



**Date: 21<sup>st</sup> June, 2024**

**Ref.: PIL/ANB/L-035/2024-25**

<b>Company Code: PRAJIND</b>	<b>Security Code No.: 522205</b>
<b>National Stock Exchange of India Ltd.</b>	<b>BSE Ltd.</b>
Exchange Plaza, 5 <sup>th</sup> Floor, Plot No. C/1, G Block, Bandra-Kurla Complex, Bandra (East), Mumbai - 400 051	Phiroze Jeejeebhoy Towers, 25 <sup>th</sup> Floor, Dalal Street, Mumbai - 400 001
Fax: 022 – 2659 8237 / 38	Fax:022- 22723121/3719/2037/2039/2041/2061

**Sub.: Investor Presentation**

Dear Sir / Madam,

Kindly put the enclosed “Presentation” on your bulletin board for sharing with Investors.

Thanking you,

Yours faithfully,

**FOR PRAJ INDUSTRIES LIMITED**

**ANANT BAVARE  
COMPANY SECRETARY &  
COMPLIANCE OFFICER  
(M. NO. 21405)**

**Encl.:** as above





40 Years of Legacy



Presence across  
100+ countries



1800+  
employees



90+ research  
scientists



4 manufacturing  
facilities



400+  
patents



40%+ business from  
repeat customers



~10%  
Global ethanol production  
market share\*



1000++  
References/plants  
worldwide



400+  
overseas references



Net Debt Free company



3-Year Revenue CAGR  
39%



3-Year EBITDA CAGR  
51%



3-Year PAT CAGR  
52%



FY24 ROCE  
27%

INTEGRITY

INNOVATION

RELIABILITY

PASSION

RESPONSIBILITY

AGILITY

# Company Overview





- Incorporated in 1983 under the visionary leadership of technocrat Dr. Pramod Chaudhuri.
- Praj Industries Ltd. (Praj) has grown to become one of the most reputed and technologically advanced biotechnology and engineering companies in the world.
- Offering a bouquet of sustainable solutions for bioenergy, high purity water, critical process equipment, breweries and industrial wastewater treatment
- Focused on the environment, energy and farm-to-fuel technology solutions, with 1000++ customer references in 100+ countries across all six continents and still counting.
- Team of 90+ technologists, 400+ patents filings, and 24 Indian and 60 international patents being granted.
- Known for its TEMPO (Technology, Engineering, Manufacturing, Project management, and Operations & Maintenance) capabilities.
- The manufacturing capabilities are substantiated by four world class manufacturing facilities located in Maharashtra, Gujarat and Karnataka, which are near ports and supported by a multi-disciplinary engineering team.
- Global Offices located in Thailand and Philippines in South East Asia and in Houston, Texas, USA.

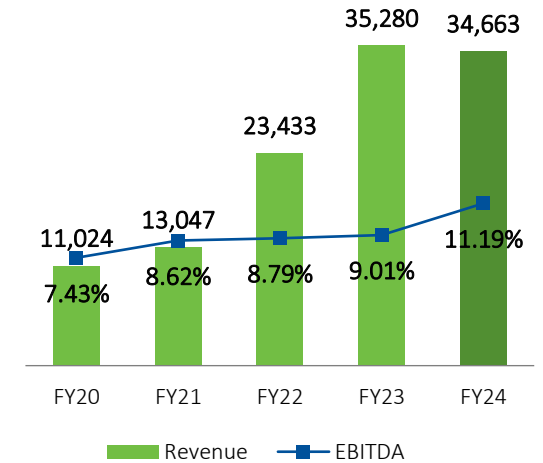
Order book  
As on FY24



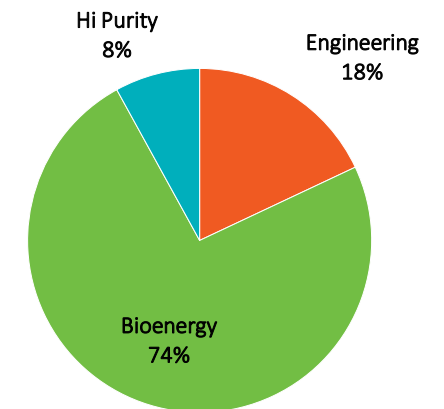
Order Intake in  
FY24



Operational Revenue (INR Mn)



FY24 Revenue Break Up (%)





**Dr. Pramod Chaudhari** – Executive Chairman

As a first-generation techno-entrepreneur, Dr. Chaudhari founded Praj in 1983. He dreamt and developed Praj into a world-class engineering company specialized in Agri-processing opportunities. Deeply passionate about Bio-economy and Environment, Dr. Chaudhari is committed to develop clean and green technologies. Dr. Chaudhari is a ‘Distinguished Alumnus of IIT Bombay (1971)’ and an alumnus of Harvard Business School (AMP 1995). He is the first Indian to receive the global honour of the prestigious ‘George Washington Carver Award 2020’ by BIO-Impact, Washington DC, USA and the first Asian recipient of the prestigious ‘William C. Holmberg Award 2022’ for Lifetime Achievement in Bioeconomy



**Mr. Shishir Joshipura** – CEO & Managing Director

Mr. Shishir is a Mechanical Engineer from the prestigious Birla Institute of Technology & Science (BITS) Pilani and an Advanced Management Graduate from Harvard Business School. He has over 35 years of rich experience in varied fields of engineering. He possesses a strong business and leadership record. He began his career with Thermax Ltd and held several key positions to rise through the ranks to become Executive Vice President and Global Head of Cooling & Heating business. Before joining Praj, he served as Managing Director of SKF India Ltd from 2009 to 2018. He chairs the sub-committee on Environmental Sustainability of CII Western Region.



**Mr. Sachin Raole** – CFO & Director (Resources)

Mr. Sachin is a Chartered Accountant and Cost Accountant with 27 years of experience in varied fields of finance and accounts. He has worked in the areas of divestment, mergers & acquisitions, financial restructuring, treasury, accounts and taxation. He has very rich experience in the wide spectrum of finance across industries; manufacturing, project, financial services and pharmaceuticals.



**Mr. Vinayak Deshpande** – Non-Executive Director

Mr. Vinayak is a graduate in Chemical Engineering from IIT, Kharagpur. He has over 44 years’ of experience in business management, strategy & new business formulation, investment analysis and implementation of large, nation building projects, and HR and talent development. He occupied Chief Executive Officer (CXO) positions starting as Managing Director at Tata Honeywell in 2000, then at Tata Teleservices, HCC and Tata Projects.



**Mr. Utkarsh Palnitkar** – Non-Executive Director

Mr. Utkarsh is a Chartered Accountant and has completed the Advanced Management Program of The Harvard Business School. He has over 35 years of experience in strategic planning, policy development and program management across multiple sectors with both public and private sector entities. He is on the board of number of life sciences related trade bodies and has chaired several committees on policy making in India.



**Ms. Parimal Chaudhari** – Non-Executive Director

Ms. Parimal is the Managing Trustee of Praj Foundation and steers the CSR wing of the company. She holds a Bachelor’s Degree in Arts with major in English and a post graduate degree in Journalism and Communications. She has also been awarded the Rotary fellowship for group study exchange program to study media institutions in Austria, Germany and erstwhile Czechoslovakia. She has also completed core courses in creative writing at Cambridge University. As a recipient of Fulbright Fellowship, she has acquired MS at Syracuse University, New York, US. She is a communication consultant and a journalist by training and has taught at the Department of Communications and Journalism at the Pune University for six years.



**Ms. Rujuta Jagtap** – Non-Executive Director

Ms. Rujuta is the Executive Director of Saj Test Plant Pvt Ltd. She is an MBA graduate in International business. Previously, she has served in tata steel mumbai from 2002 to 2006 for about 4.5yrs handling their international sales and marketing for all global markets and domestic sales and marketing for institutional business in maharashtra. In addition, Rujuta is on the board of MCCIA as a director, vice chairperson of indo american chamber of commerce, vice chairperson of the british business group



**Dr. Shridhar Shukla** – Non-Executive Director

Dr. Shridhar Shukla holds B.Tech (Electrical) from IIT Bombay, MS (Electrical) from Virginia Tech, USA and Doctorate from North Carolina State University, USA. He brings with him 23+ years of experience in the areas of building and running software companies, infrastructure software products, services and R&D. He was associated with Persistent Systems Ltd as Director and COO between 1995-2003. Presently, Dr. Shukla is the Managing Director of kPoint Technologies. He is also the Co-founder and Chairman of the Board at GS Lab.



**Mr. Suhas Baxi** – Non-Executive Director

Mr. Suhas Baxi is a Mechanical Engineer from VNIT Nagpur and obtained management training at IIM, Ahmedabad. He has worked with global and Indian companies in helping develop and implement market and organization development strategies and has been an active member of industry body CII where he was Chairman of Pune Zonal Council in 2010-11 and has been a member of National Council of CII for Higher Education. He is the co-founder of BiofuelCircle Private Limited.



### Mr. Atul Mulay (Head of Bio Energy)

Mr. Atul Mulay is working as President and Strategic Business Unit Head for Bio Energy Division and heads Global operations. He is Director on Praj Engineering and Infra Limited Board and a Trustee of Praj Foundation. He has been associated with Praj Group since inception of the group. He is a qualified Mechanical and Production Engineer and has also done his post graduation in Marketing Management from Pune. He has to his credit Fulbright Scholarship from United States of America and completed his Global Leadership Management Tepper School of Business, Carnegie Mellon University.



