Sustainable Aviation Fuel
Praj Capability Overview

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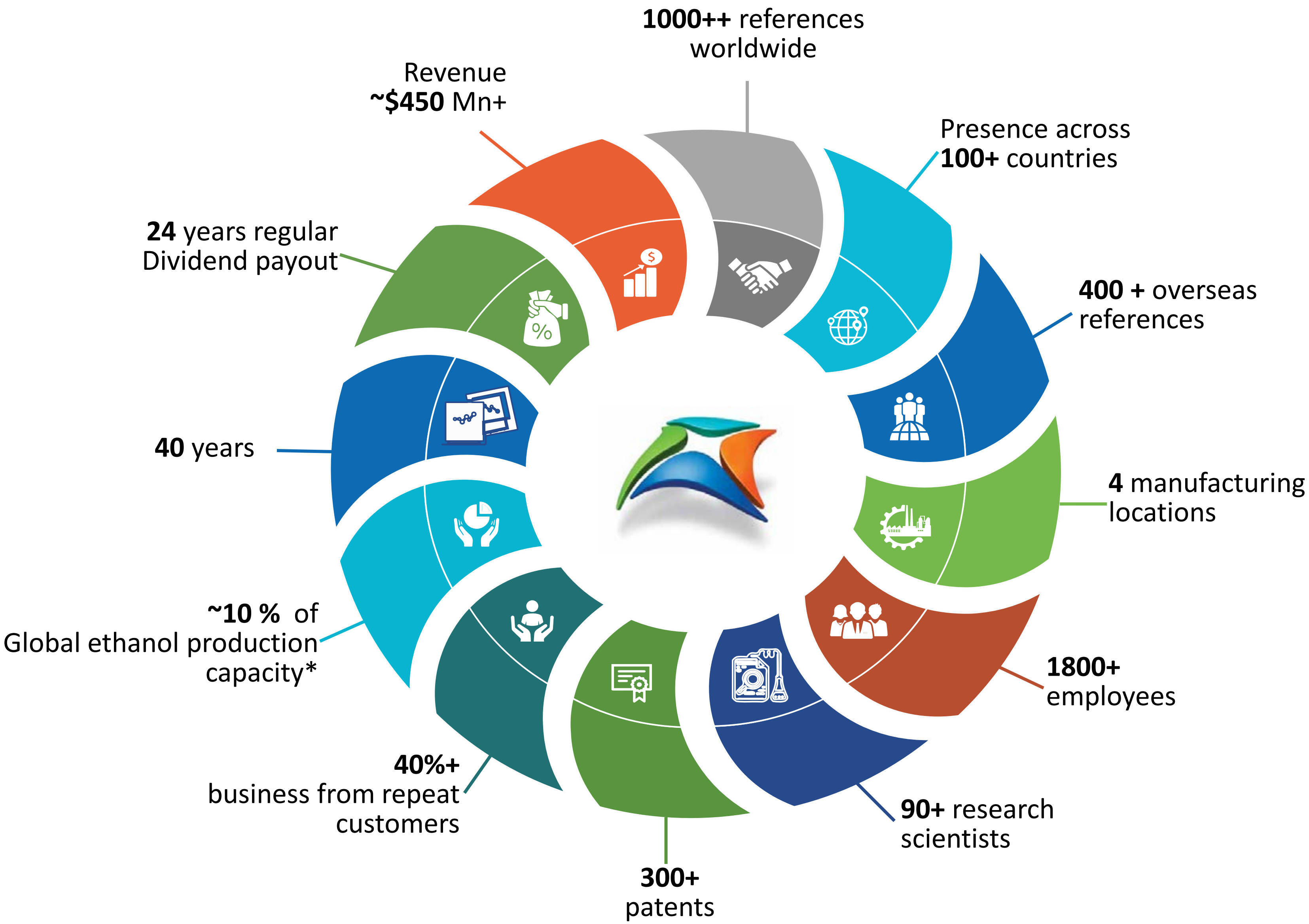
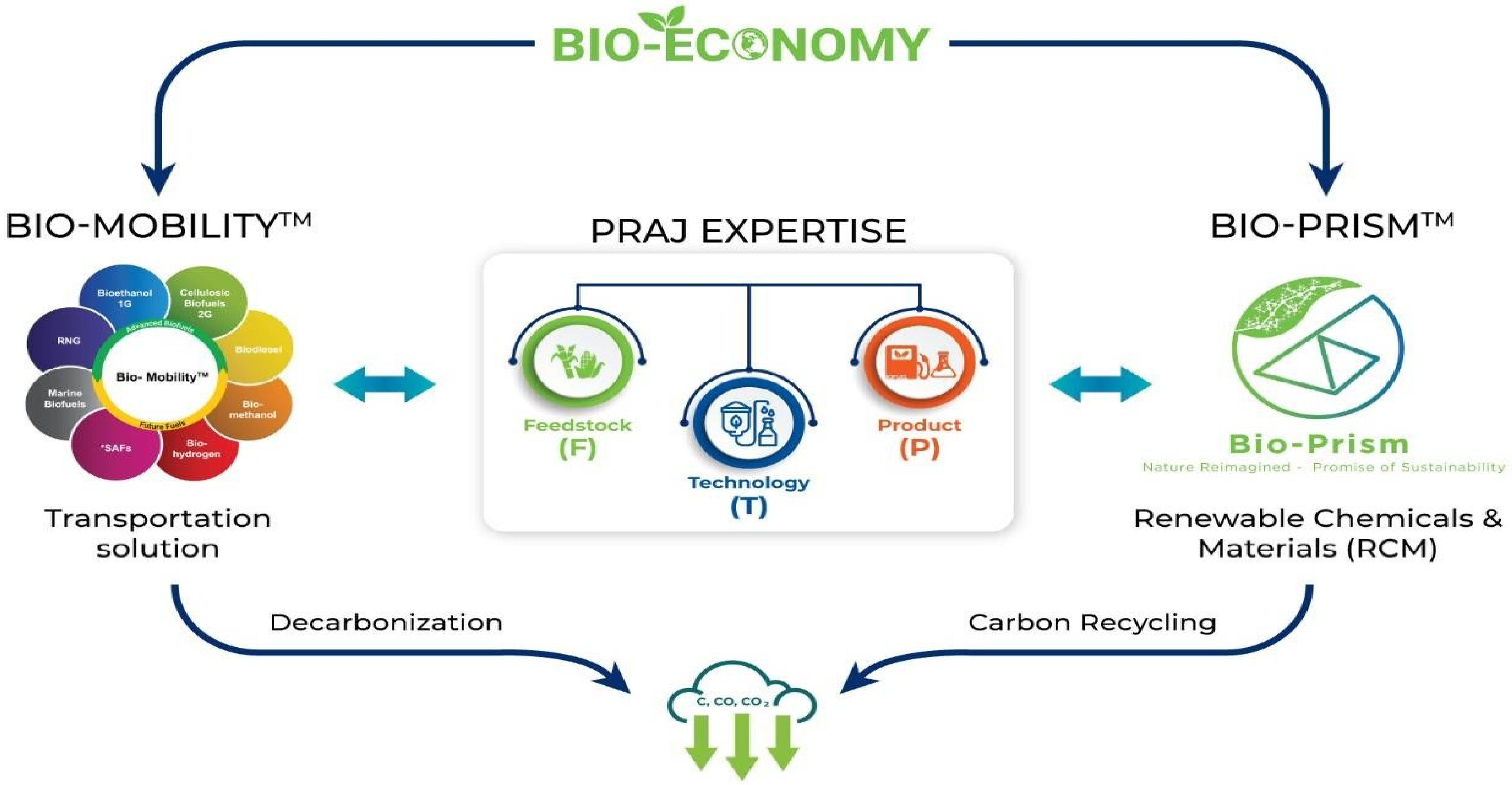
Praj Industries : Leadership in Bioeconomy



