

INDUSTRIAL WASTEWATER TREATMENT

Industry Outlook

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PRAJ
INDUSTRIES
REDEFINING **WASTEWATER**
TREATMENT

PRAMOD CHAUDHARI,
EXECUTIVE CHAIRMAN



COVER
STORY

Industry Outlook 10 MOST PROMISING
**INDUSTRIAL
WASTEWATER
TREATMENT** 
COMPANIES - 2020

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**WE STRONGLY BELIEVE
THAT THE PURPOSE OF THE
BUSINESS IS TO CONTRIBUTE
BEYOND FINANCIAL
GOALS. FOCUSSED ON
TECHNOLOGY AND
INNOVATION, OUR WORK
TOWARDS SUSTAINABLE
DEVELOPMENT IS FOR THE
GREATER GOOD OF MANKIND**

**PRAMOD CHAUDHARI,
EXECUTIVE CHAIRMAN**

PRAJ INDUSTRIES

REDEFINING WASTEWATER TREATMENT

BY JANIFHA EVANGELINE

With water shortages afflicting the world, water scarcity has become the largest threats the society is facing today. Therefore, governments have begun to adopt new technologies and projects such as rainwater harvesting, desalination and wastewater treatment to alleviate the effects and provide a sustainable short-term and long-term solution to water scarcity.

In India, with an increase in the population and rapid industrial development and ground water depletion due to uncontrolled extraction, and wastewater generation has also increased at a phenomenal speed. Rising levels of wastewater sources have a dangerous consequence as it can mix with freshwater sources and contaminate them as well. Therefore, management of industrial wastewater through wastewater treatment plants in the country has become an imperative of cities today.

However, industrial wastewater treatment is a complex process comprising of numerous

technologies and systems implementations, serving a wide range of industries and applications. Therefore, industries must implement a solution that not only helps in wastewater purification but also follows an integrated approach in addressing the pain points of the clients and delivering customized solutions.

Perfectly understanding the aforementioned requirements, Pune based Praj Industries' industrial wastewater treatment division offers comprehensive range of basic and most advanced wastewater treatment solutions for Industrial Effluent Treatment, Recycling and Zero Liquid Discharge with more than 80 per cent water and Resource recovery to customers across sectors namely steel, power, chemicals, fertilizers, food & beverage, textile, tannery, dairy and pharmaceutical industries.

The critical step in securing an industrial water treatment system is planning the concepts, designs and regulatory requirements of the projects. Intending to address the pain points of clients, Praj Industries gathers the requirement specifications of clients, performs a

detailed analysis of the requirements and develops customized solutions as per the requirements. Not just that, Praj also takes proactive efforts on upgrading technology and offers proven solutions driven by ably supported state-of-the-art R&D centre – Praj matrix and this is one of the major factors that makes the company stand out from the rest.

Innovative Zero Liquid Discharge Solutions

As the market for Wastewater treatment in India is growing exponentially, the wastewater treatment solutions have become areas of prime importance. Reduction of water footprint for the industry, efficient utilization of water resources and 'multiple' use of input water with tightening discharge norms are key drivers for driving the demand in the industry. Moreover, regulators are also taking prudent but increasingly stricter stands on water utilization and discharge of effluents into common streams. The movement to save rivers and protect their aquatic life along with larger protection of the ecosystem is driving and increasingly pushing the demand for Zero Liquid Discharge (ZLD) system.

Establishment and Evolution of Praj Industries

With an affinity towards agriculture, Pramod Chaudhari the Executive Chairman of Praj Industries dreamt of setting up a world-class engineering company specialized in Agro-processing opportunities. Therefore, he started with the processing of molasses extracted from sugarcane since sugarcane is one of the most profitable cash crops of Maharashtra. The major source of ethanol production in the country is through sugarcane. This is when the journey of Praj Industries began in 1985 with the inception of an ethanol plant to process molasses to produce ethanol. However, since ethanol manufacturing is a water-intensive industry, it consumes large volumes of freshwater and generates a corresponding amount of wastewater. Therefore, Praj Industries had to set up Wastewater treatment systems to treat the wastewater generated from its ethanol manufacturing plant.

Praj Industries offers integrated wastewater treatment systems for industrial applications. To further its commitment to the Ethanol industry, Praj Industries set up an R&D centre dedicated to ethanol production that is recognized by the Government of India and DSIR. This centre is equipped with analytical and instrumental laboratory and fermentation, distillation and effluent treatment pilot plants.

With a humble beginning as a supplier of ethanol plants, today Praj is a globally recognized company with a bouquet of sustainable solutions for bioenergy, high purity water, critical process equipment and industrial wastewater treatment.



Catering to these needs, Praj Industries has developed innovative solutions for Zero Liquid Discharge. The company also provides in-house manufacturing capabilities with more than 350 installations for evaporators and agitated thin film dryers (ATFD).