### Mr. Vasudeo Joshi (Head of Advanced Biofuels)

Mr. Vasudeo Joshi is working as Vice President and Business Unit Head for Advance Biofuels and he is a Chemical Engineer and has over 33 years of experience in the field of Biofuels, Dairy & Food Processing Industry. He has been working with Praj for over 24 years with Multidiscipline experience in the Business Development, Proposals & Cost estimations, Engineering and Execution of Biofuel Projects in Domestic and Overseas markets. He was leading the Praj team in successful demonstration of Praj's 2nd Generation Biomass to Ethanol Technology at its Integrated Demonstration Plant.



### Mr. Abhijit Dani (Chief Business Officer and WTD of Praj GenX Ltd)

Mr. Abhijit Dani is a Vice President and Business Unit Head of Process Equipment and Modularisation, and Water Treatment. He is a Mechanical Engineer and MBA in Marketing and Finance. He was selected for prestigious Fulbright Scholarship from Carnegie Mellon University, USA. In 2009, he joined Praj and over last 12 years, under his leadership, this Business Unit has created many milestones in Process Equipment and Modularisation offerings in HydroCarbon, Industrial BioTech and Chemical Industry. He is also the Vice Chairman of Process Plant & Machinery Association of India (PPMAI) and he is also on the Central Advisory Board of Chemtech foundation.



### Mr. Sanjay Sapru (Head of Brewery & beverages)

Mr. Sanjay Sapru is working as an Executive Vice President and Business unit head – Brewery. He has over 25 years of experience in business development and has completed his graduation from Birla Institute of Technology and Science, Pilani and Indian Institute of Management, Calcutta. Prior to joining Praj Industries 7 years ago, he has held roles in various capacities at SABMiller India.



### Mr. Mihir Mehta (Wholesale Director at Praj HiPurity Systems)

Mr. Mihir Mehta is BU Head & Vice President at PRAJ HiPurity Systems Ltd. and heads global business unit and operations of HiPurity systems. He is a qualified mechanical engineering graduate from Mumbai University has earned repute for himself in the Indian Pharmaceutical Industry. He has to his credit more than 550 water plants and more than 200 critical process plants installed in India and abroad. He is a Fulbright scholar from Carnegie Mellon University, USA.



### Mr. Ghanashyam Deshpande (President - Technology and Engineering)

Mr. Ghanashyam Deshpande presently heading Centre of Innovation and Applied Technology group in Praj has more than 30 years experience in developing affordable sustainable solutions for biofuel industry. He has expertise in process design engineering, scale-up, optimization and Integration engineering for advanced bio-fuels and chemicals, design and Deployment of sustainable solutions for low carbon and high energy density bio-fuels for all modes of transportation and providing value added low carbon intensity solutions to industry through Process Intensification and Innovation Technique. He holds a Masters in Chemical Engineering from ICT, Mumbai.



### Dr. Pramod Kumbhar (Chief Technology Officer, Praj Matrix)

Dr. Pramod Kumbhar works as President and Chief Technology Officer of Praj matrix - R&D Center. He is focused on driving innovations in industrial biotechnology to make biofuels and bio chemicals. He has a Ph.D. in Chemical Engineering from ICT, Mumbai and Post-doctoral stints at CNRS laboratories in Montpellier and Institute of Catalysis, Lyon in France. He is Fellow of Maharashtra Academy of Sciences. Prior, he has worked at General Electric R&D Centre in Bangalore and SI Group (formerly Schenectady chemicals, USA) in various positions including last assignment as R&D director for Asia Pacific. He has Received Bronze and silver medals from GE for patent filings and has more than 25+ publications in peer reviewed scientific journals.



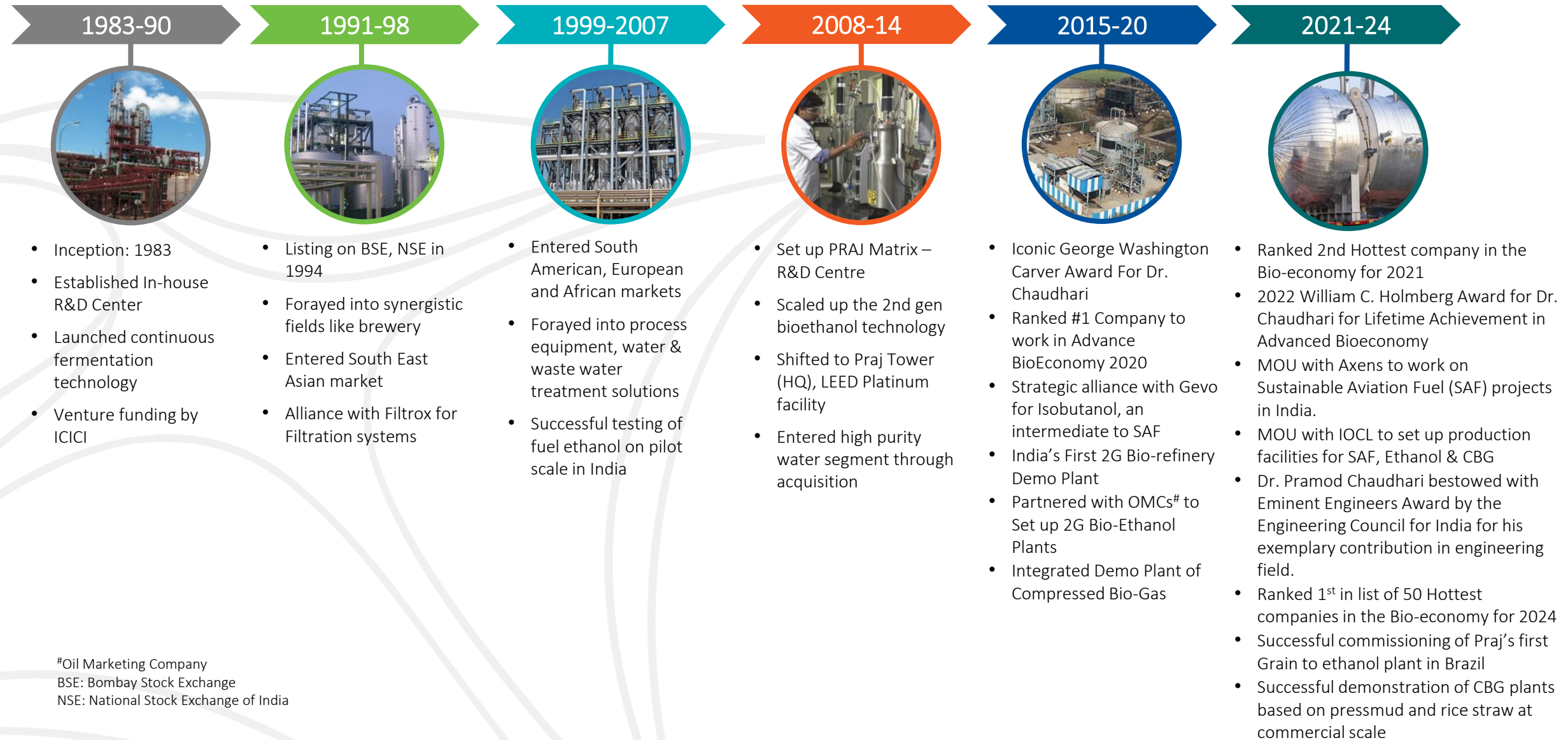
### Mr. Shrikant Wale (Delivery Head)

Mr. Shrikant completed his engineering graduation in mechanical in the year 1990 from Govt. Engineering college, Aurangabad. He has pursued Management Program for Technologists in the year 1996 from IIM Bangalore and Leadership Development Program from ISB Hyderabad in the year 2018. He holds 30 years of diversified and rich experience in Manufacturing. He has worked with companies like Thermax Ltd, Thermax (Zhejiang) Cooling & Heating Engg. Co. Ltd., Doka India Pvt Ltd. His last assignment was with Oswal Industries Ltd., as Director - Operations.



### Dr. Prakash Ranjan- Group Chief Human Resource Officer

Dr. Prakash is currently leading the Human Capital Practice. His role includes all facets of human elements including Human Relations and Resources, Admin, Sustainability and CSR. Prior to Praj, he was associated with VEOLIA Water Technologies & Solutions, South Asia as HR Head. Dr. Prakash has previously worked with SUEZ Water Technologies & Solutions, Areva, Alstom, General Electric Company, ITC Infotech, Bank of Baroda, Daewoo Motors India Ltd. Dr. Prakash holds MA degree in HR and a post graduate diploma in General Management from ISB, Hyderabad. He has done his Doctorate in "HRD – A Strategic Approach" on UGC JRF. He is a certified OD practitioner by National Training laboratories (NTL), USA.



