praj
Innovate • Integrate • Deliver

Volume 4

# FUTURE PERFECT

## Transforming Vision into Reality

## Building a resilient nation.

Witnessing the
**1st FLEX FUEL VEHICLE ON TNE ROAD**

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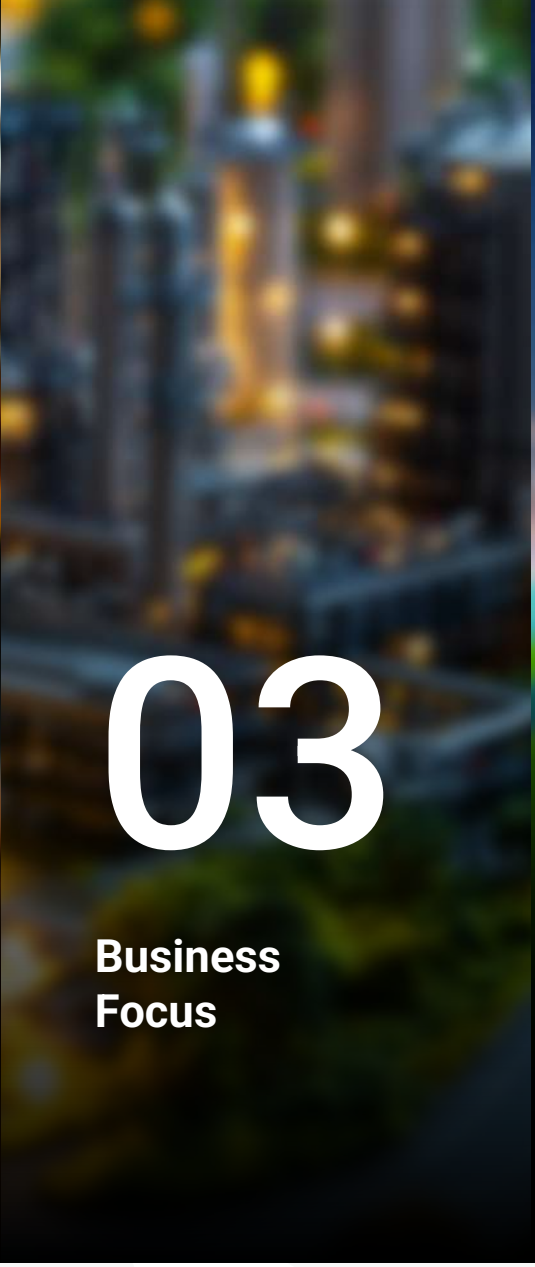

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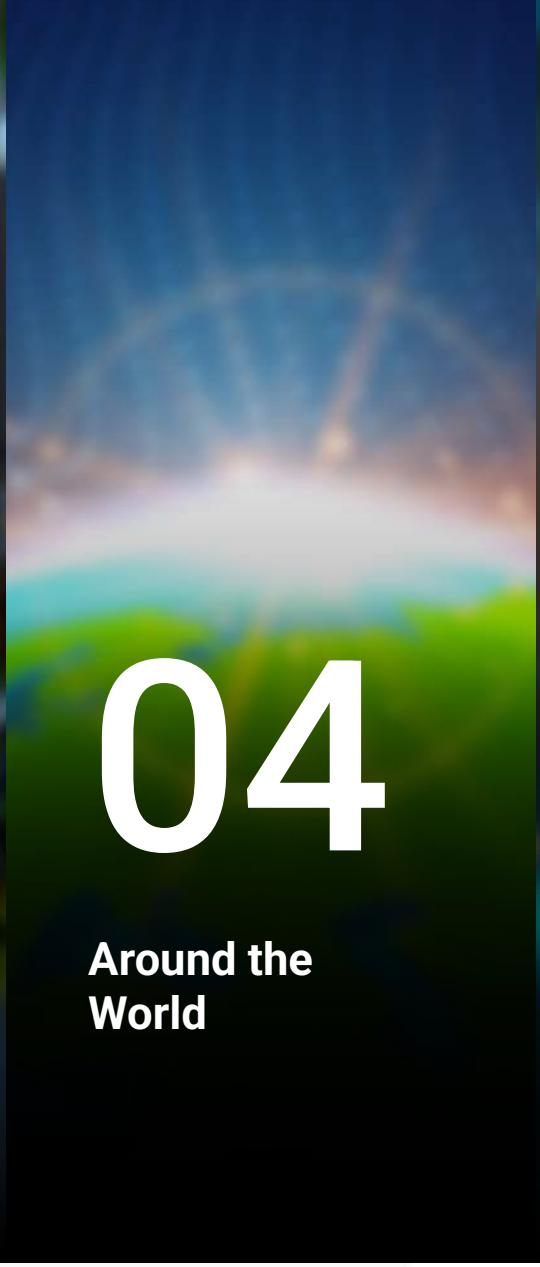

