

Praj and ARAI in alliance to drive green fuel technologies for transportation

Pune, 29th July, 2020

Praj Industries (Praj) and Automotive Research Association of India (ARAI) have entered into MoU to jointly drive application development of advanced biofuels that will find usage in industry and transportation. Biofuels developed for the mobility sector will have a positive impact on environment by way of reduced carbon footprint and improved tail pipe emissions.

Biofuels are derived by processing bio-based feedstock such as Agri residue, Molasses, Cane syrup etc. As a renewable transportation fuel in gaseous as well as liquid form, Biofuels provide an energy source that complements fossil fuels such as gasoline, diesel and aviation fuels. Since biobased feedstock is a captive source, biofuels facilitate energy self-reliance while helping conserve the environment.

Through this collaboration, Praj and ARAI will jointly address technologies to propagate use of biofuels in variety of applications including usage in internal combustion engines (ICE) in the transportation sector. As a leading player in the global bio economy, Praj brings to the table its expertise of over three decades in developing and deploying biofuel technology solutions through its TEMPO business model¹. On the other hand, as an R&D major, ARAI brings its vast experience in the field of alternative fuels, green and sustainable mobility, to the association. ARAI is working closely with DHI, energy vertical of Niti Aayog, MoPNG and MoRTH for development of regulations and demonstration of technology competence in various alternate fuels spectrum like CNG, LPG, LNG, HCNG, dual fuel technology, Bio-CNG, Hydrogen, Ethanol, DME and Methanol. With complementary strengths in technology and application, Praj and ARAI will work together to test and commercialise newer fuels with improved efficiencies.

The transportation sector is the single largest consumer of imported crude oil and natural gas for petroleum products. With a growing population of vehicles across all modes of transport (surface, air and marine), it is also the third largest source of GHG emissions after power sector & industry as per world energy statistics data. As a signatory to Paris summit to reduce GHG emissions by 30-35%, India has to redefine its transportation fuel mix. Advanced biofuels technology applications that will be developed as a part of this association will help curtail health hazards attributable to the air pollution in transportation sector.

Speaking on the occasion of formalizing this alliance, Dr. Pramod Chaudhari, Executive Chairman, Praj Industries, said, "We are delighted to partner with ARAI, India's premier institution, to develop application technologies to create a positive impact on environment and society. The projects we jointly undertake will reinforce of our Bio-Mobility™ platform that offers technology solutions globally to produce carbon neutral transportation fuel from bio-based feedstock for all modes of mobility. Solutions developed under this program will not only bolster the rural economy but also align with the goals of Atma Nirbhar Bharat Abhiyan."

Expressing the views on this constructive alliance, Mr. N V Marathe, Officiating Director of ARAI said, "It is important how we accelerate India's access to affordable and cleaner energy encompassing Bio economy. We see great prospective here, and are delighted to join hands

with Praj, India's most accomplished process engineering company in the Bio economy, to unlock enduring worth of sustainable mobility for India. I am confident that this alliance will not only boost Green Economy but also line-up with objectives of being 'Vocal for Local' for self-sustenance."

The collaboration between Praj and ARAI aims to reinforce India's position as a technology leader in the global biofuels industry. ARAI wishes to execute mutually beneficial collaborative Projects for development of technologies, to produce customized fuels for best efficiency in terms of reduced fuel consumption and discharge emissions, under this alliance.

1. TEMPO- technology, engineering, manufacturing, project management, operations.



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About Praj Industries Limited:

Praj, India's most accomplished process engineering company in the Bioeconomy, is driven by innovation and integration capabilities. Over the past three decades, Praj has focused on the environment, energy, and agri-process industry, with over 750 customer references spanning 75 countries across 5 continents.

Bio-mobility™ and Bio-Prism™ are the mainstays of Praj's contribution to the global Bioeconomy. The Bio-Mobility portfolio offers technology solutions globally to produce renewable transportation fuel, thus ensuring sustainable decarbonization through circular bioeconomy. The company's Bio-Prism™ portfolio comprises of renewable chemicals and materials solutions, promises sustainability, while reimagining nature.

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

Praj's diverse portfolio comprises Bio-energy plants, Zero liquid discharge plants, Critical process equipment & skids for oil & gas industries, Breweries and High purity water systems.

Led by an accomplished and caring leadership, Praj is a socially responsible corporate citizen. Praj is listed on the Bombay and National Stock Exchanges of India.

About ARAI:

The Automotive Research Association of India (ARAI), established in 1966, is the leading automotive R&D organization of the country set up by the Automotive Industry with the Government of India. ARAI has been providing services and expertise in the areas of Engineering Services, Certification & Standardisation, Research & Development, Technology Development and Knowledge Initiatives, since more than five decades.

ARAI has been assisting Government in formulating automotive standards and regulations. ARAI serves thousands of customers in a year including Automotive OEMs; Engine, Component and Systems Suppliers; large number of MSMEs; and host of Industries/ Organisations from Non-Automotive sectors too.

ARAI has been playing crucial roles assuring safe, less polluting, more efficient and reliable vehicles. Working in harmony and confidence with its Members, Customers and Government it has been providing expertise in the field of alternative fuels, green and sustainable mobility. ARAI is working closely with DHI, energy vertical of Niti Aayog, MoPNG and MoRTH for development of regulations and demonstration of technology competence in various alternate fuels spectrum like CNG, LPG, LNG, HCNG, dual fuel technology, Bio-CNG, Hydrogen, Ethanol, DME and Methanol.

In SIAT 2019, applauding ARAI's efforts in development of mobility using alternative fuels, Hon'ble minister Shri Nitin Gadkari from MoRTH had declared ARAI as a centre of Excellence for Methanol in India, which aligns with the ideology of Niti Aayog's Methanol Economy for India to reduce imports for energy. ARAI has been a preferred development partner for various alternative fuel technologies for various OEMS. Recently, ARAI has developed indigenous blending technology for blending Ethanol into Diesel with the support from CHT and MoPNG, Govt of India which has been appreciated in various national & international forums. ARAI has sealed 7 patents and 2 patents are filed in the field of alternate fuels. ARAI has also bagged

some of the International awards from SAE International & Barcelona Award for contribution in clean and green automotive technology.

Note: Some of the statements made in the release could be forward-looking in nature. Such forward-looking statements remain subject to risks and contingencies particularly concerning but not limited to governmental policies, economic developments and technological factors. This may cause actual performance to differ materially from that observed through the relevant forward-looking statement. Praj Industries and ARAI will not in any way be responsible for action taken based on such forward-looking statements and undertakes no commitment to update these forward-looking statements publicly, to reflect changed realities