like siding, air, and moisture barrier membranes, carpet textiles, etc. Polypropylene fiber reduces the plastic shrinkage crack area due to its flexibility and ability to conform to form when added to concrete. Polypropylene is a weatherproof plastic. Hence, it is suitable for packaging commodities like Cement, Food grain, Sugar, etc. FIBC bags made from PP are widely used for bulk packaging applications such as pharma, intermediates, hazardous chemicals, etc. PP geotextiles and geogrid are extensively used in road and bridge constructions.



## CHEMICALS

### Benzene

Benzene is a colorless, highly flammable and volatile aromatic organic chemical with a gasoline like odor. It is a natural constituent of crude oil and is one of the elementary petrochemicals. The main sources of benzene are the steam cracking of liquid petroleum feedstocks as well as hydrodealkylation (HDA) of toluene and toluene disproportionation (TDP).

### CBFS

Carbon Black Feedstock is a mixture of C12 and higher components rich in naphthalene, methyl-indene, anthracene, fluorine and other poly-aromatic components. It originates from the high temperature cracking of petroleum fractions.

CBFS is the key raw material used to produce Carbon Black, which is used in tyres and road paving, tyre reinforcements, black pigments (e.g., for road markings), and conductors. The stream also contains piperylene, which is used to produce copolymerization elastomers, petroleum resins, curing agents, pesticides, and perfumes

### BUTADIENE

Butadiene is a reactive, colourless gas produced by the dehydrogenation of butane or by cracking of petroleum distillates.

Butadiene is used in the production of various types of polymer resins, synthetic rubbers, and chemical intermediates. It is found as a by-product in the steam cracking of naphtha and gas oil to make ethylene and propylene.

### PYGAS

Pyrolysis gasoline (Pygas) is a low boiling point gasoline which is obtained from thermal decomposition and catalytic cracking of high boiling fraction out from crude oil. It is a by-product of high temperature naphtha cracking during ethylene and propylene production.

Pygas can be used as a high-octane gasoline blend stock or as a source of aromatics for BTX extraction.

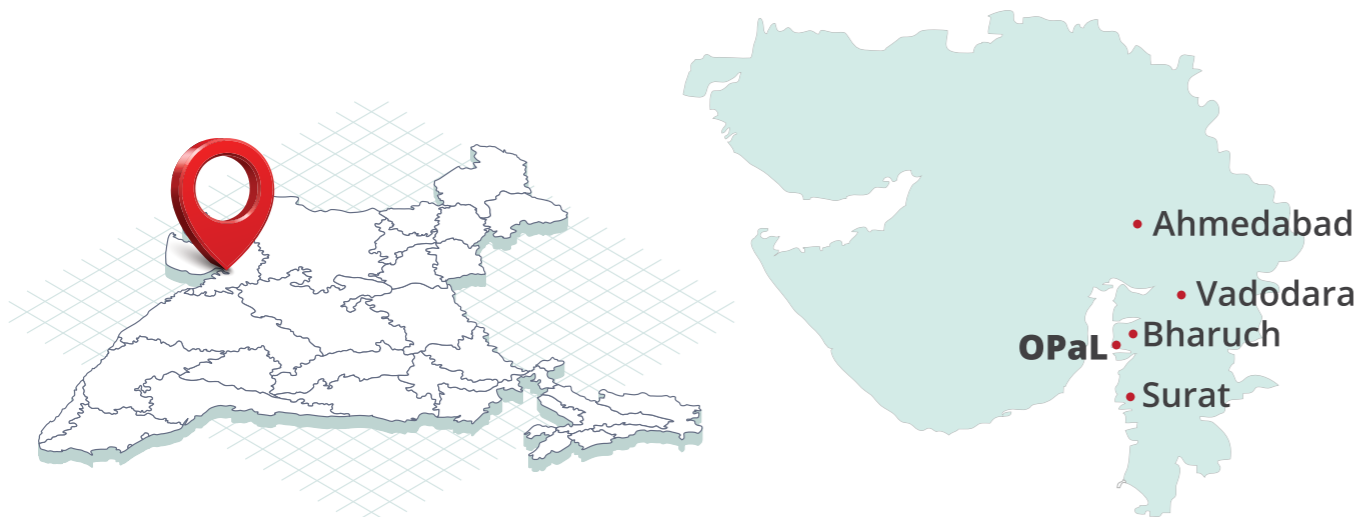


# Progress With Right Connectivity

OPaL is located at Dahej SEZ, (21° 42'N, 72° 32'E), which is on the longest coastline of India in the state of Gujarat. The state has been a forerunner in industrialization and commerce, accounting for about 2/3rd of the petrochemical production across the nation. It is thus natural that the region is regarded as the most preferred destination for investments in manufacturing sector, chiefly chemicals and petrochemicals, by the government and private sectors alike. The strategic location of OPaL was conceptualized to enable it to avail various location benefits like nearby storage ports/jetties and LNG terminals.