Praj Initiatives in Bioeconomy



Technology leadership: Sustainable Aviation Fuel (SAF)

SAF Demonstration Unit

End to end offerings with Flexible Business Models

Technology → Engineering → Manufacturing & Procurement → Operations

ATJ (Alcohol-to-Jet) Technology Pathway for SAF Production

Low C.I Carbohydrates rich Plant Feedstock → Intermediate Alcohols Isobutanol / Ethanol → Sustainable Aviation Fuel

Technology Collaboration

praj · Axens · gevo

ATJ Technology
- Highest Yields
- Lowest Capex & Opex Costs
- Proven Unit Operations

1G Sugars
(Cane Molasses/Juice /Syrup, Grains)
Or
2G Sugars
(f)

→

Sugars to Alcohol (Isobutanol/Ethanol) production
- Fermentation
- Distillation

Energy Integration

Isobutanol/Ethanol to Hydrocarbons production
- Dehydration
- Oligomerization
- Hydrogenation

→

SAF
+
Co-Products (Isooctane/ Green Diesel)

End-to-end Technology & EPC solutions by Praj for SAF production plant based on ATJ pathway

Praj can take up full modularization of Plants for Process Block; and Balance of Plants (BOP) as needed, including site supervision services.

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Technology

1 Technology License

+

2 Basic Engineering & Design Packages

+

3 Process Catalysts

Process Block

1 FEED & Modular Concept (Process block & BOP)

5 Module Mfg, Installation of E&I & Bought outs

2 Detail Engineering

6 Module Assembly, Inspection, & FAT

3 Raw Material (Str. & Piping) Procurement

7 Packing & Logistics (FAS Indian Port)

Optional (FIM)

4 Packages & E&I Procurement

Optional

8 CIF & DAP Destination

+

Balance of Plant

On-site: Module Installation, Site Cabling, Site fabricated equipment, Civil Works

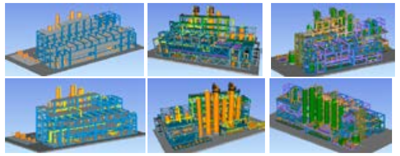
Boilers & power plant

Site Infrastructure such as roads, buildings, etc.

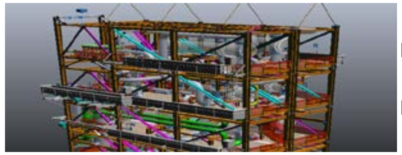
Optional Praj Supply

Water & Water treatment systems

1 Modular concept development



2 Fabricated structure



3 Skid Fabrication & pre assembly

4 Assembly on Praj yard, inspection & FAT

5 Disassembly & packing for transport

6 Transport to customer site

The Modular Solution

ModuLess™

= Less Footprint

= Less Sitework

= Less Cost

= Less Risk


Thank You
praj