#Oil Marketing Company  
 BSE: Bombay Stock Exchange  
 NSE: National Stock Exchange of India





## Pune Unit

- Infrastructure for SS, Copper and LAS (Low Alloy Steel)
- Area: 28,800 sqm for fabrication unit



## Mumbai Unit

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



## Kandla SEZ

- Stainless steel, Alloy & carbon steel products and Modular skids
- Area: 30,700 sqm (Unit 1); 20,200 sqm (Unit 2)



## Mangalore SEZ

- State of the art manufacturing facility based on Industry 5.0 principles
- Equipment and Modules for ETCA
- Area: 128,671 sqm (Covered), 58,064 sqm (Open)

### Certification



U, U2, S, R

3834-2, 1090-2

### 3rd Party Agencies



## 2017

### Individual: Dr. Pramod Chaudhari

- Ranked 35 in 'Globally Top 100 People List' in Bioenergy space by Biofuels Digest

### Corporate:

- 5th Procurement Excellence in Best Green Procurement
- Best Biotechnology R&D Specialists - Asia
- Best Supply Chain Management Practices by Indian Institute of Material Management (IIMM)
- National Safety Council (NSC) Award for Sanaswadi factory

### Sustainability:

- Rotary Industry Award for environmental initiatives
- Excellence in Sustainable Supply Chain by World Sustainability organization

## 2018

### Corporate:

- Information Technology Team has won IT Security-Now in Best Batsman of the year category
- Overall Excellence in Procurement & Sourcing to Supply Chain Management
- CPES business unit (Critical Process Equipment and Skids) honoured with Pune Best In Class Manufacturing Leadership
- Supply Chain Management Team was honoured with "Express Logistics & Supply chain Leadership Award 2018"

### Sustainability:

- Pune Corporate Social Responsibility Leadership

## 2019

### Individual: Dr. Pramod Chaudhari

- Asia's Greatest Leader of 2018 award by URS Media

### Corporate:

- Golden Peacock Eco-Innovation for 2G biomass to bioethanol technology
- Praj Industries jumped to 8th position from 34th in 2018 in the list of TOP 50 Hottest Companies in Advanced Bio-economy for Year 2019 by Biofuel Digest
- "CHEMTECH CEW Leadership and Excellence Award 2019"
- Asia's Greatest Brand of 2018 by URS Media

## 2020

### Individual: Dr. Pramod Chaudhari

- Prestigious George Washington Carver award announced for Dr. Pramod Chaudhari
- 'Dattopant Thengdi Rashtriya Svavalamban Sanmaan 2020' by Swadeshi Jagaran Manch
- Dr. Pramod Chaudhari conferred with the degree of D. Litt. by Tilak Maharashtra Vidyapeeth

- Ranked No.1 among the "Best Places to Work in the advanced bioeconomy 2020"
- CII Innovation Award 2020 in Manufacturing Large Enterprise category for its SHIFT technology
- CII 3R Award 2020 for Excellence in Design, Innovation and Developing Product Generating Minimum / Zero Waste at User End

## 2021

### Individual: Dr. Pramod Chaudhari

- 'AsiaOne Global Indian of the Year 2020-21', by Asiaone Magazine and URS Media International

### Corporate:

- AsiaOne Magazine & URS Media International chosen Praj as "World's Greatest Brand of 2020-21".
- Ranked 2<sup>nd</sup> in a list of world's 50 Hottest companies in global bioeconomy for 2021 in Low Carbon Fuels and Renewable Chemicals category based on US Biofuels Digest
- Ranked 3<sup>rd</sup> in a list of world's 50 Hottest companies in global bioeconomy for 2021 Biodesign and Engineering Category based on US Biofuels Digest

## 2022

### Individual: Dr. Pramod Chaudhari

- Prestigious William C. Holmberg Award to Dr. Pramod Chaudhari for 'Lifetime Achievement in the Bioeconomy'

### Corporate:

- Conferred with the prestigious Fortune India THE NEXT 500 in the Engineering sector.
- Golden Peacock Award in the innovative Product and Service Category for ground-breaking product – BIOSYRUP.

## 2023

### Individual: Dr. Pramod Chaudhari

- Bestowed with Eminent Engineers Award by the Engineering Council for India for his exemplary contribution in engineering field.

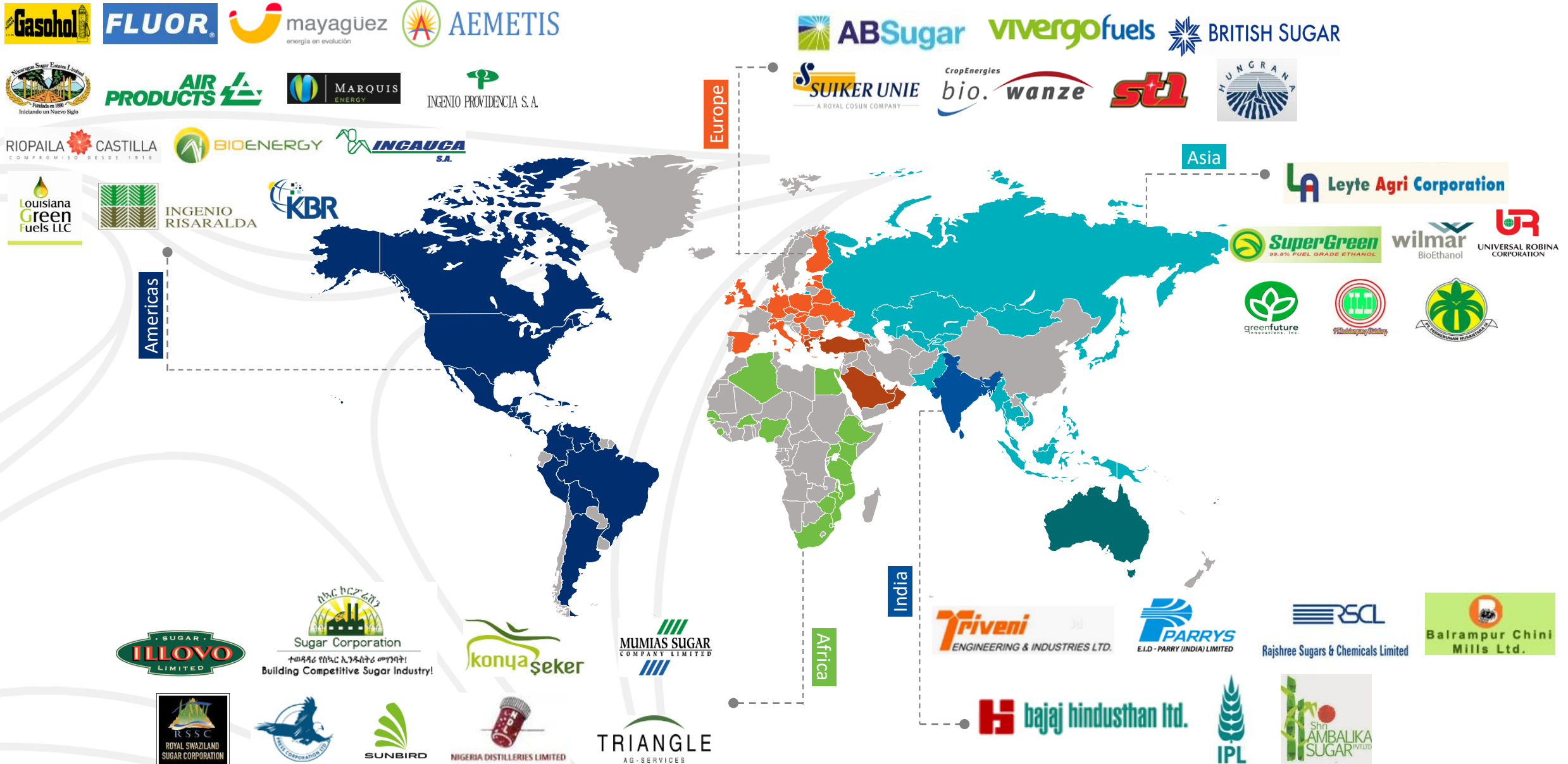
## 2024

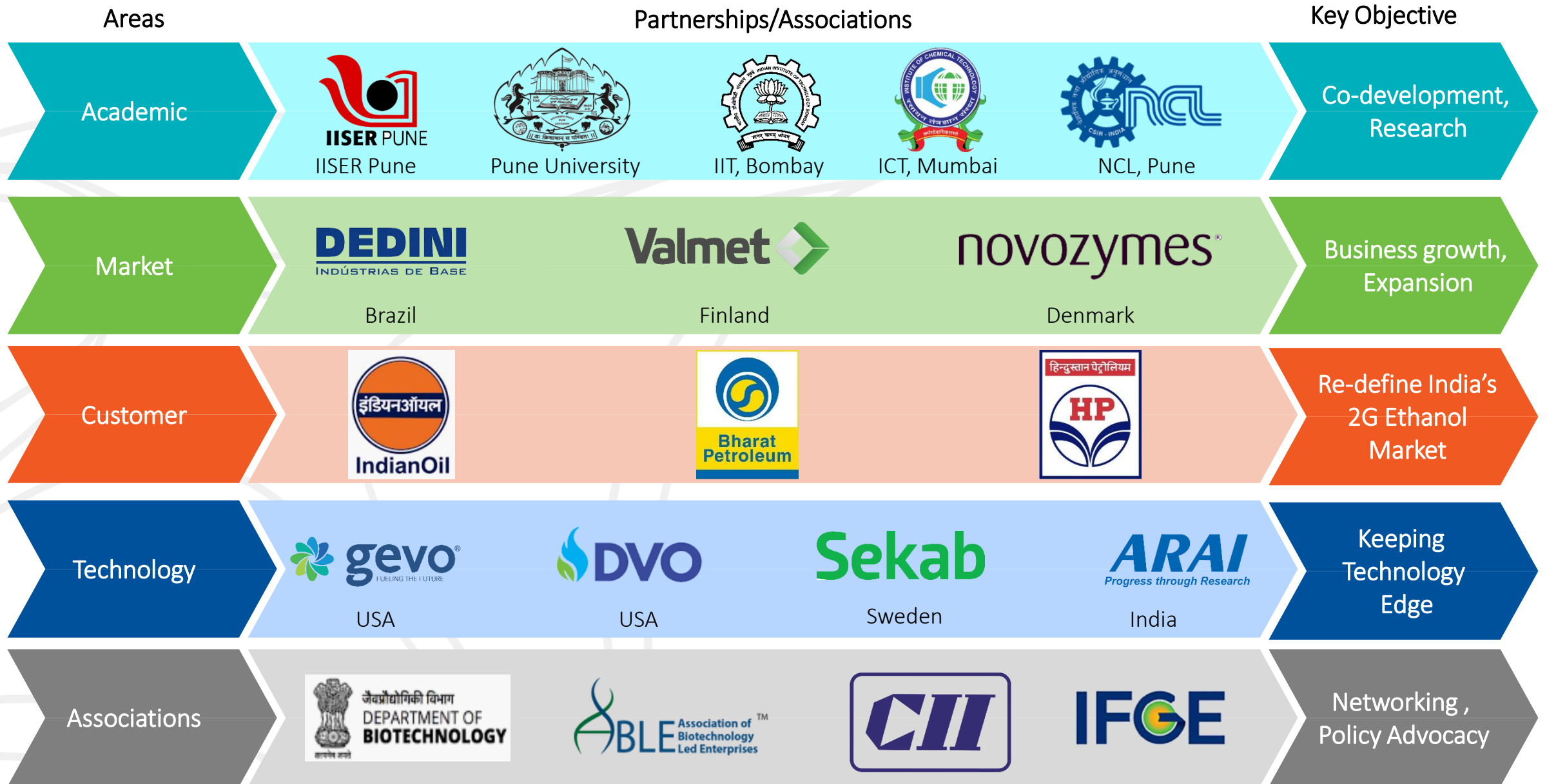
- #1 in the list of Hottest 50 companies in Advanced Bioeconomy



