

Interview with
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Interview by
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Indian water treatment market would reach to USD 5.59 billion (INR 46,486 Crore) by 2030, at a CAGR of 9.10% during the forecast period of 2023 to 2030.

WATER TREATMENT INDUSTRY: INNOVATIONS AND SUSTAINABILITY

Abdul Rahman Mohammed

is the CEO of acclaimed Sahara Industry. With a degree in marketing and finance, this young entrepreneur has skillfully guided the company to become a prominent manufacturer of high-quality water and wastewater treatment solutions in India. His contemporary business strategies, complemented by technological innovations and dynamic leadership, have facilitated the efficient growth of his group of companies, resulting in a turnover exceeding INR 1200 million.

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Q. How technology is transforming water treatment industry?

A. Technology is creating better outcomes for people, businesses, and the environment, and it has to become a vital part of the water industry and its advancements. With current and emerging challenges in water management and quality concern, it is important that we select the right technological intervention for reaping benefits.

Technology is transforming the water industry, driving significant advancements in water treatment, leading to more efficient, sustainable and reliable treatment processes. These innovations are revolutionizing the way water is sourced, treated, distributed, and managed, crucial for addressing water scarcity, improving quality, and ensuring access to clean water to people and industries.

Technology has supported to bring more efficient treatment methods including advanced oxidation processes, electrochemical treatment, and innovative chemical treatments. Membrane technologies, such as reverse osmosis and nanofiltration, have become increasingly important. Advances in membrane materials and design have improved the efficiency and longevity as well as making the desalination process more energy-efficient and cost-effective.

The integration of sensors, IoT (Internet of Things) devices, and data analytics is enabling real-time monitoring and control of water treatment processes. Artificial intelligence and machine learning algorithms are being applied to water treatment processes to predict equipment failures, optimize chemical dosing, and improve the efficiency of treatment processes. Water treatment plants are adopting energy-efficient technologies to reduce operational costs and environmental impact.

Q. With mounting global pressure to reduce carbon emissions, the progress and adoption of greener sources for water treatment are gaining momentum. How do you see this trend?

A. In many developing countries, the problem

of water pollution is worsening due to the impacts of population and industrial growth and urbanization. Simultaneously, sanitation issues are also on the rise particularly in the manufacturing sector, where water usage has expanded with corresponding increase in wastewater production. This wastewater often contains hazardous chemicals and sludge, which are separated through water treatment processes. Unfortunately, many industries discharge this wastewater into natural water bodies without adequate treatment, posing significant environmental and public health risks.

The greener approaches not only help address water pollution but also contribute to overall environmental conservation and the reduction of greenhouse gas emissions, aligning with global efforts to combat climate change.

The most common greener sources for water treatment include:

- **Natural Filtration:** Using natural processes like soil and plants to filter and purify water, such as constructed wetlands.
- **Solar Water Disinfection:** Harnessing solar energy is a simple and cost-effective method to disinfect water by placing it in clear plastic bottles exposed to the sun's UV rays. It's particularly useful in areas with limited access to clean drinking water and where other water treatment methods may be unavailable or impractical.
- **Green Chemicals:** Developing and using less harmful chemicals in water treatment processes, reducing the use of chlorine and other harsh disinfectants.
- **Membrane Filtration:** Employing advanced membrane technologies that require less energy and produce less waste compared to traditional filtration methods.
- **Energy-Efficient Technologies:** Implementing energy-efficient equipment and processes in water treatment plants to reduce carbon footprint.
- **Decentralized System:** Adopting small scale water treatment system that serve localized areas, reducing the need for extensive infrastructure, thus reducing

Water Professional



■ *The technical expertise and in-depth knowledge of the water sector has enabled Sahara Industry to offer the best integrated and strategic approach to industrial and municipal water and wastewater treatment systems.*

■ *India is confronted with complex and interconnected water challenges that necessitate a comprehensive and multifaceted strategy. It will require a combination of technology, policy, and people's involvement to ensure equitable access to clean water.*



transportation efforts of used water for treatment.

- **Sustainable Materials:** Using sustainable and biodegradable materials in water treatment equipment and processes.
- **Smart Water Management:** Employing data and technology for efficient water treatment and distribution, reducing waste.

These greener sources for water treatment



50 M3/hr Reverse Osmosis Plant Installed in Logistic Park, Hyderabad

offer a holistic approach that considers environmental, economic, and social aspects, making them a compelling choice for addressing treatment needs in a sustainable and responsible manner.

Q. In recent years, the concept of “Smart Water” is gaining momentum. How do you view the utility of smart water management?

A. The concept of “Smart Water” has gained significant prominence and attention due to various factors including the digital revolution and our thirst for information on real time basis. Smart Water refers to the application of advanced technologies and data-driven solutions to enhance the management, distribution, and conservation of water resources. It involves the integration of various sensors, data analytics, and communication systems to create more efficient, responsive and sustainable water infrastructure.

