

About Praj

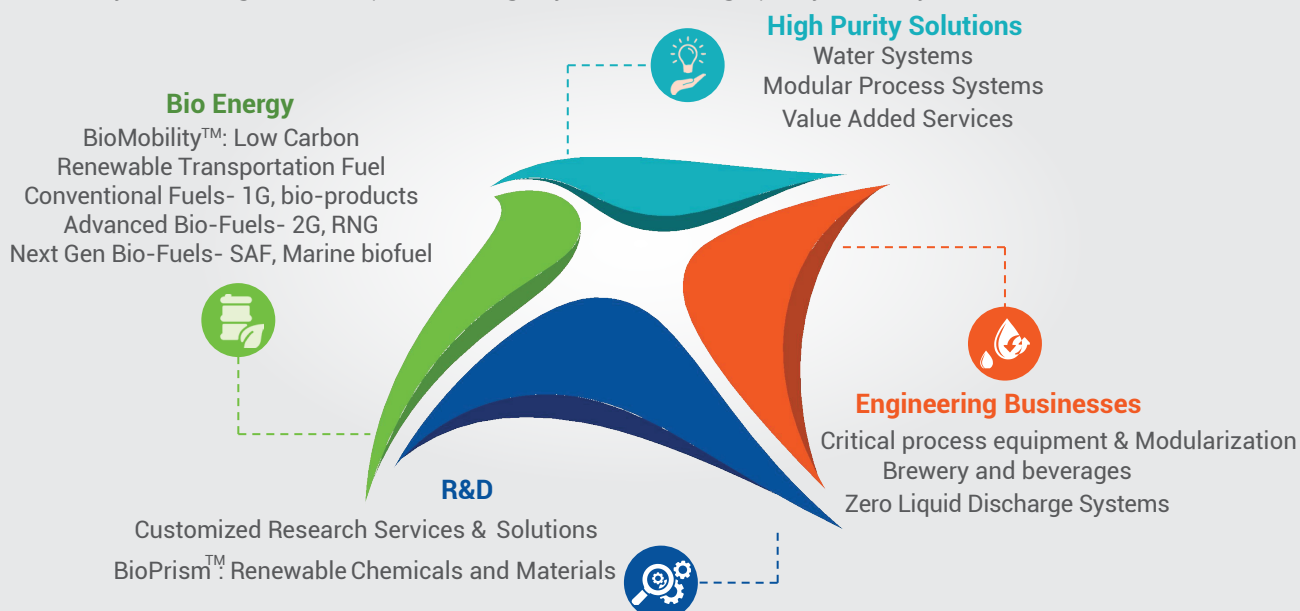
- Praj, India's most accomplished industrial biotech company, driven by innovation, integration, and delivery capabilities.
- Over the past four decades, Praj has focused on the environment, energy, and Agri-process industry.
- Praj continues to pursue climate initiatives by sustainable decarbonization through circular bioeconomy.
- Praj is listed on the Bombay and National Stock Exchanges of India.

Facts At Glance



Business Verticals

Praj's diverse portfolio comprises Bio-energy solutions, Critical process equipment & Modularization, Brewery & Beverages, Zero liquid discharge systems and High purity water systems.



Praj is a name to reckon with in the global biofuel technology solutions. We offers end to end solutions across the value chain.

Conventional Bio-Fuels

First Generation Bioethanol Technology (1G)

- Pioneer in the Ethanol Technology solutions in India since the 80's
- Agri-feedstocks like sugary feedstock (sugarcane juice, molasses) and starchy feedstock into Bioethanol.
- Offering a complete suite of solutions like multi-feed multi-product plants and existing plant modernization.



● Bio-Based Performance Enhancers

- Praj's Bio-Based Performance Enhancing solutions add "economic value" to biochemical processes.
- These innovative formulation use bacteria, yeasts, fungi, enzymes, anti-microbials and nutrition biomolecules.
- These bio-products improve operational efficiency of the plant and facilitates high ethanol recovery.



Advanced Bio-Fuels

● Lignocellulosic Ethanol Technology (2G)

- Praj offers end to end solutions to set-up integrated advanced Bio-fuels refineries based on its proprietary enfinity™ - 2G lignocellulosic ethanol technology.
- Processes variety of Agri residue such as rice straw, wheat straw, bagasse, corn stover and corn cobs, soft wood, and empty fruit bunches for production of bioethanol and renewable chemicals.