George Washington Carver Award 2020 for Innovation in Industrial Biotechnology and Agriculture Presented to Dr. Pramod Chaudhari

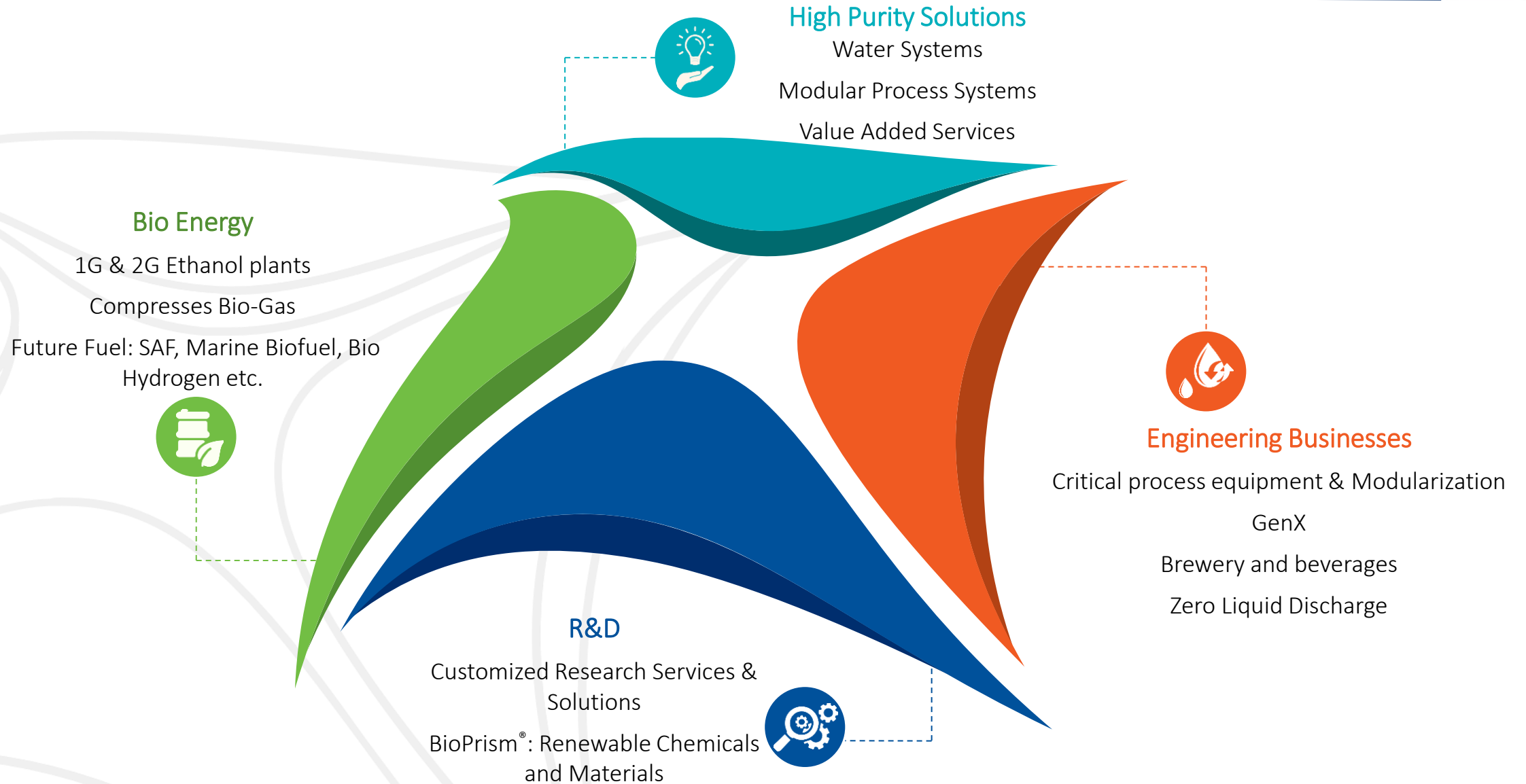
# 1000++ References in 100+ countries across all 6 continents.. And Still counting



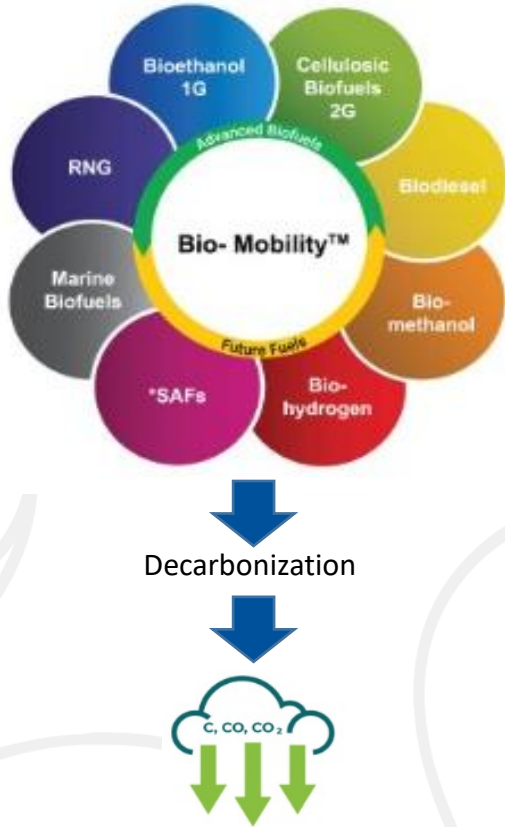


The image shows a large industrial facility, possibly a refinery or chemical plant, with complex piping, scaffolding, and storage tanks. The scene is overlaid with a semi-transparent graphic consisting of a central white circle with the text 'Business Overview' in blue. This circle is surrounded by several concentric, semi-transparent rings of varying thicknesses and colors (white and light blue), some of which have small white dots or light effects. The background is a slightly desaturated, blue-tinted photograph of the industrial site under a cloudy sky.

# Business Overview



4 decades of leadership in Industrial Bio-technology Space



- Bio-Mobility™ is the mainstay of the company’s contribution to the global Bioeconomy.
- The Bio-Mobility™ platform of technologies envisages the use of renewable resources to produce carbon neutral transportation fuel across all modes of mobility (surface, air and water).

### 1G Ethanol

- Pioneer in India since the 80’s in the Ethanol Technology solutions serving various applications in different parts of the world.
- Leveraging the R&D capabilities by transforming first-generation Agri feedstock (sugars found in sugarcane juice, molasses, starchy grains)

into bioethanol, and has registered several patents for this technology.

- Offering a complete suite of solutions for the global ethanol industry like multi-feed multi-product plants, modernization of existing plants, renewable fuels like BioCNG, iso-butanol etc.

### Bio Products

- Offers innovative formulations that add “economic value” to biochemical processes.
- These are formulated using useful bacteria, yeasts, fungi, enzymes, anti-microbials and nutrition biomolecules.
- These products not only increase process efficiency in the plant, but also result in a higher recovery of ethanol.

### 2G Ethanol



- Offering end to end solutions to set up bio-ethanol plant based on its proprietary Enfinity - 2G lignocellulosic ethanol technology.



- In partnership with Sekab, Sweden Praj is offering Celluniti™ technology for production of ethanol from forest residue in the form of softwood mainly in the European region.

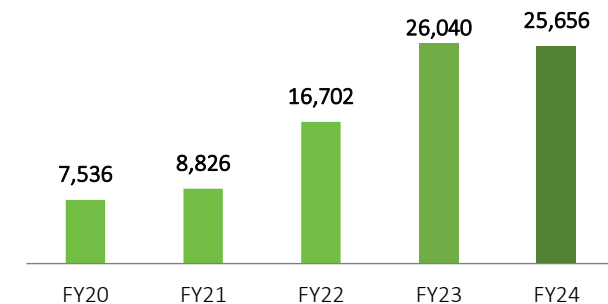
- Processing a wide range of Agri residue such as rice straw, wheat straw, bagasse, corn stover and corn cobs, soft wood and empty fruit bunches to produce bioethanol and renewable chemicals.

- Successfully set up an integrated demonstration facility (12 MT/day) in India In 2017.

- This technology is currently being deployed at three commercial scale bio-refineries in India.



Bio Energy – Revenues (INR Mn)





## Renewable Natural Gas

- Developed advanced bio methanation technology based on proprietary microbiological pre-treatment for production of compressed biogas (renewable methane gas) from Agri residues and press mud.
- Developed and commercialised a proprietary renewable gas technology – RenGas™, and has commissioned over 40 plants in India of the same.
- Highest yielding BioGas with 30% lower operating costs due to its unique microbial cultures.
- The process creates value-added manure with organic soil as a byproduct while advanced biogas cleaning techniques gives pure methane.

