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# Ã¢â?¬Å?Praj aims to be among top players globally in industrial biotechnologyÃ¢â?¬?

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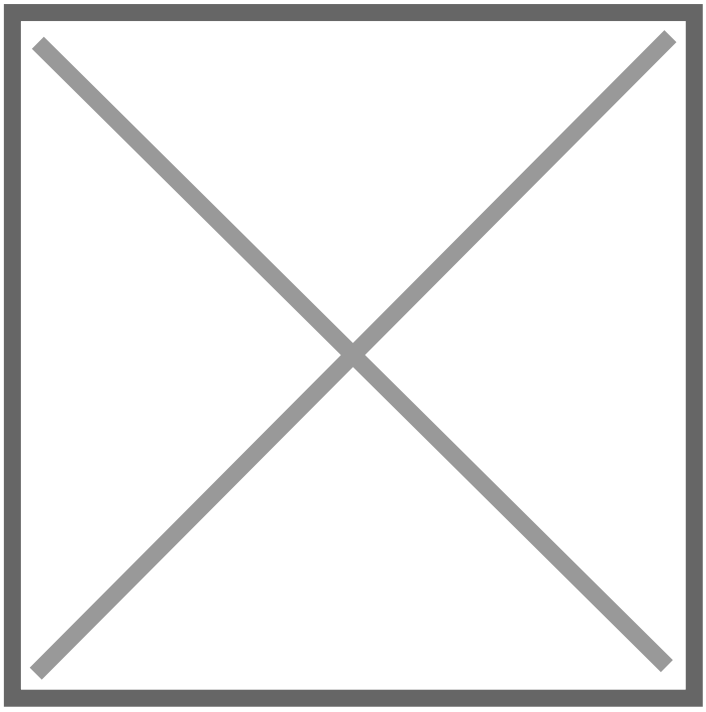

In a recent interaction with the BioSpectrum, Mr Pramod Chaudhari, executive chairman, Praj Industries spoke on company's unique operations and future outlook.

**Q: What are the offerings of your company in the bioindustrial space?**

Praj is a knowledge-based company with expertise and experience in bioprocesses and engineering. It delivers know-how, license, engineering design, plant and equipment, project management, commissioning and customer care, and turnkey projects. The company offers technology, equipment and plants for brewery as well as water and wastewater treatment systems and critical process equipment for various industrial applications. The biobased products like fermentation performance enhancers and livestock health and nutrition products too form a part of its offerings. With over 500 references across five continents, we are a leading ethanol technology and plant supplier with a strong focus on 2nd generation bioethanol process development.

**Q: Please update us on the developments at Praj Industries in the last few years?**

Praj has achieved great experience and expertise in sugar based feedstock where fermentation is a key parameter followed by bioprocessing chemical engineering and other separation technologies. Building further on our strength, we have attained expertise in hydrolysis. Generally fermentation is very commonly used terminology in pharma but here I would like to talk here more in context of industrial biotechnology, the area where we have been now recognized both in India as well as globally. In that direction, we in 2008 established the world class research and development centre called the Praj Matrix in a 5 acre area at Pune. At this innovation center, we have multiple agenda. First step was involving the 1st generation technologies mainly making ethanol from molasses and feedstock. The second focus has been on the 2nd generation biofuels from cellulosic biomass and agri-residues. Now the 2nd generation commercial demo plant will lay the foundation of cellulosic ethanol technologyfollowed by biorefinery which will produce myriad biochemicals and bioproducts.

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Also, worldwide there are efforts going for launching lignocellulosic biomass to ethanol conversion technologies. Here in India, we are the company known to be at forefront. In Asia Pacific we are the only known player in this area whereas in US, there is plenty of work that is going on. We established a pilot plant for this purpose at our R&D centre in 2009. The installation of commercial demo plant to process 100 MTPD (dry basis) corn cob, corn stover and bagasse in first phase has commenced. Total energy integration, virtually NIL liquid dischage, rigorous pilot scale evaluating of over four years are some of the highlights of the project PACE as it is called. PACE stands for Praj Advance Cellulosic Ethanol Technology.

**Q: What about your efforts to make inroads in biorefinery business? Any other areas where you have entered in recently?**

We have also taken the initiative of producing agri-based biochemicals that can replace the existing petro chemicals. It is a rising area as people want something new from renewable molecules. Therefore, as an option to oil refinery, we are aiming to launch biorefinery where on one side you put the biowaste and from other side you get biofuels as well as other re-usasble byproducts. Now we are going to constructing a demonstration plant at Maharashtra which in itself is a first of its kind project in this part of world. The outlay is close to 100-150 crore and now we are looking for investors to take part in this important venture. I hope that government of India understanding the implications of this project too will take notice of it.

Apart from that, we are also looking at producing bioingredients for poultry and dairy. We have started a factory for producing probiotics and vitamins for livestock. This area is an offshoot of the some of waste products from ethanol and brevery plants. These biobased products get further processed into value added products. We have already started commercial sales in the area. With initial successful testing, we are now positively looking at dairy industry as well. In FY 13-14, we will have 2-3 more products in offing, some in partnership and individually. We have started the monetization of our products at R&D centre and are looking at introducing the entire range of bioindustrial products in few years.