The deployment of sensors and monitoring and IoT devices at various points in the water supply chain, such as in reservoirs, pipelines, treatment facilities, and pumping stations to collect real-time data on water quality, quantity, and infrastructure condition is on the rise.



Industrial Water Treatment Plant

The sophisticated data analytics and machine learning algorithms are processing the huge amount of collected data in no time helping identify trends, detect anomalies, and make informed decisions for optimizing water systems.

Smart water also facilitating remote control to manage water distribution systems, valves, pumps, and treatment processes to respond quickly to changing conditions and demands while enabling leak detection to reduce water loss and prevent infrastructure damage. It is helpful in predictive analytics to schedule maintenance and repairs, reducing downtime and extending the lifespan of water infrastructure, an important aspect in current times when water loss and aging infrastructure have become big challenge. It is also enhancing the resilience of water systems to respond to natural disasters, emergencies, and climate-related challenges effectively.

The idea of Smart Water is driven by the need to address water scarcity, aging infrastructure, controlling pollution, and increasing water demand in a more efficient and sustainable manner. It has the potential to revolutionize how water resources are managed and used, improving water quality, reducing waste, and ensuring the availability of clean water for our future.

Q. How do you imagine the management of water in India in next 20 years?

A. The management of water resources in India over the next 20 years is likely to face several significant challenges and require innovative solutions to ensure sustainable access to clean water for its growing population. I can imagine the water management system becoming more digitized, with advance tools to aid decision making and predictive analysis in all areas of operations.

India, with its growing population and economic progress, faces complex and interconnected water challenges that demand a multi-faceted and holistic approach. It will require a combination of technology, policy, and people’s involvement to ensure equitable access to clean water while safeguarding the environment and addressing the impacts of climate change.

I can foresee the improvements of the services by water utilities, where we are informed on the events before they occur, where we have the exhaustive information on a portal that we can access with our mobile and where we can interact with the service provider so all of us are able to preserve this valuable element, essential for the human survival. Collaborative efforts at all levels of government and society will be crucial to achieving sustainable water management in India over the next two decades.

Q. What kind of opportunity do you see for your company in growing water market in India?

A. Water has been an integral part of our business for more than two decades, long before the water crisis and pollution issues became the biggest risk. India is facing significant challenges related to water quality



Swimming Pool Filtration Tanks

and scarcity and it keeps on growing, more than 600 million people currently facing severe water stress. Sahara Industry being a leading solution provider specializing in advanced water treatment technologies, including membrane filtration, UV disinfection, water quality monitoring, and industrial pure water have trusted customers for municipal and industrial water treatment.

A market research organization recently published their analysis that mentioned the size of Indian water treatment market, which was USD 2.78 billion (INR 23,115 Crore) in 2022, would rocket up to USD 5.59 billion (INR 46,486 Crore) by 2030, at a CAGR of 9.10% during the forecast period of 2023 to 2030. This predicted increase is mainly due to increasing population and demand for the finished goods in the country which raises the consumption of water by several industrial segments for the manufacturing of goods. With modern and advance manufacturing facilities and pursuit of constant innovation, Sahara Industry is well-placed to serve the growing demand of quality water treatment equipment and processes for both drinking water and industrial use purposes. We are wholeheartedly dedicated to the cause

of water and preservation and will continue to invest in cutting-edge technology and innovative solutions to remain at the forefront of our mission, always striving to stay ahead of the curve.

Q. How Sahara Industry is evolving with technology and what are your future plans?

A. Being market oriented and having modern system and processes, Sahara Industry has a technology driven approach to provide high quality water treatment products and services with excellent global standards. The technical expertise and in-depth knowledge of the water sector has enabled it to offer the best integrated and strategic approach to industrial and municipal water and wastewater treatment systems. The Company provides multi-disciplinary water and wastewater treatment and engineering services and delivering ideal solutions based on the experience of implementing hundreds of plants and projects with integrated project management approach.

In a legacy of about two decades, it has contributed immensely by making water safe for drinking, industrial and institutional purposes. The ISO 9001:2015 certified company; it has executed water and wastewater projects in the length and breadth of India as well as in several other countries.

Our future plans consist of expanding the scope and offerings of our services in water and wastewater treatment solutions. Sahara Industry is becoming future ready by embracing novel treatment technology with sustainable practices to solve the difficulties of increasing pollution while maintaining natural resources. The digital revolution will help us operate efficiently with information systems completely integrated, transversal and available to the user in any type of device, with predictive capabilities. That day is still far away, but we will gradually go that way and hopefully we can see water is managed more professionally and compassionately.



Ultrapure Water Treatment Plant