## Sustainable Aviation Fuel (SAF)

- The Praj - Gevo, Inc. innovative process uses iso-butanol produced from renewable sources (e.g. Sugars and Starch and Biomass) as feedstock to produce SAF.
- Technology is in its final leg of optimization and commercial offering and it is proven to significantly reduce carbon emissions when blended with Aviation fuel.
- Gevo, Inc. will license its technology and Praj will provide



technology, plant equipment and EPC services to refineries for converting renewable iso-butanol into Sustainable Aviation Fuel and premium gasoline through the ASTM-approved pathway of Alcohol-to-Jet (ATJ).

- Axens and Praj have signed a Memorandum of Understanding to work jointly on projects in India for production of Sustainable Aviation Fuel (SAF) from low carbon alcohols through Alcohol-to-Jet (ATJ) pathway.
- Praj brings to the table proven expertise in modularized solutions, integration services for complete project and technology for production of low carbon isobutanol and ethanol from conventional bio-sourced feedstock. Axens will provide its Jetanol™ Alcohol-To-Jet technologies, catalyst solution, equipment and services for conversion of alcohols to SAF.
- Iso-octane is another high value co-product used as fuel for F1 racing.

## Marine Biofuels

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







## Critical Process Equipment and Modularization

- Offering a range of static equipment such as pressure vessels, reactors, shell & tube heat exchangers, columns, and other proprietary equipment as per the client design requirements.
- Provide modular process skids and packages. A modular process skid is a system within a frame that allows easy transportation.
- Undertakes end-to-end projects for modular process skids and packages and supports clients with Finite Element Analysis, Process & Thermal Design and Piping Design & Stress Analysis, and design skids using software like Plant 4D and PDMS.
- Products under this segment are used in sectors such as Oil & Gas, Refineries, Petrochemicals, and Fertilizer, among many others.



- Praj GenX will engage with external technology players in the field of energy transition and climate action and intends to develop cutting edge modular solution for the various technologies such as Hydrogen electrolyzers, Waste to energy, torrefaction, carbon capture etc.

## Wastewater treatment (ZLD Business)

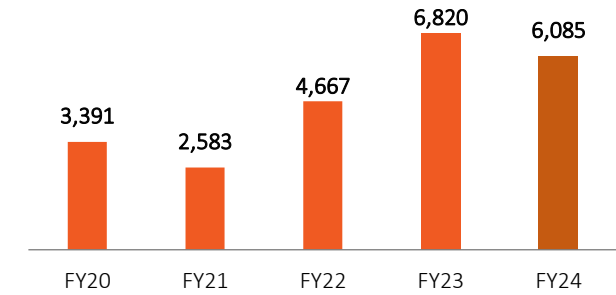
- Offering integrated energy-efficient solutions for effluent recycling and zero liquid discharge for various industrial applications.
- The strong experience of treating the most challenging wastewater enables it to offer highly optimized systems with lower footprints and optimized operating costs.

## Brewery and beverages

- Since its inception in 1994, the brewery division has been offering customized plants, equipment & technology solutions to customers in the brewing industry.
- Supplying world class brewery plants capable of producing the best quality beers at the most optimum cost.
- The breweries are environment friendly, utilizing minimum water, energy and generating a low carbon footprint.
- With over 70% of market share in India and experience of installing projects in Africa and South East Asia, it offers a complete range of solutions in conceptualization, technology, design, plant engineering, project installation and commissioning.



## Engineering – Revenues (INR Mn)





## Water Systems

- HiPurity Systems Limited (a wholly-owned subsidiary) provides value added and end-to-end integrated solutions to cater to need of highly pure water for the Pharma, Biotech and Wellness industry.
- With more than 450+ installations globally, it has evolved to be one of the key solution providers in the Industry with many firsts, helping the industry wade through the various changes and challenges.
- Catering to industries like cosmetics, food & beverage, health supplements & nutraceutical which follow 'Compendial' water quality norms.
- The business successfully designed and launched it's 'Glacier Blue' brand of **COLD WFI** helping clients achieve 90% carbon footprint reduction while providing best of Water for Injection with supplies to India and developed markets of US.

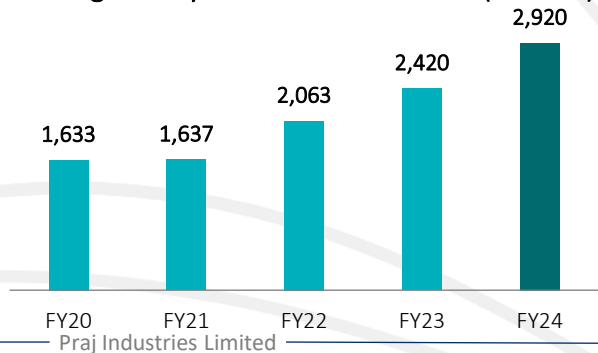
## Modular Process Systems

- The Modular Process Systems Business Line provides solutions to Pharma/Lifescience clients for a variety of applications in Biopharma, Sterile Formulations and Topicals & Orals.
- Sterile facilities manufacturing injections or with **fermentation centric processes** call for best of process engineering and automation controls.
- In-house vessel Manufacturing to orbital welding to system integration and Testing enables the company to help customers achieve faster time to market targets in this ever-challenging & dynamic business environment.

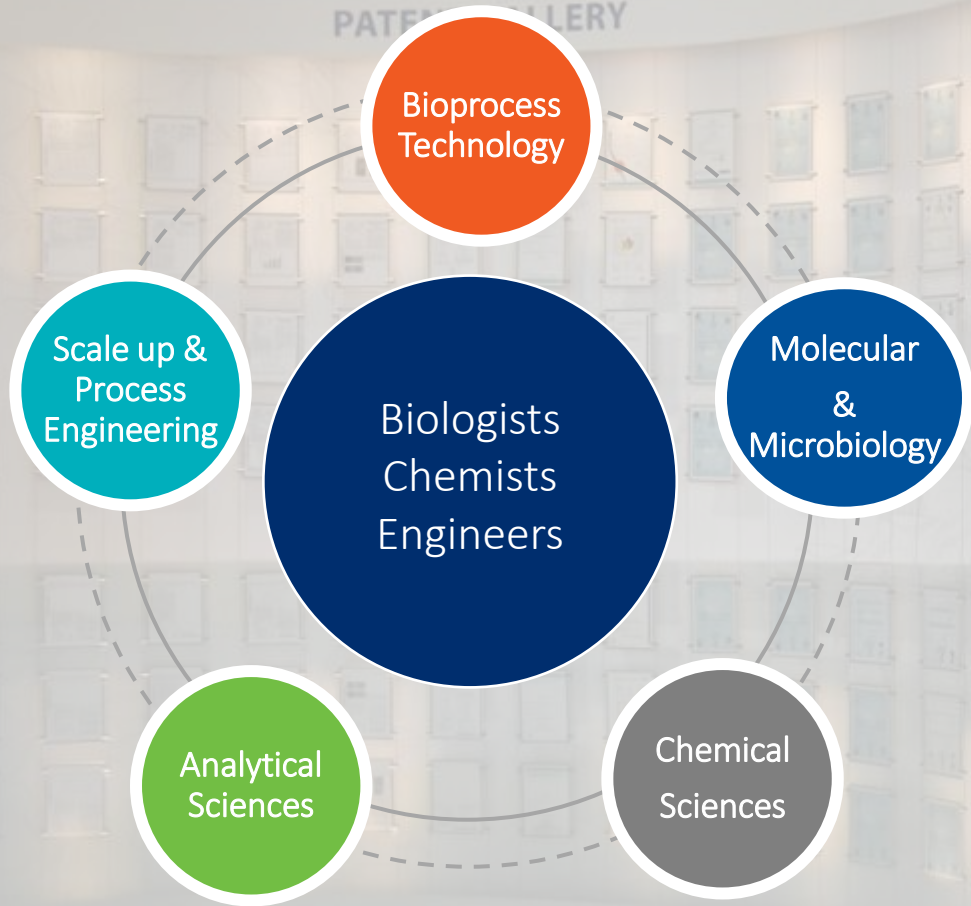
## Value added services

- Providing special products like ozone systems and combi test kits and special services like electro polishing, on-site training and Riboflavin test at site.
- Also providing spares and consumables like membranes, chemicals, tubes & fittings and valves, instruments & pumps.