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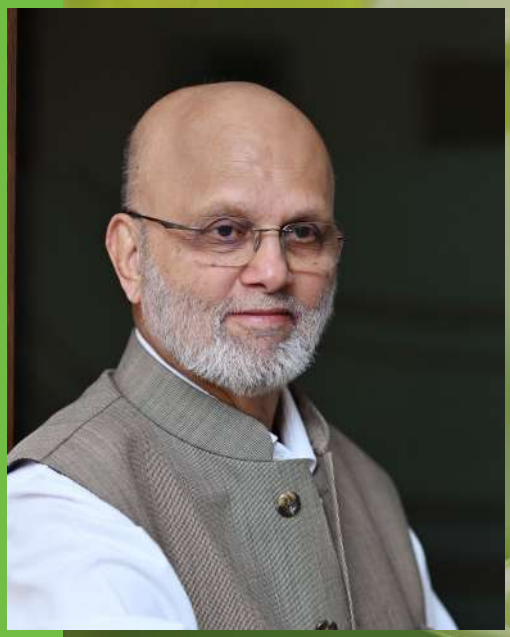
# Message from the Chairman



**Dear Colleagues, Partners, and Friends,**

The global conversation on sustainability has evolved significantly over the past decade. While climate action remains an urgent priority, recent geopolitical developments have underscored another equally critical imperative, energy security.

For India, the pursuit of clean energy has never been merely about reducing emissions. It has been about building a resilient nation, one that is less dependent on imported fossil fuels, empowers its farmers, strengthens rural economies and creates indigenous technologies for a sustainable future.

The remarkable success of India's Ethanol Blending Programme has demonstrated what is possible when visionary policies, technological innovation and industry collaboration come together with a shared purpose. Today, the nation is moving beyond blending targets to embrace a broader bioeconomy that encompasses sustainable aviation fuels, renewable chemicals, compressed biogas and next-generation biomanufacturing.

One of the most encouraging developments in this journey has been the emergence of flex-fuel vehicles in the Indian market. For many of us who have advocated the use of ethanol for transportation over the past three decades, this marks an important milestone. It is particularly gratifying to see a Flex Fuel WagonR on the road, representing a significant step in India's journey towards ethanol-powered mobility and energy security.

Yet, our journey is far from complete.

India's transport sector continues to rely heavily on diesel, making the decarbonization of the diesel economy one of the country's most pressing challenges. At the same time, sectors such as aviation demand innovative low-carbon solutions that can deliver meaningful emissions reductions without compromising performance. These challenges reinforce the importance of continued investment in research, innovation and indigenous technology development.

At Praj, innovation has always been our defining strength. Whether through our advances in Bio-Isobutanol for heavy-duty transportation, or the establishment of new research capabilities in precision fermentation, we remain committed to developing technologies that address tomorrow's energy and industrial needs.

Innovation, however, is meaningful only when it creates impact. Our partnerships with customers across continents, our collaborations with research institutions, and our engagement with policymakers all contribute towards building a vibrant and globally competitive bioeconomy.

As we mark two years of the BioE3 Policy and celebrate 18th year of innovation at Praj Matrix, I am encouraged by the opportunity before India to build a globally competitive bioeconomy, one that strengthens energy security, creates new economic opportunities and establishes India as a leader in sustainable technologies. The journey has only begun, and our greatest achievements are still ahead of us.

The transition before us is no longer simply from fossil fuels to renewable energy. It is a transition towards a more secure, self-reliant and sustainable future.

Together, let us continue to shape that future.

**Dr. Pramod Chaudhari**
**Founder Chairman, Praj Industries**

# Bio-Isobutanol Opens a New Path

India has made remarkable progress in reducing the carbon footprint of gasoline through higher ethanol blending. Yet one of the country's largest decarbonization opportunities still lies ahead—the diesel economy.