● Renewable Natural Gas (RNG)

- Praj has developed advanced bio methanation technology based on proprietary microbiological pretreatment for production of renewable biogas (a.k.a compressed biogas) from Agri residues and press mud.
- Renewable Natural Gas produced using RenGas™ technology provides highest yield with 30% lower operating costs.

Next Generation Biofuels

● Sustainable Aviation Fuels (SAF)

- Praj's innovative processes use iso-butanol produced from bio-based sugary, starchy and lignocellulosic feedstock to produce Sustainable Aviation Fuel (SAF).

● Marine Biofuels

- Marine biofuels produced from lignin-based bio-feedstock are rapidly gaining interest among international ocean shippers and carriers.



Engineering Business

Praj's engineering businesses comprises Critical Process Equipment & Modularization, Brewery & Beverages, and Zero Liquid Discharge systems.

Critical Process Equipment & Modularization

- Critical Process Equipment & Modularization offers engineering and manufacturing solutions to world leaders in the Clean tech, Green tech, industrial gases, specialty chemicals as well as conventional energy.
- From extended basic engineering to commissioning assistance this vertical offers specialized services in conceptualizing, engineering and manufacturing of modular process packages along with Critical equipment such as reactors, High pressure vessels, heat exchangers, columns and customer specific proprietary equipment.



Brewery & Beverages Solutions

- Praj offers tailor-made plants, equipment & technology solutions to customers in the brewing and beverages industry for producing the best quality products at the optimum cost.
- The technology offered to plants are environment friendly, utilizing minimum water, energy and help generate a low carbon footprint.

Zero Liquid Discharge systems

- Praj offers integrated energy-efficient solutions for effluent recycling and zero liquid discharge for various process industries to minimize water footprint and optimize operating cost.
- ZLD solutions are based on sustainability principle of Reduce-Reuse-Recycle and thus help process industry comply with statutory norms and treat their effluent



HiPurity Business

Praj HiPurity Systems provides end-to-end turnkey solutions for the Biopharma industry, Sterile formulations, topical & oral formulations, Personal care and the Nutraceutical industry.

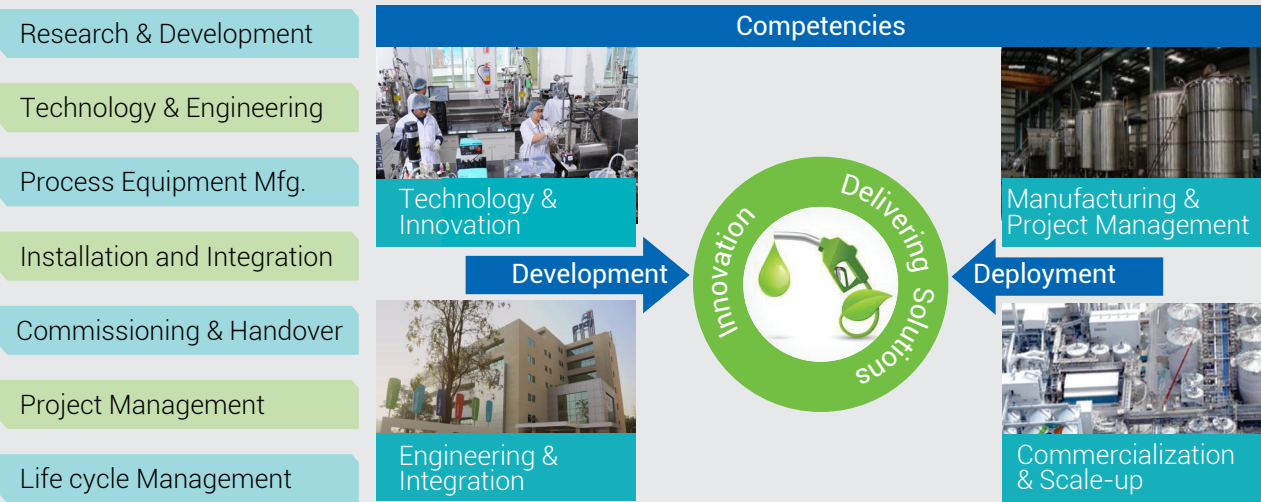
Praj Hipurity Systems offers

- Water System (WS): From treating raw water to delivering PW, WFI and TS to point of use.
- Modular Process Systems (MPS): Equipment for handling liquid / manufacturing and biotech systems.
- Value Added Services (VAS): Post sales support, operations & maintenance, CMC, upgradations and training.



