

TRIVENI WATER BUSINESS AT A GLANCE

Water Business Group (WBG) of Triveni is an industry leader today in the complete range of Water & Wastewater solutions, offering innovative technology and the latest equipment range. Triveni has strong management and innovation skills in handling EPC projects of any scale across sectors and regions. Triveni provides turnkey execution and operation of water and wastewater treatment plants for both the municipal and industrial sectors.

We have engineering roots and constantly invest in new technology to ensure premium quality with faster deliveries at an optimised cost for our products & services. We have carried out successful execution of more than 100 projects in municipal and industrial projects with quality and commitment to timely delivery.

Cost Management & Efficiencies are in our DNA which helps us to maintain leadership.

Current Water Crisis and What We Offer

- Global urban population facing water scarcity is projected to increase to 2.4 billion people in 2050, with India projected to be the most severely affected. Two billion people of the world do not have safe drinking water.
- Over-consumption and over-development, unsustainable water use, pollution and unchecked global warming are draining humanity's lifeblood.
- Aggressively growing middle class is creating a huge demand for clean and safe water.
- The Indian government and all the state governments have taken a series of initiatives to make our country's water secure. Government programmes like Amrut schemes, Namami Gange, Jal Jeevan Mission, State water and sanitation missions, etc., are yielding the desired results.

Our Water Solutions

Water Business Group offers complete Turnkey/ Engineering Procurement and Construction (EPC) solutions for:

- Water Treatment (Conventional, Ultra Filtration, Reverse Osmosis, Demineralisation, and Sea Water Reverse Osmosis)
- Wastewater/Sewage Treatment (based on advanced technologies like Sequencing Batch Reactor (SBR), Moving Bed Biofilm Reactor (MBBR), etc. both for Municipal and Industrial effluents)
- Design, Build, and Operate Water and Wastewater treatment plant based on Zero Liquid Discharge and reuse.

Water Business Group (WBG) of Triveni is an industry leader today in the complete range of Water & Wastewater solutions, offering innovative technology and the latest equipment range.

- Water and wastewater collection and distribution networks, including their design, construction, operation and management.
- Manufacturing of equipment for the entire spectrum of water and wastewater treatment industry.
- Operations and maintenance of water and wastewater treatment plants.
- Design Built and Operate Water and Wastewater management systems on Engineering Procurement and Construction (EPC)/ Public Private Partnership (PPP)/ Hybrid Annuity Model (HAM)/ Build Own Operate Transfer (BOOT) models.

Water Treatment, Wastewater Treatment, Tertiary Treatment, Recycle & Reuse and Zero Liquid Discharge

Water Business Group's objective is to provide a growing number of people with access to clean drinking water, and to secure environmentally-compatible disposal of municipal and industrial wastewater. We are committed to contributing sustainable solutions for Water Treatment, Wastewater Treatment, Tertiary Treatment, Recycle & Reuse and Zero Liquid Discharge and Environmental Protection with enhanced quality of life. This drives us towards the development of new technologies and optimisation of existing processes with a focus on emerging markets.

The wide range of water & wastewater treatment plants supplied by us in India includes:

- Municipal Water Treatment Plants
- Sea Water Desalination Plants
- Processing Water Treatment Plants
- Sewage Water Treatment Plants
- Common Effluent Treatment Plants
- Tertiary Treatment Plants
- Recycle and Reuse of Wastewater
- Zero Liquid Discharge



Hybrid Annuity Model (HAM)/ Public-Private-Partnership (PPP) Business

Triveni Water is executing the following two projects in Hybrid Annuity Model (HAM) format:-

Mathura Wastewater Management Private Limited (MWMPL) – a 100% subsidiary of TEIL

MWMPL has undertaken an Integrated Sewerage Management project for the holy city of Mathura (Uttar Pradesh) under one-city-one-operator framework in PPP/HAM mode, as part of the Namami Gange programme of the Ministry of Jal Shakti, Government of India

With the objective of making the Yamuna river flowing through Mathura city pollution-free, sewage from the designed areas has been intercepted from the drains and diverted through pumping to various Sewage Treatment Plants (STPs) before being allowed into the river.

Our Mathura project subsidiary, MWMPL has undertaken an Integrated Sewerage Management project for the holy city of Mathura (Uttar Pradesh) under one-city-one-operator framework in PPP/HAM mode, as part of the Namami Gange programme of the Ministry of Jal Shakti, Government of India

One of the key components of the project is recycling of treated sewage after membrane-based (Ultrafiltration followed by Reverse Osmosis – UF/RO) advanced treatment process to a crude oil refinery of IOCL (Indian Oil Corporation Limited) near Mathura city for their process water needs.