Heavy-duty trucks, commercial vehicles, agricultural machinery, mining equipment and industrial engines continue to rely predominantly on diesel. These sectors are difficult to electrify due to long operating hours, payload requirements and infrastructure constraints, making renewable liquid fuels an essential part of the transition.

Recognizing this challenge, Praj has invested over a decade in developing Bio-Isobutanol (Bio-IBA), an advanced renewable fuel designed to reduce emissions from diesel-powered applications while leveraging existing fuel infrastructure.

**Diesel consumption in India reached approximately**

**94.7**

**million tonnes in FY 2025-26**

driven largely by the transport, construction, mining, and industrial sectors.

(Source: PPAC, Ministry of Petroleum & Natural Gas),

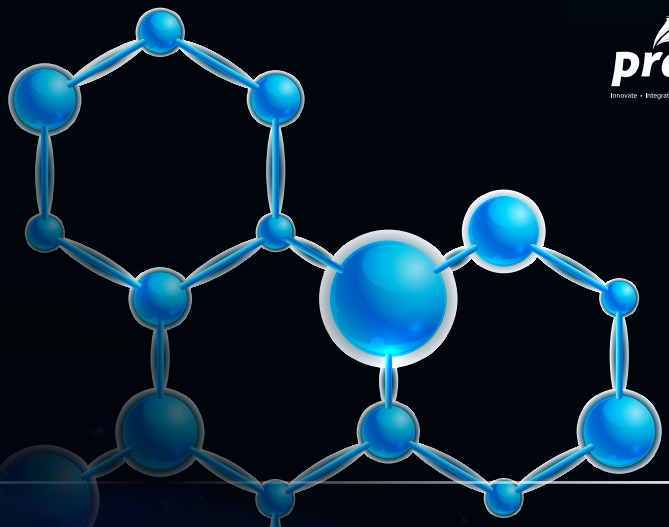
Unlike conventional biofuels, Bio-Isobutanol offers several technical advantages, including higher energy density, superior blending characteristics and compatibility with existing engines. It provides a practical pathway for lowering lifecycle greenhouse gas emissions without requiring extensive changes to vehicles or fuel distribution systems.

Extensive research and testing have validated the potential of Bio-IBA across a range of heavy-duty applications. Demonstration programmes conducted in collaboration with leading engine manufacturers have further reinforced its capability as a viable renewable alternative for sectors where direct electrification remains challenging.

The significance of Bio-Isobutanol extends beyond transportation. Its versatile chemical properties also make it an important building block for sustainable aviation fuels, renewable chemicals and advanced bio-based materials, enabling multiple pathways towards a circular bioeconomy.

As India looks beyond the success of ethanol blending, the focus is gradually expanding to address other hard-to-abate sectors. Decarbonizing diesel-powered transportation represents one of the largest opportunities to further reduce emissions while strengthening national energy security.

Through Bio-Isobutanol, Praj is helping build that future—one where innovation enables cleaner mobility without compromising reliability, performance or economic growth.



# Nurturing the Next Wave of Innovation Praj Matrix celebrates it's Foundation Day.

Innovation has always been at the heart of Praj's journey. This year, as Praj Matrix celebrated another Foundation Day, it marked not only the legacy of pioneering research but also the exciting opportunities that lie ahead for the global bioeconomy.

Over the years, Praj Matrix has evolved into one of India's leading industrial biotechnology research centres, bringing together scientists, engineers and technologists to develop sustainable solutions for energy, chemicals and materials. Many of Praj's breakthrough technologies—from advanced biofuels and renewable chemicals to resource-efficient process innovations—have originated from the collaborative ecosystem fostered at Matrix.

A significant highlight of this year's celebration was the inauguration of the Precision Fermentation Laboratory, a strategic addition to Praj's research capabilities. Precision fermentation is emerging as one of the most transformative technologies in industrial biotechnology, enabling microorganisms to produce high-value ingredients, specialty chemicals, proteins and biomolecules with greater efficiency and sustainability.


The new facility will support research across multiple domains, including renewable chemicals, bio-based materials, food ingredients and future biomanufacturing applications. It complements Praj's existing strengths in industrial fermentation while expanding its capabilities to address emerging market opportunities.