Focusing on Lifecycle costs

The industrial wastewater treatment market size is anticipated to reach USD 15.0 billion by 2025. As the market is fiercely competitive, the overall cost structure of Wastewater treatment plants is extremely under stress. Since these systems are not revenue centers but add to the cost and have an impact on the bottom line, most companies tend to opt for minimum Capex solution rather than the most efficient solutions when it comes to selecting water treatment systems.

Praj Industries focuses on Lifecycle cost than just CAPEX. Moreover, the company is also looking at digital technologies such as remote monitoring solutions that can reduce OPEX. Praj is taking proactive efforts towards creating awareness about the new technologies that can help in reducing the water footprints significantly by educating them about 3Rs of Sustainability such as Reduce, Recycle and Reuse of water among various stakeholders such as customers, consultants and industry bodies.

With increasing water stress in almost all parts of the world, increased water usage efficiency and water productivity will become increasingly vital for long term sustainability of businesses and even industries.

“Our vision of ‘aspiring to be the most preferred organization for all stakeholders through environment-friendly and sustainable solutions that can make the world a better place’ drives us to do better every day,” says Shishir Joshipura, MD and CEO. “We strongly believe that the pur-

pose of the business is to contribute beyond financial goals. Focussed on technology and innovation, our work towards sustainable development is for the greater good of mankind," he adds.

End-to-end solutions with lower footprints and optimized solutions

Praj offers end-to-end solutions for water treatment that include pre-treatment, Demineralization, Ultra Filtration System, Reverse Osmosis, Electro Deionization and Zero Liquid Discharge. Praj's experience of handling the most challenging wastewater, seawater desalination, advanced tertiary treatment of secondary treated sewage water and complete water & wastewater management enables the company to offer end-to-end solutions with lower footprints and optimized solutions. The range of solutions includes Water Treatment plants, conventional and advanced biological systems, membrane-based systems, thermal solutions to ensure high quality and consistency of treated water.



SHISHIR JOSHIPURA,
CEO & MANAGING DIRECTOR

"Our experience in handling the challenging wastewater management applications enables us to build end-to-end solutions that help in delivering lowest footprint, higher recovery of water and highly optimized systems," says S Suresh Kumar, Executive Vice President of Praj Industries. Suresh, who currently heads the Water & Waste Water treatment BU of Praj Industries, has more than 33 years of varied experience in the development, sales, engineering, project execution, construction and commissioning of Capital projects in the chemicals, fertilizers & allied process industry.

Suresh has worked for some of the world's leading corporations such as BOC, Technip, Bateman Engineering, Praxair, Unilever, and has led the engineering, fabrication, and project

First-generation techno-entrepreneur

Pramod Chaudhari, the Executive Chairman of Praj Industries dreamt and developed Praj into a world-class engineering company specialized in Agro-processing opportunities. Today, Praj Group is a global provider of end-to-end Technology and Engineering solutions for Bio-Energy, Bio-Chemical and Bio-Pharma industry, that are developed and ably supported by its world-class state-of-the-art R&D Center - Praj Matrix.

As a first-generation techno-entrepreneur, Pramod Chaudhari founded Praj in 1983. With a strong belief in the theory of triple-bottom-line, his business model is inherently scalable, replicable and sustainable. Praj fostered the emergence of advanced technologies in certain Bio-Energy and allied space. As India's biggest Biofuel Technology Company, Praj has over 750 footprints in over 75 countries, across five continents.

Pramod Chaudhari has received numerous awards and recognitions for his achievements. Pramod was honoured with Distinguished Service Award from IIT Bombay in 2015 and received National Level Entrepreneurship award in 2007. Recently, Pramod Chaudhari was honoured with Asia's Greatest Leader of 2018 award by URS Media.

management and construction teams of these companies. He was earlier heading the Ethanol business of Praj in the Africa region comprising of Africa continent, MENA, Turkey and neighboring countries.

Praj Matrix - the Backbone of Praj's Technology development

The backbone of Praj's technology development is Praj Matrix, the Innovation centre of Praj Industries. In addition to supporting existing businesses, Praj Matrix is engaged in the development of a range of renewable fuels and chemicals. The second-generation ethanol technology is developed in-house at Praj Matrix. Praj has four strategically located and well-connected world-class manufacturing facilities in India. These are accredited with ASME U, U2, R stamps and have proven capabilities in manufacturing equipment in compliance with the global standards.

The Journey Ahead

With a slew of new initiatives, Praj aspires to be a major player in the environment, energy and agro-processing led applications providing innovative, integrated solutions including plant, equipment and products that will enhance the quality of life. Praj has been a trusted partner for clients worldwide and has offices present in Thailand, Philippines, USA apart from a robust R&D and manufacturing base in India. [In](#)