High Purity Solutions – Revenues (INR Mn)



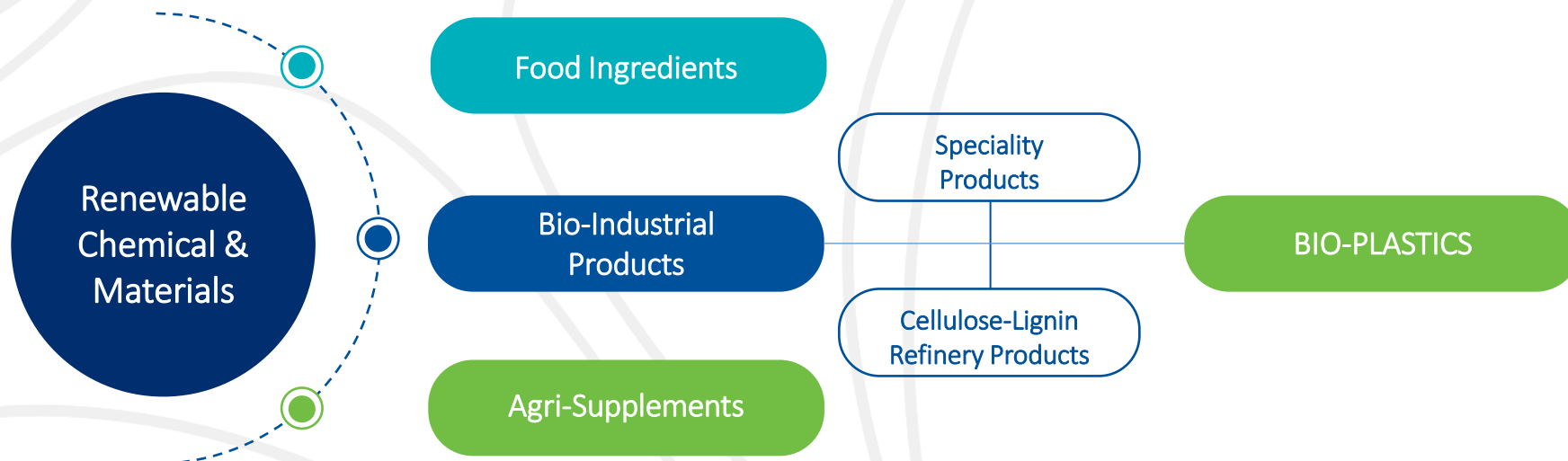
## CENTRE OF EXCELLENCE



- The backbone of the company's technology development is Praj Matrix, the Innovation Centre.
- It is a state-of-the-art facility certified by the Govt of India's Dept of Scientific and Industrial Research, equipped with 16 laboratories for molecular biology, microbiology and bioprocess technology, process engineering & scale-up, and chemical sciences.
- First of its kind R&D facility with Bench & Pilot scale facilities that enable validation of scientific assumptions as well as rapid commercialization.
- Matrix's main area of focus is renewable chemicals & materials, enzyme production and biofuels.
- 90+ technologists who are engaged in research in areas such as protein engineering, protein production, strain development, and the development of fermentation processes using bacterial, yeast and fungal platforms.



- Developing technologies for production of bio-based Renewable Chemicals and Materials (RCM).
- RCM produced from bio-based feedstock are sustainable alternatives to products made from fossil resources.
- Sugary, starchy and cellulosic agri-based feedstocks along with gases like biogas, methane and various non-edible oils are the starting materials for RCM.
- For conversion of these feedstocks to the final molecule of interest, it is exploring Bio-catalytic, Chemo-catalytic & Thermo-chemical routes.
- Within the bio-industrial ambit, a spectrum of bio plastics remain a priority, along with cellulose-lignin refinery products and specialty products.
- These products have applications in industry sectors such as automotive, packaging, furnishing, construction, agriculture and food sectors.



BIO-PRISM<sup>®</sup>



**Bio-Prism**

Nature Reimagined – Promise of Sustainability

Renewable Chemicals & Materials (RCM)



Carbon Recycling



## Water Footprint reduction

### SHIFT

- High Brix fermentation technology for reduction of effluent quantity to reduce water requirement in fermentation and energy requirement in Evaporation (ZLD) section.
- Technology has been commercially implemented on multiple feed stocks viz. cane juice syrup, B-heavy and Molasses-C. This helps to upgrade capacity of existing facility ensuring round the year operation.

### ACHE

- Optimized design of Air Cooled Heat Exchanger (ACHE) being offered for water stressed projects.

## Energy Footprint reduction

### Alcohol MVR

- Reduction of thermal energy (Greenhouse gas emissions) by integration of MVR with distillation section.

### Process Integrated Boiler (PIB), HBCS (High Brix Concentration using Agitated Thin Film Dryer)

- Technology developed to concentrate Spent wash (process effluent) generated from molasses based distillery to self-combustible level. 70% concentration of solids on weight basis, thereby reducing supplementary fuel requirement in incineration boiler by more than 30 %

## Plant Capacity optimization

### Maximol

- Ethanol dehydration plant capacity was upgraded by 30% in more than ten plants helping to enhance plant capacity.

### BIOSYRUP®

- This technology helps in increasing ethanol yield as well as flexibility to store sugar rich stream for extended number of days of operation.

## Co-product maximization

### Human Grade Proteins

- Developing technology for production of human grade protein as a valuable co-product from grain-based distillery.

### Pharma Grade Ethanol

- Introduced Pharma Grade Ethanol with unique capex and opex optimized solution for global clients meeting their local statutory norms for production process.

### Lignosulphonate

- Developed technology from Lignin generated from 2G Enfinity™ plant which can be bolted to improve the overall viability.

## Carbon-Intensity Footprint reduction

### Bio Bitumen

- Based on lignin, developed an eco-friendly renewable material for road construction. A proprietary process (under patenting) to convert the crude lignin into Bio-bitumen which has potential to replace this fossil based bitumen.
- The Netherlands-based Circular Biobased Delta (CBBDD), one of Europe's premier consortia to promote bioeconomy, has approved Bio-bitumen samples that will now be tested for scale up in Asphalt on a Dutch test strip on the road.

## Digitalisation initiative

### RemoteBridge™

A unique Remote Plant Monitoring System which provides solutions to improve the performance of plant through data collection, analytics, diagnostics and remedial measures.

A stack of newspapers is shown in a shallow depth of field. A futuristic, circular graphic overlay is centered on the stack. The graphic consists of a central white circle with the text 'Industry Overview' in a dark blue, sans-serif font. This central circle is surrounded by a ring of small, glowing white squares. Further out, there are several concentric rings of thin, light blue lines, some of which are slightly blurred, giving a sense of motion or depth. The background is a blurred outdoor setting with wooden posts and greenery.

# Industry Overview

## Domestic Demand for Ethanol beyond EBP 20

- **Flex Fuel Engine:** Engines running on ethanol blend varying from 20% up to 85%
- **Hybrid vehicles:** Vehicles running on ethanol run IC engines along with electric batteries
- **SAF:** 1% SAF blending requirement is equivalent to additional demand of 28 crore liters of ethanol
- **Ethanol Blending in diesel**

## 1G International

- Low Carbon ethanol opportunity in USA
- Grain to ethanol opportunity from Brazil
- Increasing demand for SAF due to CORSIA agreement
- Services business showing huge potential for internationalization
- Global Biofuels Alliance to increase biofuels penetration in newer markets

## CBG

- The government plans to set up 5,000 CBG plants across India with a production target of 15 MMT, under SATAT initiative. An approximate investment of INR 2,00,000 Cr. is envisaged in the next 5 years.
- Large business conglomerates planning to set up multiple CBG projects

## Hipurity

- Growing demand for High-Capacity fermenters for biopharma
- Increasing Demand from New customer segments- semi conductors, Electric battery

## Energy Transition & Climate Actions (ETCA):

- Energy giants investing in Blue and Green Hydrogen Green Ammonia, Waste-To-Energy projects
- \$300+ Bn investment in clean energy by 2030
- Increasing demand for Modularization.

## Renewable Chemicals & Materials

- Bio 3E Policy - (biotechnology for environment, economy and employment)
- INR 10,000 Crore investment envisaged
- Growing demand for Biopolymers and Biomaterials, Ethanol derivatives

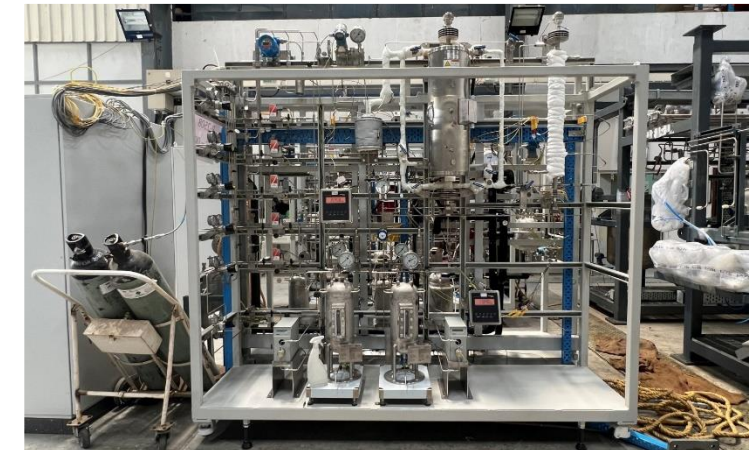
## Future Fuels

- Marine Biofuel
- BioHydrogen
- Bio-methanol

## New Manufacturing Facility @Mangalore for ETCA



**Pilot Plant for Bioplastics**



**Catalysis lab @ Praj Matrix R&D center**

	Total Area (Acres)	Covered Area (Sq ft)	Open Area (Acres)
Plot-A	72	711,000	30
Plot-B	51	674,000	11
<b>Total</b>	<b>123</b>	<b>1,385,000</b>	<b>41</b>



## Environment



### Sustainable water resources development

Key Initiatives

- Widening and deepening of Streams in 60 drought prone Villages
- 25 lakh cu metres of Silt removed from streams

Positive Impact

- ~2000 open wells and 900 bore wells Recharged
- ~20,000 acres hectares Agricultural land brought under irrigation

## Health



### Preventive Healthcare for rural women

- Preventive healthcare program implemented in 53 Villages in Pune
- Promoting “Food as Medicine” concept through nutrition garden

- Enhanced health status of 8,000 beneficiaries
- Improved Hb level and reduction in nutritional deficiencies

## Education



### Hands on life skills education through Rural schools

- Foundational literacy and numeracy (FLN) program
- Rural entrepreneurship programs

- 8000 rural students being covered under FLN program
- 145 entrepreneurs are being mentored