The Delhi – Mumbai Industrial Corridor - DMIC project is aimed at the development of futuristic industrial cities in India with strong economic base, which can compete with the best manufacturing and investment destinations in the world to activate local commerce, enhance foreign investments and attain sustainable development along the 1500 km long Dedicated Freight Corridor (DFC).

A strategic location of such kind lends OPaL an edge over the others, making it a name to reckon with. Maharashtra, Gujarat, Daman & Silvassa, surrounding OPaL plant are high polymer & chemicals demand markets, ensuring a fast-moving supply chain.



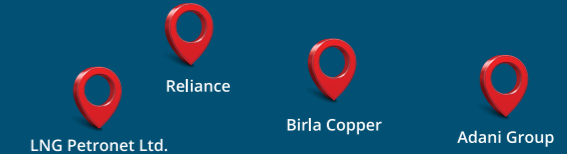
- 50 km of four lane Dahej-Bharuch State Highway connecting 6 - lane Delhi Mumbai National Highway and National Expressway



- 250 km from international airport at Ahmedabad
- 130 km from domestic airport at Vadodara
- 85 km from domestic airport at Surat

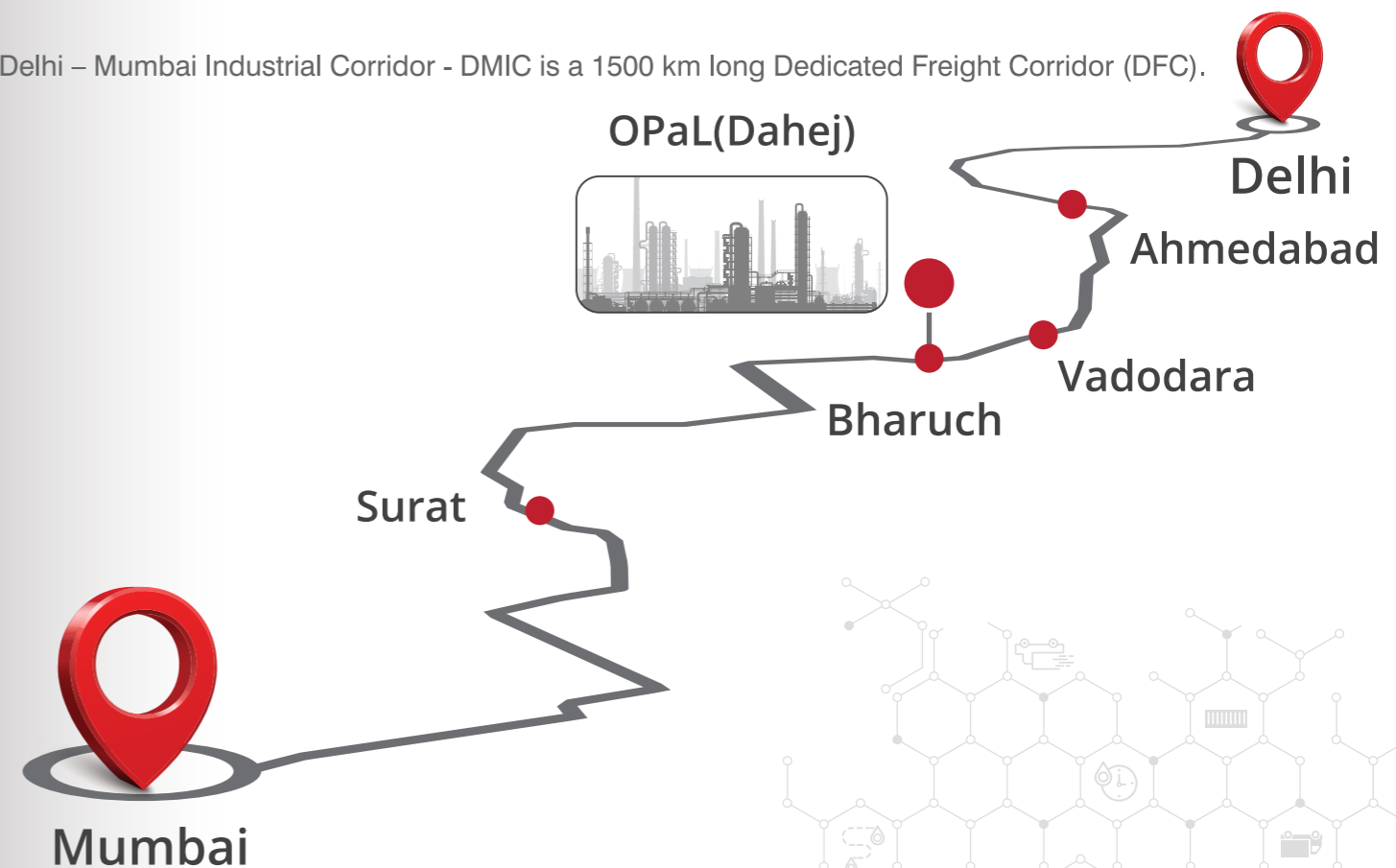


- GCPTL Liquid Chemical Terminal (1.80 MMTPA)
- LNG Port (10 MMTPA) - LNG Petronet Ltd.
- Liquid fuel jetty (3.5 MMTPA) - Reliance
- Solid Cargo jetty (4.5 MMTPA) - Birla Copper
- Solid cargo port - Adani Group



- Connected to Delhi-Mumbai Broad gauge railway line to Bharuch