**Q: Please explain your foray into the waste water treatment? What kind of groundbreaking work is being undertaken by the company?**

Praj launched its water and wastewater treatment solutions over three years ago. Since then, Praj has supplied technology and systems for many industrial applications including pharmaceuticals, chemicals, agro chemicals, textiles and other Industrial Common Effluent Treatment Plants (CETPs) including orders from overseas.

Recently, we commissioned a very complex Zero Liquid Discharge Plant for a textile CETP in Tirupur, which being a textile belt has been facing crisis of severe pollution of water bodies due to coloured effluents from bleaching and dyeing units. Our unique ZLD technology has been now instrmetal in solving this problem.

We have recently also acquired Mumbai based Neela Systems which has broadened our range of water product and machinery offerings to pharma industry. Now from fresh water to waste water and bioprocessing equipments, we are meeting important requirements of this industry. Already we have top companies such Biocon and others on our list of clients. Industrial biotechnology being a very complex area, requires interdisciplinary expertise across areas. Therefore,I believe that as the first movers in this area, we are definitely having an edge over others.

**Q: You have now entered into healthcare and nutrition as well. What makes you venture into this area and what are the expectations?**

As part of its strategy of extending its expertise in biotechnology combined with its experience in agri processes, Praj Industries has launched its next set of biobased products - the livestock health and nutrition range (LHN). The current product portfolio covers Probiotics, amino acids, Vitamins and other biomolecules and Prophylactic disease controlling friendly microbes with immunity modulators.
A 65,000 sq. ft production facility has commenced production of performance enhancers for distilleries and will now take on production of LHN products. The factory, located in the industrial zone near Pune, is designed to world class standards in hygiene. The facility can be expanded four fold. It will see further ramp up once success of this phase is established. Based on integrated approach and market insight, Praj will benefit from increased consumption of animal proteins in the emerging economies. Worldwide, biobased products in health and wellness and chemicals/plastic sectors are finding a growing acceptability due to environmental and health concerns.

The market for the livestock health and nutrition range (LHN) products is estimated to be at over Rs 10000 crore in South and South East Asia, slated to grow at CAGR of 10 %. Major segments are Vital Nutrition, Pre and Probiotics, Enzymes and Disease preventing products. Keeping that in view, in the first phase, Praj will target the Indian market followed by growing markets overseas. The sheer growth potential globally gives us confidence that we have entered into this area at the right time.

**Q: How do you look at importance of collaborations?**

These days one cannot say that I will go solo and achieve what I want. Partnerships are very important and realizing that, we have collaborated in past with Institute of Chemical Technologies, Mumbai; National Chemical Laboratory (NCL), Pune; and Indian Institute of Technology (IIT), Mumbai. Presently are also looking at a project with Dy Patil College though as of yet it is in nascent stage. We have also partnered with many foreign organizations. We are always open for partners both nationally as well as abroad for joint development that comes with benefit of intellectual property access.

**Q: Which are your key strategies for expansion?**

Praj is seeking strategic partners with global outlook in industrial biotechnology. That includes the sustainable access to feedstock streams, insights into consumer markets and application development expertise. The partnerships have to be on technology and commercial risk sharing ability focusing on long term economic gains. What we require are the transparent long term relationships for further development.

**Q: What is your outlook of the company for next five years?**

A lot has to be done before we can say that we have achieved the milestones we set for ourselves when we embarked on our turnaround plans in 2010. Going forth, we need to transform ourselves. From being predominantly a project led company to a products and services company, as well. From being a single vertical business to being a solutions provider to multiple industries; connecting with the masses, touching lives through our many offerings; from being a global Indian company to a true-blue global organization. Hence no doubt we will be a major player in the industrial biotech field in few years from now.

Talking about the expected revenue stream, suppose if we look at a pie of hundred, the 25-30 percent will come from R&D driven outcomes, nearly 35-40 of the revenue of the company from emerging businesses such as water and wastewater treatment, critical processes and equipments, pharma systems, etc. Finally, the 20-25 percent revenue is expected to come from traditional businesses such as ethanol and beer. These are the three major buckets which we are looking at. And the fourth one is from our future developments in bioproducts.

**Q: What do you think about the overall growth of the industry? What are the overall challenges before it?**

The growth of the overall industry has been slow as the market growth has been dependent on many factors. There has to be public private partnerships in variety of projects, be it with government or foreign companies. Among the major challenges are the uncertainty in business environment, economic scenario that has deteriorated of late and also the customers facing regulatory hassles at regular intervals. The framework is not there and the industry has not received the due attention from the government which could have helped in fast-tracking its progress in many ways.

**Q: What kind of bioenergy market do you foresee in Indian context?**

Today 70 percent of the oil is being imported into the country. Out of our total basket of petrol, 10 percent of ethanol blending into petrol that we aim at, will be close to 2 billion litres of ethanol. It is a huge quantity for us here in India but countries like Brazil have already gone upto 80 percent with flex fuel vehicles. We are converting a lot of wastwater into biogas. It has got tremendous applications such as creation of power and cooking gas for domestic consumption. Infact ,we are sitting on great opportunity as a country but only if we have right policies, scope is tremendous. Being part of various industry associations, we have been pushing the government to start looking at it and now we can see the things moving on ground. It is yet an early stage for the bioenergy here in India but we are catching up fast.