As countries accelerate investments in the global bioeconomy, precision fermentation is expected to play a pivotal role in reducing dependence on fossil-based feedstocks and enabling cleaner manufacturing pathways. Through continued investments in research infrastructure and scientific talent, Praj is positioning itself to contribute meaningfully to this evolving landscape.

The occasion was graced by Dr. Rajesh S. Gokhale, Secretary, DBT; Dr. Thomas Pucadyil, Director, BRIC-NCCS; Dr. Vaishali Panjabi, Scientist, DBT; and Smt. P. Bharathi, IAS, Secretary, Department of Biotechnology, Government of Gujarat.

# From Brownfield to Breakthrough: Alcogreen's Ethanol Transformation

Not every success story begins on a greenfield site. Sometimes, the greatest impact comes from reimagining what already exists.

Praj recently celebrated the successful commissioning of Alcogreen S.A.'s modernized corn-to-ethanol plant in Paraguay—an achievement that demonstrates how existing industrial infrastructure can be transformed into a world-class biorefinery through the right combination of technology, engineering and execution.

What began as a technical assessment of an idle molasses-based ethanol facility evolved into a comprehensive brownfield modernization project. Leveraging its expertise in plant revamps and process optimization, Praj converted the existing 200 $m^3$/day plant into a modern corn-based ethanol facility with a production capacity of approximately 520 $m^3$/day.

The Alcogreen project is a powerful example of sustainable industrial transformation. By modernizing and repurposing existing assets instead of building entirely new facilities, customers can accelerate project timelines, optimize capital investment and reduce the environmental footprint associated with new construction.

For Praj, modernization is more than a technical service—it is a strategic approach that helps customers unlock additional value from existing facilities through capacity expansion, feedstock flexibility, yield enhancement and improved energy efficiency. This philosophy has enabled the company to successfully execute modernization projects across multiple geographies, extending the life and performance of industrial assets while supporting the transition to a low-carbon economy.

As countries around the world accelerate investments in renewable fuels, projects like Alcogreen demonstrate that innovation is not always about starting from scratch. Sometimes, it is about unlocking the hidden potential of what already exists and transforming it into a platform for future growth.

# Forging Global Gold : How SBEL and Praj Elevated Zambia's ENA Industry

In today's beverage alcohol industry, consistent quality is the foundation of success. Global brands expect Extra Neutral Alcohol (ENA) that meets the highest standards of purity, consistency, and reliability. Achieving these standards requires not only operational excellence but also the right technology partner.

The collaboration between Southern Bio Energy Limited (SBEL), Zambia, and Praj Industries is a testament to this approach.

Located in Mazabuka, Zambia, SBEL has established itself as a trusted producer of premium ENA, supplying leading beverage companies including Diageo, Heineken, AB InBev, Coca-Cola, and PepsiCo. The company's commitment to quality was recently recognized with the 2026 Monde Selection Gold Quality Award, validating its ability to consistently deliver world-class products.

"Our trajectory at SBEL is defined by a 'quality-first' philosophy that informs every liter of ENA we produce. By aligning our operational goals with Praj, our technology partner, we have moved beyond simple manufacturing to achieve parity with the world's most elite distillers and to become a trusted pillar of the global supply chain. This partnership ensures that our Zambia-made product is synonymous with premiumness and international excellence – on sensory, purity, process, and service reliability."

**Divya Reddy Shah**,
Chief Executive Officer, Southern Bio Energy Limited

This achievement has been powered by a strong partnership with Praj Industries. Through advanced fermentation and distillation technologies, including HiFerm® and EcoFine®, Praj has enabled SBEL to produce ENA that meets stringent global specifications while ensuring process efficiency and operational reliability.

Beyond delivering technology, the collaboration has focused on continuous improvement and long-term value creation. The facility has successfully exceeded its original design capacity while maintaining uncompromising quality standards, demonstrating how advanced engineering and disciplined operations can work together to achieve exceptional outcomes.

The partnership also reflects a shared commitment to sustainability. Integrated process solutions, including beverage-grade $CO_2$ recovery, help maximize resource efficiency while supporting responsible manufacturing practices.

For both SBEL and Praj, the Monde Selection Gold Quality Award is more than an industry accolade. It demonstrates that world-class manufacturing can thrive anywhere when innovation, technology, and a relentless pursuit of quality come together.