Capabilities across the Value Chain

Praj offers end to end solutions from Research and Development (R&D) to Design and Deployment (D&D) as well as Life Cycle Management.



Concept – Realization - Life Cycle Management

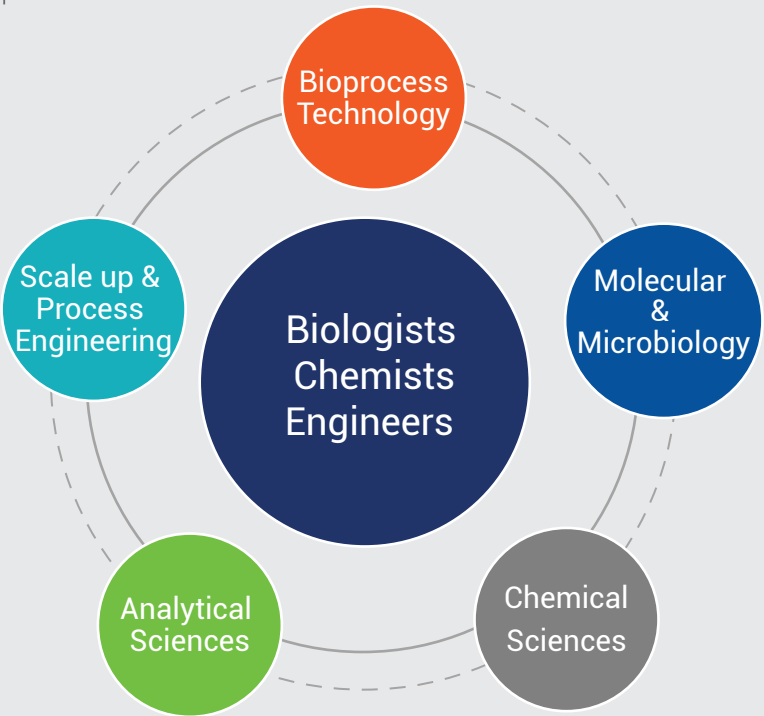
Matrix - Research & Development Center

Praj Matrix, the state-of-the-art R&D facility, forms the backbone for the company's initiatives towards a clean energy-based Bioeconomy.

- Praj Matrix is certified from DSIR, GOI.
- It is first of its kind R&D center that facilitates scientific validation and rapid commercialization.
- It is equipped with 16 laboratories, 90 technologists & scientists and 300+ national and international patents

