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An offshore oil and gas platform is shown against a dramatic sunset sky. The platform is a complex structure with a central derrick and various cranes. The sky is a mix of orange, yellow, and red, with the sun low on the horizon. The platform is supported by several legs in the water.

Oil and Gas Pioneering the Path Forward

We aim to expand into new markets



By reclaiming and reusing wastewater, we can supplement freshwater resources, reduce pollution, and provide a sustainable water supply, says **MAYANK AGARWAL**, Director, GA Infra

With the water crisis looming over many cities in India, can wastewater treatment be a panacea. Your take on this

With the increasing water scarcity in many Indian cities, wastewater treatment presents a significant opportunity to alleviate the crisis. By reclaiming and reusing wastewater, we can supplement freshwater resources, reduce pollution, and provide a sustainable water supply. Wastewater treatment isn't just a stopgap but a long-term solution, especially in urban areas where water demand is surging. Treated wastewater can be used for agricultural irrigation, industrial processes, and even potable purposes, reducing dependency on freshwater sources, and helping to balance the water supply-demand equation.

What are the trends and tech trends shaping the water and wastewater treatment industry worldwide?

Globally, several trends and technological advancements are influencing the water and wastewater treatment industry:

- Digitalization and IoT: Smart sensors, AI, and data analytics are optimizing the monitoring and management of water treatment processes.

- Membrane Filtration: Advances in membrane technology, including reverse osmosis and nanofiltration, are improving water purification efficiency.
- Energy Efficiency: New processes like anaerobic digestion and MBR (Membrane Bioreactor) are making wastewater treatment more energy-efficient.
- Circular Economy: The focus is shifting towards resource recovery from wastewater, such as biogas and nutrient recovery, contributing to sustainability.
- Decentralized Treatment: Small-scale, modular treatment systems are gaining traction, providing flexibility and cost-effectiveness, especially in rural areas.

How big is the market for water and waste water treatment in India? How much market share you command and what would be your strategies to increase your market share?

The water and wastewater treatment market in India is growing rapidly, with estimates suggesting it could reach several billion USD by 2025, driven by urbanization, industrialization, and government initiatives like the Jal Jeevan Mission and Namami

Gange. At GA Infra, we command a substantial market share, particularly in municipal and industrial wastewater treatment sectors. To increase our market share, we plan to invest in R&D to develop innovative, cost-effective technologies; expand our presence in underserved regions; form strategic partnerships with local governments and companies and focus on sustainable and energy-efficient solutions that align with global best practices.

What are the cost-effective cutting-edge technologies, products, services, and post-project support you offer?

We offer a range of advanced yet cost-effective technologies, including MBR and MBBR Systems for high-efficiency wastewater treatment; SBR System: Sequencing Batch Reactor (SBR System) which is a fill and draw activated sludge system for wastewater treatment; Zero liquid discharge for ensuring no wastewater is discharged into the environment. We also offer advanced filtration and disinfection using UV and ozone-based systems. We provide comprehensive maintenance, remote monitoring, and troubleshooting services, ensuring the longevity and efficiency of our systems.

Your take on the government policies and regulations and the tweaks required to propel the water and wastewater sector?

Government policies play a crucial role in shaping the water and wastewater treatment sector. Current regulations are supportive, but there is room for improvement. Policies should promote the reuse of treated wastewater through subsidies or tax benefits. The government should implement stricter penalties for non-compliance with wastewater discharge norms as it push industries to adopt better treatment practices.

- **Public-Private Partnerships:** Encouraging collaborations between the government and private sector for infrastructure development and technology transfer can boost the sector.

A major challenge is the disposal of excess sludge produced during the wastewater treatment process. How does your company manage this issue, and what innovative solutions or technologies do you employ to mitigate the environmental impact of sludge disposal?

Sludge management is a significant challenge in wastewater treatment. At GA Infra, we employ several innovative solutions such as converting sludge into biogas for energy production, reducing sludge volume

and converting it into ash, which can be used as a soil conditioner, transforming sludge into organic compost for agricultural use and extracting valuable materials like phosphorus and nitrogen from sludge, reducing waste and creating new revenue streams.

What are the other challenges facing the wastewater treatment industry in India and how can these challenges be addressed?

The wastewater treatment industry in India faces several challenges, such as. High initial capital costs deter investment, Lack of access to advanced, cost-effective technologies in rural and remote areas, limited awareness of the benefits of wastewater treatment among the general public and industries, and ensuring adherence to environmental regulations across all sectors is difficult. Addressing these challenges requires a multi-pronged approach, including increased government funding, capacity building, public education campaigns, and fostering innovation.

How are you leveraging technology to enhance sustainability in your projects and what are the sustainability features you have integrated with your commissioned projects in the last two years?

We leverage technology to enhance sustainability across our projects, focusing on Implementing energy-efficient technologies like MBR, anaerobic digestion, and renewable energy integration in our plants; designing systems that maximize water reuse and recycling; incorporating green roofs, rain gardens, and other sustainable practices in our projects and using eco-friendly and durable materials in construction and operation.

What are the major growth targets, expansion plans and strategies your organization is aiming for over the next three years?

Over the next three years, GA Infra aims to expand into new markets particularly in South and Southeast Asia, where water scarcity and pollution are pressing issues; to develop innovative, cost-effective solutions that can be scaled across different markets; collaborating with international firms to bring the latest technologies to India and beyond; and position ourselves as a leader in sustainable water and wastewater treatment solutions, setting industry benchmarks in environmental performance. These strategies are designed to ensure that we remain at the forefront of the industry, driving growth while addressing critical environmental challenges.

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