**Financial  
Overview**

# Historical Consolidated Financial Performance



Particulars (INR Mn)	FY20	FY21	FY22	FY23	FY24
Operational Income	11,024	13,047	23,433	35,280	34,663
Total Expenses	10,205	11,923	21,374	32,101	30,784
EBITDA	819	1,124	2,059	3,179	3,879
<i>EBITDA Margins (%)</i>	<i>7.43%</i>	<i>8.62%</i>	<i>8.79%</i>	<i>9.01%</i>	<i>11.19%</i>
Other Income	261	257	241	356	435
Depreciation	218	221	226	302	441
Interest	31	29	25	46	98
PBT	831	1,131	2,049	3,187	3,775
Tax	127	320	547	789	941
Profit After tax	704	811	1,502	2,398	2,834
<i>PAT Margins (%)</i>	<i>6.39%</i>	<i>6.22%</i>	<i>6.41%</i>	<i>6.80%</i>	<i>8.18%</i>
Other Comprehensive Income	(3)	11	(22)	(16)	(50)
Total Comprehensive Income	701	822	1,480	2,382	2,784
Diluted EPS (INR)	3.85	4.42	8.18	13.05	15.42

# Historical Consolidated Balance Sheet



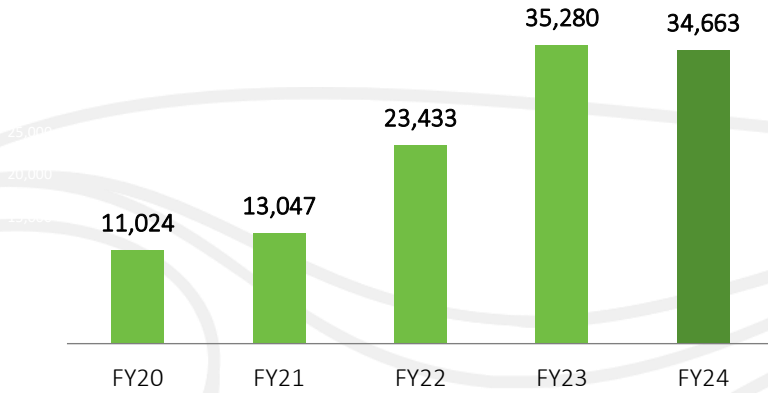
Particulars (INR Mn)	FY22	FY23	FY24
<b>ASSETS</b>			
<b>Non-Current Assets</b>			
Property, Plant & Equipment	2,085	2,366	4,072
Capital Work in progress	14	69	32
Investment Property	137	137	-
Goodwill	626	626	626
Intangible assets	19	40	448
<b>Financial Assets</b>			
(i)Investments	652	845	945
(ii)Other	139	123	421
Deferred tax assets (net)	19	111	91
Other Assets	31	50	80
<b>Sub-Total Non-Current Assets</b>	<b>3,722</b>	<b>4,367</b>	<b>6,715</b>
<b>Current Assets</b>			
Inventories	3,450	3,336	2,209
<b>Financial Assets</b>			
(i)Investments	3,979	4,584	4,021
(ii)Trade Receivables	5,118	7,949	8,360
(iii)Cash and Cash Equivalents	1,075	986	1,684
(iv)Other Bank Balances	476	462	443
(v) Others	294	187	153
Current tax assets (net)	50	54	85
Other Assets	4,013	4,262	5,147
Asset classified as held for sale	-	-	137
<b>Sub-Total Current Assets</b>	<b>18,455</b>	<b>21,820</b>	<b>22,239</b>
<b>TOTAL ASSETS</b>	<b>22,177</b>	<b>26,187</b>	<b>28,954</b>

Particulars (INR Mn)	FY22	FY23	FY24
<b>EQUITY AND LIABILITIES</b>			
<b>Equity</b>			
Share Capital	367	367	368
Other Equity	8,790	10,413	12,377
Non Controlling Interest	-	1	1
<b>Total Equity</b>	<b>9,157</b>	<b>10,781</b>	<b>12,746</b>
<b>Non-Current Liabilities</b>			
(i)Lease Liability	148	263	1,417
(ii)Other Financial Liabilities	6	6	6
Provisions	171	132	181
Deferred Tax Liabilities (Net)	-	-	13
<b>Sub-Total Non-Current Liabilities</b>	<b>325</b>	<b>401</b>	<b>1,617</b>
<b>Current Liabilities</b>			
(i)Trade Payables	4,248	5,050	4,968
(ii)Other Financial Liabilities	323	388	631
(iii)Lease Liabilities	63	159	276
Other current Liabilities	7,761	8,641	7,929
Provisions	226	440	579
Current Tax Liabilities (Net)	74	327	208
<b>Sub-Total Current Liabilities</b>	<b>12,695</b>	<b>15,005</b>	<b>14,591</b>
<b>Sub-Total Liabilities</b>	<b>13,020</b>	<b>15,406</b>	<b>16,208</b>
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>22,177</b>	<b>26,187</b>	<b>28,954</b>

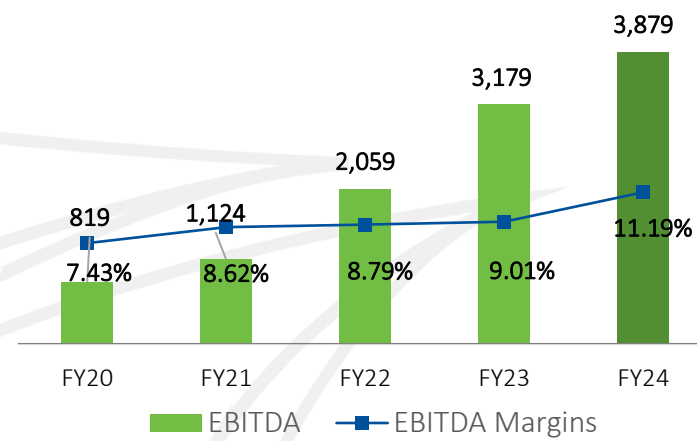
# Consolidated Historical Financial Trend



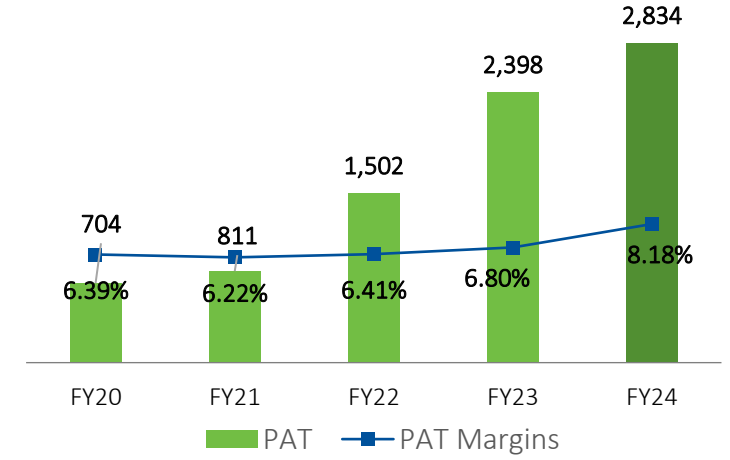
### Revenue (INR Mn)



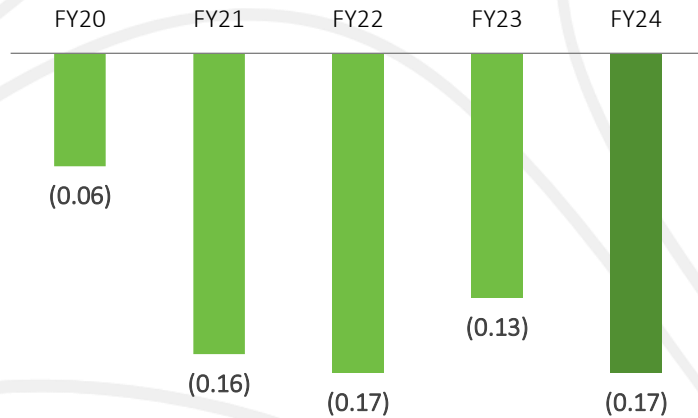
### OPERATING EBITDA (INR Mn)



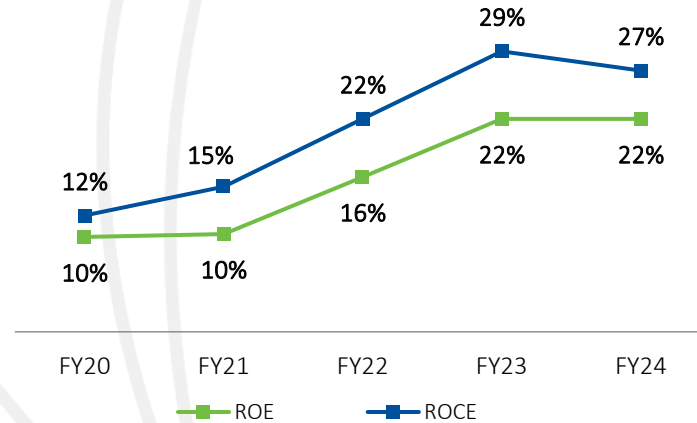
### PAT (INR Mn)