Various components of the Mathura project were physically completed during the year, and after completing the ongoing trials for demonstrating mandated KPIs (Key Process Indicators), Commercial Operation date (COD) of Mathura project has been achieved and MWMPL has started 15 years of comprehensive operation & maintenance (O&M) of the facilities.

Pali ZLD Private Limited (PZPL) – a 100% subsidiary of TEIL

PZPL is executing a 12,000 M3 per day (12 MLD) capacity textile wastewater treatment plant for effluent being generated by over 500 industrial units in one of the industrial clusters of Pali district in Rajasthan. The project was awarded by the industry association through their CETP Foundation, a Special Purpose Vehicle (SPV) created for the purpose. The project is being executed in PPP/HAM mode, with part capital funding as Capital grant being provided by the CETP Foundation and also by Rajasthan government through their designated agencies/departments.

The project includes comprehensive upgradation of the existing Common Effluent Treatment Plant (CETP), followed by state-of-the-art advanced tertiary level treatment plant (TTP) to make the treated water fit for use by the same industries, thus making the plant a truly Zero Liquid Discharge (ZLD) system.

Sludge generated from the plant will be minimised through extensive dewatering, drying, heating & incineration processes within the plant facilities and, post treatment, the sludge will be disposed of in secured landfill site.

For Pali-based industries, this will be a unique scheme to get assured supply of recycled wastewater for their process water needs. The recycled water will be of much better quality compared to currently used groundwater from sources in the neighbouring area, thus sparing them from further extraction.

For PZPL, the project scope includes comprehensive operation & maintenance (O&M) for 15 years after project's physical completion.

Operations and Maintenance

Operation and Maintenance (O&M) of Water and Wastewater Systems forms an integral part of the business as WBG conducts various water and wastewater system activities to ensure their effective functioning and compliance with various regulatory and technical requirements.

Triveni provides O&M to keep the water supply safe. We achieve the following outcomes related to operations and maintenance, and ensure that the client's system remains sustainable and costs are reasonable:

- Be knowledgeable of the water system's infrastructure (assets) and their locations.
- Be knowledgeable of the condition of the water system.
- Maintain an adequate disinfection residual in all parts of the system.
- Maintain positive water pressure under foreseeable operating conditions.
- Implement a backflow prevention and cross-connection control programme.
- Ensure proper disinfection and flushing procedures are used for repairs and new construction.
- Monitor for internal and external corrosion of piping and equipment and, if necessary, implement measures to reduce the rate of corrosion.
- Metre water supply and consumption to estimate water usage and losses and, if necessary, implement a leak detection programme.
- Maintain the source water intake, dam, raw water reservoir, or well-head site.
- Keep the treatment plant, pumping stations and reservoirs in good working order.
- Keep the distribution system's valves and hydrants in good working order.
- Swab and/or flush the watermains.
- Maintain a spare parts inventory.





Water Business Group of Triveni has significant experience in the Operations & Maintenance space of business for water and wastewater treatment plants, and offers the following services to customers:

- Operations and maintenance
- Annual maintenance contracts
- Product and process audits, health check-ups, and overhauls
- Pilot experiments
- Refurbishment, up-gradation and automation of existing plants
- Spares, service consumables, and chemicals
- On-site training and assistance

Achievements

- Across India, over 1,200 installations are successfully operating in various segments - infrastructure, industrial, and municipal.
- Through our projects and equipment, over 10,000 MLD of water is treated.
- We have received several Water Awards for innovative project designs.
- In FY 23, we secured Bangladesh (Construction of two sewerage treatment plants for Khulna Water Supply and Sewerage Authority), funded by ADB
- In FY 22, we secured the PALI HAM/PPP project

- In FY 22, we secured the Bhiwadi 6 MLD Zero Liquid Discharge (ZLD) project.
- In FY 21, we secured Maldives project of water and sanitation of six islands.

Processes and Technologies

Triveni Water has access to the latest technologies in water and wastewater treatment plants, and has gained sufficient experience in the following technologies:

- Moving Bed-Bio Reactor (MBBR)
- Sequential Batch Reactor (SBR)
- Activated Sludge Process (ASP)
- Conventional technologies
- Filters: Sand or Membranes
- High Rate Clarifiers
- Membranes and Anaerobic-anoxic-aerobic method (A2O) and nitrification / de-nitrification
- Recycling and Reuse
- Zero Liquid Discharge (ZLD)

OUR WATER BUSINESS PERFORMANCE

The Water business has achieved historically its highest annual turnover of ₹ 352.17 crore vs ₹ 270.21 crore in the previous year (+30.3%) with a PBIT of ₹ 24.28 crore vs ₹ 31.01 crore in FY 22. The higher revenues were the result of more focussed approach in execution.