- Broad gauge railway line from Bharuch-Dahej rail line

Delhi – Mumbai Industrial Corridor - DMIC is a 1500 km long Dedicated Freight Corridor (DFC).



# Progress With Quality

## Central Laboratory



Laboratories are the hubs of innovation, which makes OPaL invest extensively in them to foster new ideas and shape a new future. The Central Lab at OPaL, Dahej caters to the testing requirement of various units, utilities and Auxiliary units for Quality control and Quality Assurance,

which covers raw material to finished products. Built across 6300 sq. m. area, the lab is committed to quality offering accurate, precise and reliable results consistently.

The Lab is providing services round the clock in three shifts and General shift.

The Lab performs testing of solid, liquid & gaseous samples from DFCU, PP, HDPE, LLDPE, 1-Butene, Auxiliary units & utilities for quality control and support to units for smooth functioning & trouble shooting.

The different testing facilities are installed in seven sections for proper segregation, to avoid cross contamination and ease of testing.

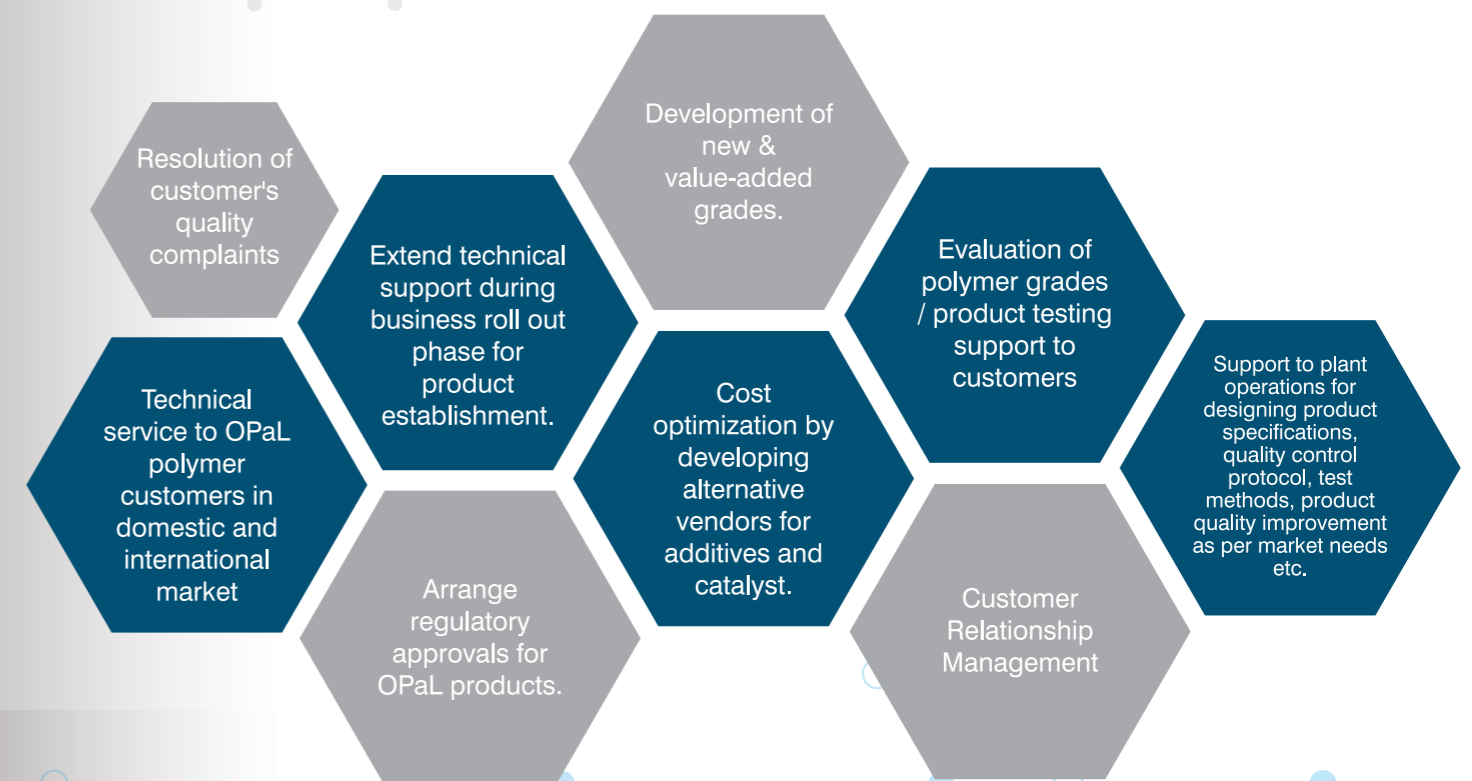
The Lab is also extending its testing support for quality assurance of finished products from offsite and bagging warehouse.