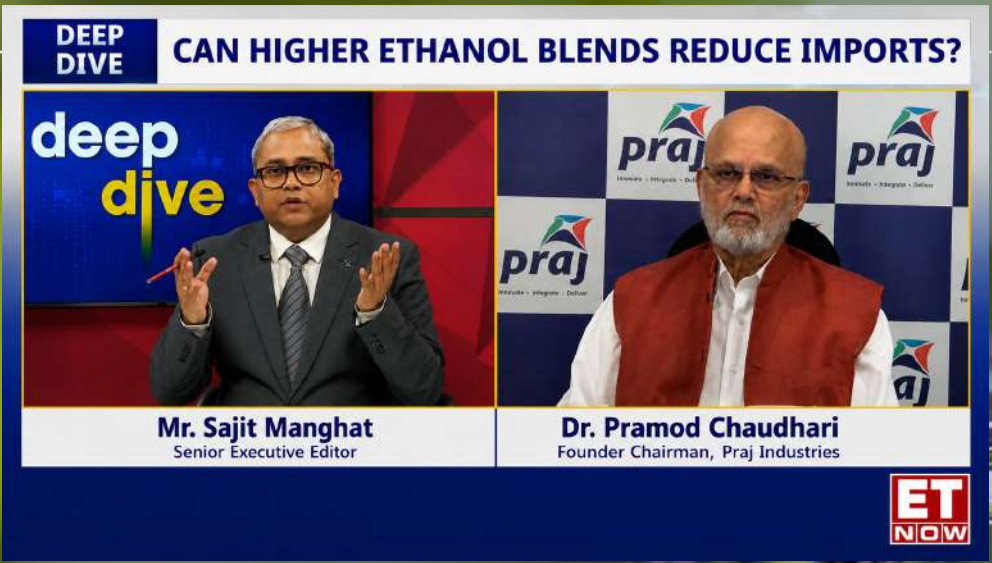
As the global beverage alcohol industry continues to evolve, the SBEL–Praj partnership stands as an example of how collaboration can transform ambition into international recognition—setting new benchmarks for quality, performance, and sustainable growth.

# Dr. Pramod Chaudhari on ET NOW's Deep Dive

India's biofuel journey took centre stage when Dr. Pramod Chaudhari, Founder Chairman of Praj Industries, joined ET NOW's Deep Dive for an engaging discussion on the future of ethanol and sustainable mobility.

During the conversation, Dr. Chaudhari reflected on India's remarkable progress from the early years of ethanol blending to achieving E20 ahead of schedule, describing it as one of the country's most successful examples of technology-driven policy implementation.

Looking ahead, he highlighted the next phase of India's bioeconomy, which extends beyond blending targets to encompass Flex Fuel Vehicles, higher ethanol blends, sustainable aviation fuels and renewable chemicals. He also emphasised the need to develop solutions for sectors such as heavy-duty transportation and aviation, where low-carbon liquid fuels will continue to play a critical role.



The discussion underscored the importance of indigenous innovation in strengthening national energy security while advancing climate goals. As India continues to build a resilient and diversified energy ecosystem, technologies developed within the country will be instrumental in reducing import dependence and creating new economic opportunities.

The interview offered viewers valuable insights into the evolving role of biofuels and reaffirmed Praj's commitment to shaping the future of the global bioeconomy.

Scan the QR code
to watch the full interview.

# Praj at India BioEnegy and Technology Expo (IBET) 2026: Advancing India's Bioeconomy

Praj Industries participated in IBET 2026, one of India's key platforms bringing together policymakers, industry leaders, technology providers and stakeholders from across the bioenergy ecosystem.

At the event, Praj presented its vision for a growing and diversified bioeconomy through Praj BioVerse™, showcasing technologies and solutions across ethanol, CBG, Sustainable Aviation Fuel, Bio-IBA, bioplastics, co-product valorization and circular bioeconomy.


The Praj pavilion brought together technology showcases, interactive displays and ecosystem partnerships, highlighting how innovation can unlock greater value from agricultural resources and biomass while supporting India's energy security and sustainability goals.

A key focus was Praj's contribution to India's ethanol journey and the next phase of bioenergy growth. The pavilion also showcased Praj's expanding capabilities in CBG and future fuels, alongside emerging technologies for renewable chemicals and bio-based materials.

The event provided an opportunity for Praj leadership and experts to engage with government representatives, customers, industry peers, technology partners and other stakeholders, strengthening relationships and exploring new opportunities across the bioeconomy.