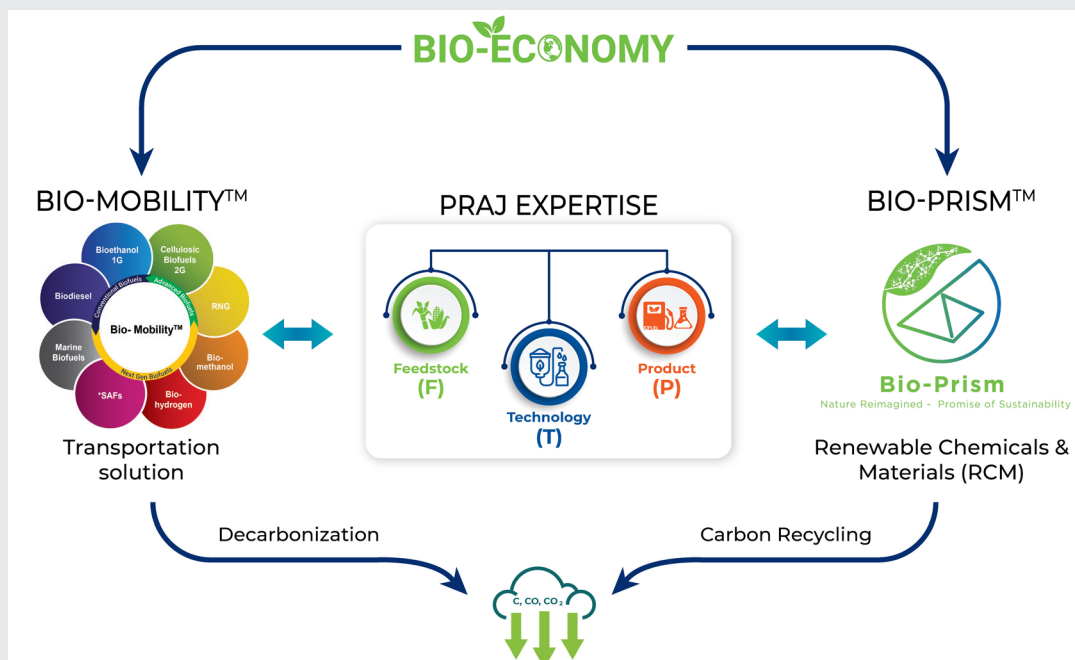


CENTRE OF EXCELLENCE



Bioeconomy

- Praj's endeavors in bioeconomy rest on two pillars- Bio-Mobility™ & Bio-Prism™.
- Praj's expertise is in Feedstock-Technology-Product(FTP) which is a bedrock on which Bio-Mobility™ & Bio-Prism™ are built.



Bio-Mobility™

- Bio-Mobility™ platform of technologies envisages utilization of Agri residues and organic waste to produce low carbon transportation fuels across all modes of mobility i.e. Surface, Air and Marine.
- Bio-Mobility™ is the mainstay of the company's contribution to the global bioeconomy by decarbonizing the transportation sector.

Bio-Prism™

- Bio-Prism™ portfolio comprises of technologies for production of Renewable Chemicals and Materials (RCM).
- RCM produced from bio-based feed stocks, are sustainable alternatives to products made from fossil resources that facilitates carbon recycling

Manufacturing Facilities

Sanaswadi, Pune Unit:

- Fabrication Capacity 8600 MT/Year
- Infrastructure for SS, Copper, and LAS (Low Alloy Steel)
- Area: 28,800 sqm for fabrication unit



Wada, Mumbai Unit:

- Exclusively for HiPurity Systems
- Systems /equipment comply with WHO /US FDA / UK MHRA
- Area: 70,000 sqm










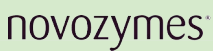











Kandla, Gujarat Unit:

- Unit 1: Stainless Steel fabrication
- Unit 2: Alloys & Carbon Steel fabrication
- Unit 3: Module Pre-Fabrication shop
- Piping Fabrication Shop
- Modular Assembly Yard
- Total Area: 30,700 sqm (Unit 1); 20,200 sqm (Unit 2)






Strategic Global Partnerships

Praj has forged strategic alliances with renowned organizations, institutions around the world so as to leverage complementary strengths.

Areas	Partnerships/Associations					Key Objective
Academic	 IISER PUNE IISER Pune	 Pune University	 IIT, Bombay	 ICT, Mumbai	 NCL, Pune	Co-development, Research
Market	 DEDINI INDUSTRIAS DE BASE Brazil	 Valmet FORWA Finland	 novozymes [®] Denmark			Business growth, Expansion
Customer	 भट्टियनओयल IndianOil	 Bharat Petroleum	 HP			Re-define India's 2G Ethanol Market
Technology	 gevo [®] USA	 DVO USA	 Sekab Sweden	 ARAI Progress through Research India		Keeping Technology Edge
Associations	 भारतीय विज्ञान DEPARTMENT OF BIOTECHNOLOGY	 ABLE Association of Biotechnology Led Enterprises	 CII	 IFGE		Networking, Policy Advocacy

CSR

At Praj, we are aligned with the company's vision of making the world a better place by impacting lives through our sustainable initiatives.

	Environment	Health	Education
			
	Sustainable water resources development	Preventive Healthcare for rural women	Hands on life skills education through Rural schools
Key Initiatives	<p>Widening and deepening of Streams in 37 drought prone Villages</p> <p>18.99 lakh cu metres of Silt removed from streams</p>	<p>Preventive healthcare program implemented in 33 Villages in Pune</p> <p>Promoting "Food as Medicine" concept through nutrition garden</p>	<p>Infrastructure upgraded in 16 schools from 8 districts of Maharashtra</p> <p>Rural entrepreneurship programs</p>
Positive Impact	<p>1253 open wells and 660 bore wells Recharged</p> <p>12,360 acres hectares Agricultural land brought under irrigation</p>	<p>Enhanced health status of 7000 beneficiaries</p> <p>Improved Hb level and reduction in nutritional deficiencies</p>	<p>life skills education covering 6500 students and more than 50 instructors</p> <p>22 entrepreneurs are being mentored</p>

Marquee Customers (Partial List)

We serve our customers worldwide!



Global Presence

Praj has been a trusted partner to customers around the world



1000++ references in 100+ countries across 5 continents and still counting...



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