## Product Application & Research Centre (PARC)

PARC is a state-of-the-art application development laboratory and technology support facility of OPaL, set up at Dahej SEZ, Gujarat. It acts as an interface between polymer plants, marketing and customers.



## Key Functions



## List of Licensors

Driven by innovation and delivering excellence at every step, OPaL has set a new benchmark with world-class technologies that are seamlessly integrated into one of Asia's largest petrochemical complexes. OPaL is home to some of the world's best, state of the art technologies from Linde AG, Germany, Lurgi GmbH, Ineos Technologies, UK and Mitsui Co. Ltd, Japan among others.



# Exports

Bahrain  
Bangladesh  
China  
Indonesia  
Israel  
Jordan

Malaysia  
Myanmar  
Nepal  
Oman  
Philippines  
Sri Lanka

Thailand  
UAE  
Vietnam



Asia



Africa

Algeria  
Cameroon  
Cote d'Ivoire  
Djibouti  
Egypt  
Ethiopia  
Ghana  
Kenya

Morocco  
Mozambique  
Nigeria  
South Africa  
Tanzania  
Togo  
Uganda



North America

Costa Rica  
Dominican Republic  
El Salvador

Guatemala  
Haiti  
Honduras  
Mexico



South America

Brazil  
Columbia  
Chile  
Ecuador

Peru  
Paraguay



Europe

Belgium  
Poland  
Portugal  
Russia

Spain  
Turkey

# Scaling The Growth Trajectory

2017

OPaL Plant successfully Commissioned  
First export of polymer & chemicals Commenced

2017

Mega Petrochemical complex inaugurated by Hon'ble Prime Minister Shri Narendra Modi

2018

Created Plastics Aware Society as a part of Extended Producers Responsibility.

2018

Marked its Railway Debut under Supply Chain for multimodal movement (rail and road) for polymer transportation

2017-19

Expanded its global footprints through international exhibitions, conferences and Business Partner Meets

2018

Product and Application Research Centre (PARC) Inaugurated

2019

Prestigious IMS Certifications Received

2019

Achieved 10,000 Cr Sales Turnover  
Achieved 1 Million Metric Tonnes of Polymer Production  
Received Best Brand award by the Economic Times

2020

Received the first Naphtha Shipment

2019

Hazira Dahej Naphtha Pipeline successfully Commissioned

2020

Received NABL Accreditations for PARC

2020

Empowered the local rural residents in their fight against Covid -19 by distributing free masks and sanitizers

Generously donated to hospitals in Vadodara and Bharuch for their better preparedness against Covid -19

2020

Rolled -out 100 smart Cycles for internal commutation inside OPaL plant

Received ISO Certification 50001:2018 for Energy Management System

2021

Inaugurated C4 Hydrogenation Unit (C4HU), Hydrogenation Unit and LPG Pipeline

Organized Mega Plantation Drive – OXYZONE to reduce Carbon Footprints

Received the Prestigious Export Award for the year 2020-21 from Plastics Export Promotion Council (PLEXCONCIL)

2022

Completed first Major Turnaround Activity

Inaugurated New Administrative Building



# Corporate Social Responsibility (CSR)



OPaL measures growth in terms of the contribution made to society. Giving a hand to those in need, and sharing resources to bring ease to the lives of people, is at the core of OPaL's CSR activities. OPaL contributes to the social welfare of surrounding communities by aligning CSR activities with the needs of the communities that uplift their standard of living. OPaL's CSR initiatives aim to make a difference in the spheres of education, health, infrastructure, sanitation, etc.