Through its participation at IBET 2026, Praj reinforced its commitment to innovate, integrate and deliver solutions that can help build a stronger, more circular and energy-secure Indian bioeconomy.


# Praj at Fuel Ethanol Workshop 2026

Praj Industries participated in FEW 2026 in St. Louis, engaging with customers and industry leaders on the future of ethanol and renewable fuels. A key highlight was the Aemetis Keyes, California, MVR project, showcasing how Praj technology is enabling significant reductions in natural gas consumption and carbon intensity at a 65-million-gallon-per-year ethanol plant. Praj also contributed to industry discussions on MVR and electrification, SAF, RNG and modularization, highlighting practical pathways to improve plant efficiency, reduce emissions and strengthen project economics. The participation reinforced Praj's position as a technology partner for the decarbonization and evolution of the Americas' biofuels industry





FEW continues to serve as an important forum for knowledge exchange and collaboration, and Praj remains committed to supporting customers worldwide with innovative technologies that enable a cleaner and more sustainable future.

# Advancing Excellence Through the Alcohol Masterclass

Continuous learning has always been an integral part of building a stronger and more sustainable ethanol industry. This commitment was reflected in Praj's participation in the Alcohol Masterclass, a unique platform that brought together industry professionals to share knowledge, exchange experiences and discuss emerging trends in alcohol production.

The programme featured technical sessions covering process optimisation, energy efficiency, product quality, operational excellence and evolving regulatory requirements. Participants also explored new technologies that can enhance plant performance while reducing environmental impact.

For Praj, the event provided an opportunity to engage directly with distillery professionals, understand evolving customer needs and showcase innovations that support efficient and sustainable operations.

Beyond technology, the Masterclass highlighted the importance of collaboration across the industry. As ethanol production continues to expand globally, knowledge-sharing initiatives such as these play a vital role in building technical capabilities and accelerating the adoption of best practices.

alcohol masterclass

Optimizing Distilleries. Maximizing Performance.

By fostering continuous dialogue between technology providers, producers and industry experts, the Alcohol Masterclass contributes to the development of a more resilient and future-ready biofuels ecosystem.

# Celebrating the Spirit of Independence

Independence Day at Praj Tower was a celebration of pride, togetherness and the spirit of a nation looking ahead.

On 15 August 2026, the Praj family came together to mark India's 80th Independence Day, with Shri Praveen Dixit, IPS, Ex-DG, Maharashtra Police, as the Chief Guest.

The gathering was an opportunity to reflect on the values that shape our journey—not just as individuals and an organisation, but as contributors to a stronger, more self-reliant India.

At Praj, the idea of nation-building is closely intertwined with our work: enabling cleaner energy, advancing the bioeconomy and developing technologies that can help create a more sustainable future.

As we celebrated the spirit of freedom, we also renewed our commitment to building a future that is cleaner, stronger and more self-reliant.

# From learning comes innovation:Inauguration of Centre of Excellence at SPPU

The Dr. Pramod Chaudhari Centre of Excellence for Advanced Bioeconomy was inaugurated at Savitribai Phule Pune University on 10 August 2026, marking a significant step towards advancing research and innovation in the bioeconomy.

Dr. Suresh Gosavi, Vice-Chancellor, SPPU; Dr. Pramod Chaudhari, Executive Chairman, Praj Industries; Dr. Parag Kalkar, Pro Vice-Chancellor, SPPU; Ravindra Shingnapurkar, Member, Management Council, SPPU; and Somnath Nandi, among others, were present on the occasion.

The Centre will foster research, industry collaboration and hands-on learning, nurturing the talent and technologies needed for a sustainable, circular bioeconomy.

Praj's Power Moves

# A Milestone on Wheels

Praj recently added a Flex Fuel WagonR to its fleet, marking a symbolic milestone in the company's long-standing commitment to ethanol-based mobility. As Flex Fuel Vehicles begin to enter the Indian market, the WagonR serves as a tangible reminder of how sustained innovation, supportive policies and industry collaboration are driving India towards greater energy security and cleaner mobility.


For **Dr. Pramod Chaudhari**, who has championed the use of ethanol as a transportation fuel for over three decades, it is the realization of a vision that has steadily moved from concept to reality.

**Praj Industries Limited**

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