### Net Debt to Equity (x)

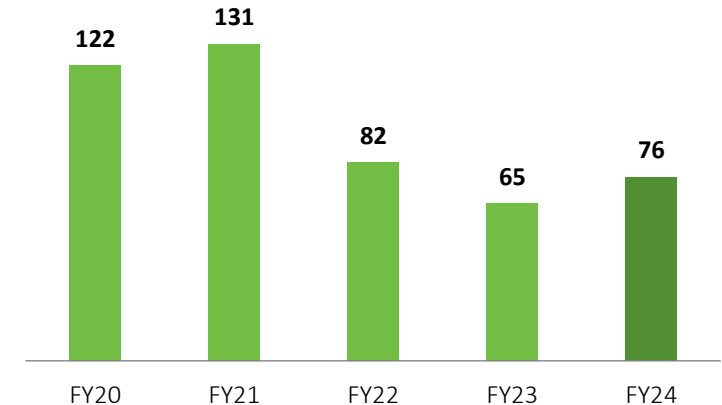


### ROE and ROCE (%)



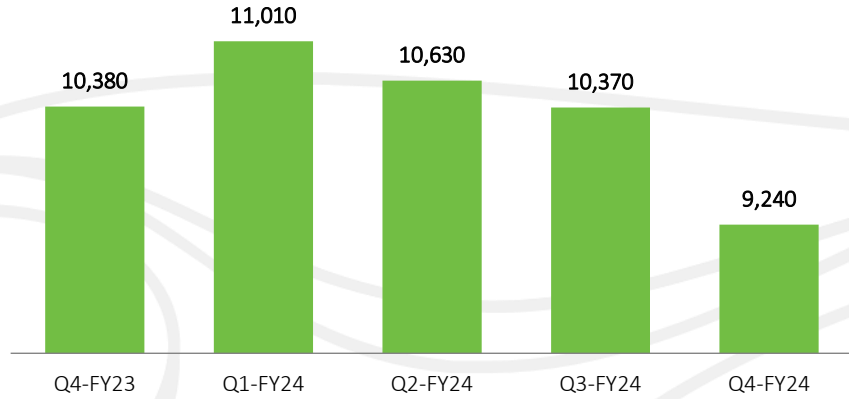
ROE = Net Profit/Net worth, ROCE = EBIT/Capital Employed

### Working Capital Days

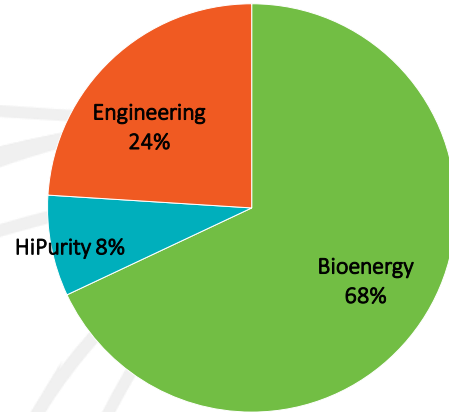


# Order Intake & Order Backlog

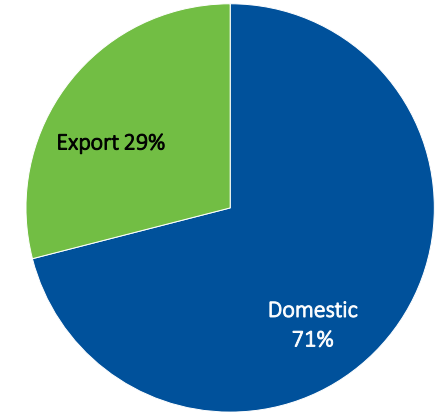
Order Intake (At the end of each quarter, Values in INR. Mn)



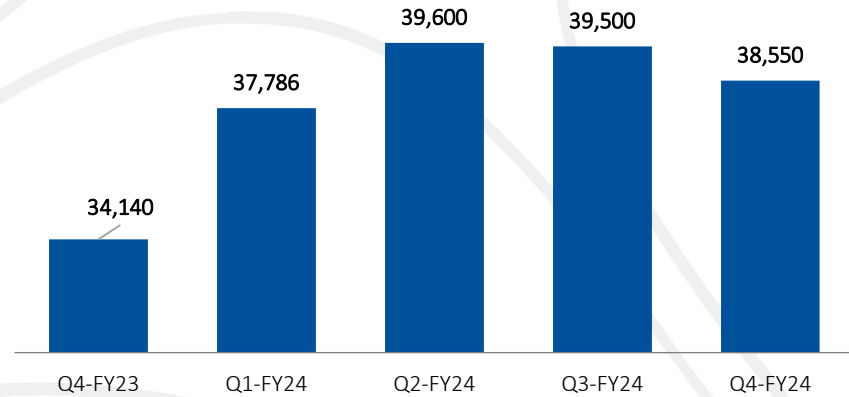
FY24 Segmental Order Intake – INR 41,250 Mn



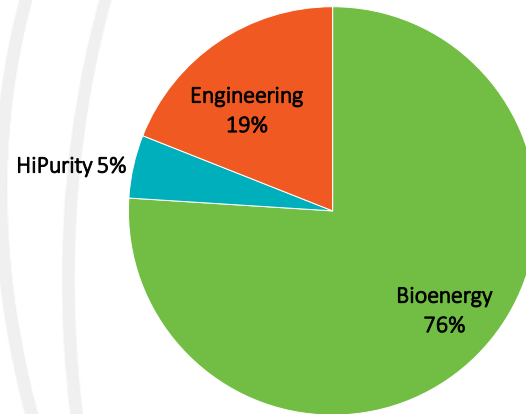
FY24 Geographical Order Intake



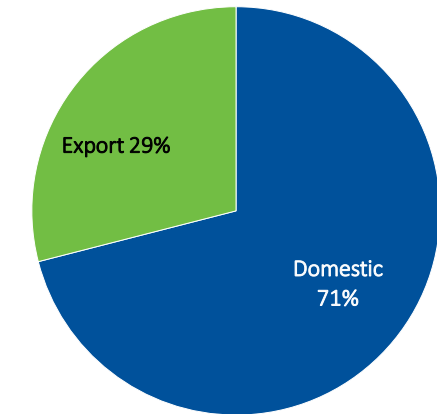
Order backlog (At the end of each quarter, Values in INR. Mn)



FY24 Segmental Order backlog – INR 38,550 Mn

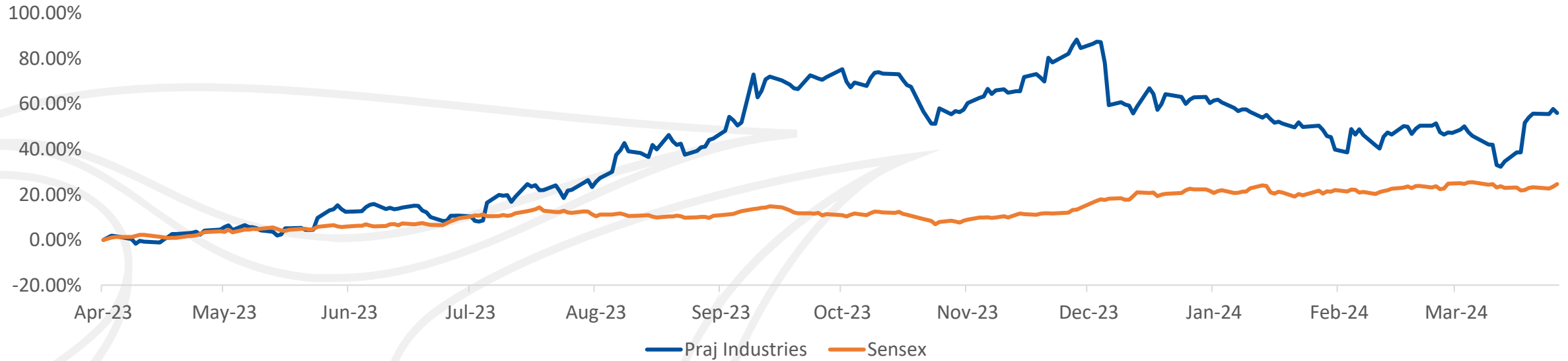


FY24 Geographical Order backlog



Note: Engineering businesses include critical process equipment & skids, brewery and ZLD segments.

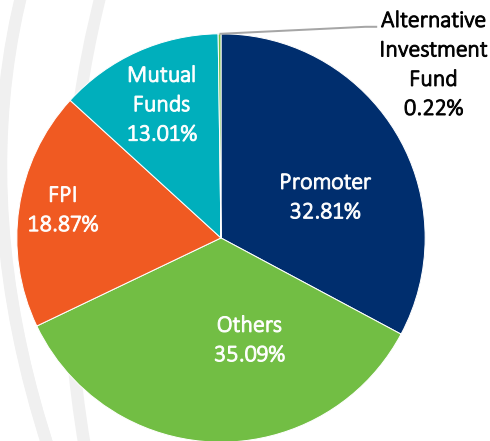
1-Year Stock Performance up to 31<sup>th</sup> March 2024



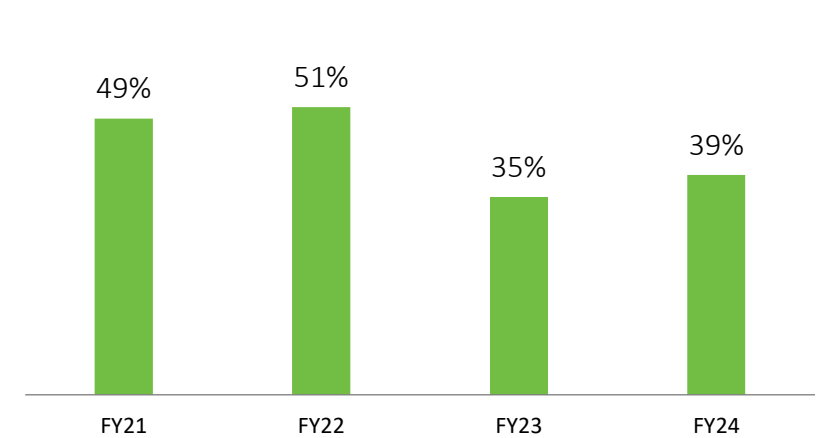
### PRICE DATA (As on 31<sup>st</sup> March 2024)

Face Value (INR)	2.0
Market Price	532.7
52 Week H/L (INR)	650.3/333.6
Market Cap. (INR Mn)	97,917.2
Equity Shares Outstanding (Mn)	183.8
1 Year Avg. trading volume ('000)	1,392.2

Shareholding Pattern (As on 31<sup>st</sup> March 2024)



Dividend Payout ratio (%)



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