Over the years, OPaL has engaged in impactful, welfare-driven activities in the vicinity of Vadodara, Bharuch districts. In its endeavor to bring a difference to the lives of the underprivileged, OPaL partners with

district authorities, local panchayats, and other Non-Governmental Organizations (NGOs).

OPaL considers sustainable development is foundation of its business strategy. To achieve sustainable growth, OPaL is building an ecosystem to transform lives and bring about positive change in society.



# Sustainability

One of the cornerstone values of OPaL is to maintain amicable relations with nature and the environment. Our sustainable development strategies strive to create a healthy ecosystem for all stakeholders.

Our progress across multiple touch points has not gone unnoticed. Committed to a safe and green sustainable business, Team OPaL has bagged prestigious awards and accreditations in a short period. Prestigious awards have followed celebrating our speedy advance in the polymer industry.

To instill the values of sustainability, many green initiatives have been launched. One of the biggest is OPaL Oxyzone. Oxyzone – a green belt surrounding the OPaL facility is spread on 51 hectares housing 80,000 trees.



To further reduce carbon footprint, 100 cycles have been inducted for internal transport. These commitments are in line with the clarion call of the Hon'ble PM to reduce 1 billion tonnes of carbon emissions by 2030.

OPaL strives to achieve sustainability in its business operations, as part of our long-term strategy of inclusive growth. We want to create sustainable value through our business activities – for our customers, employees, shareholders and society. We believe in striking a balance between the economic aspects of business along with the social and environmental aspects related to our business.



# Commitments Redefined

We at, ONGC Petro additions Limited (OPaL) are committed to manufacturing and supplying high quality Petrochemical Products & associated services to National & International Markets.

**INTEGRATED MANAGEMENT SYSTEMS POLICY** (Quality, Environment, Health, Safety & Security)

**RISK MANAGEMENT POLICY**

**ENERGY MANAGEMENT POLICY**

ISO Certificate for Integrated Management Systems



# Our Achievements

- Received prestigious “Exports Award” from Plastic Exports Promotion Council (PLEXCONCIL)
- Certificate of Merit by highly regarded Indian Chemical Council (ICC)
- Best Brand in the Plastics & Polymers award by ET Polymer.
- Golden Jubilee Memorial Trust Award for OPaL's outstanding performance in Environment, Conservation & Pollution Control.
- National Accreditation Board for Testing and Calibration Laboratories (NABL) Accreditation for PARC and Central Lab.
- GreenTech Safety Award for its commitment to industrial safety.
- Prestigious IFSEC award for security innovation in Road Traffic Safety “SUDHAR” Module.
- Integrated Management System (IMS) Certification for multiple sites in conformance to the requirements of ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2018 for OPaL's Manufacturing & Marketing processes.
- Implementation of Energy Management System (EnMS).
- Implementation of Risk Management Policy.



# Our Culture

At OPaL, every individual gets an opportunity to achieve great heights and learn from the wisdom of the senior leaders. OPaL provides excellent developmental opportunities that are well-aligned with personal aspirations.

OPaL strives to build a culture of holistic development. The work culture at OPaL always radiates positivity, buzzing with innovation and productive collaborations. While we work together to deliver maximum value to the

customer, our processes are devised to promote excellence in all aspects by empowering individuals to achieve his/her potential and grow as robust professionals.

Life at OPaL comes with an abundance of opportunities for personal and professional growth. At the same time, there are challenges which foster learning with great excitement. It is eventful, rewarding and has something for everyone's passion.



# Redefining The Future

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The fast-growing petrochemical sector is presenting plenty of opportunities for OPaL to spread its footprints. While focusing on the distinct growth areas where value addition on various streams can be furthered, OPaL is marching ahead to achieve its objectives.

Dynamic enough to diversify into new segments, inbuilt potential to scale and expand capacity as required, OPaL always strive to deliver enhanced value! OPaL is

rapidly expanding its horizon with eyes on the limitless possibilities of future. OPaL is determined to identify opportunities where it can leverage the expertise, knowledge and insights of the employees and stakeholders, to pioneer new ways to address current and future challenges.



**We Are Future Ready!**

