

20 years in SA and future Ambitions for Africa

Veolia Water Technologies celebrates 20 years of business in South Africa this year. The company behind some of southern Africa's most important and forward-thinking water and wastewater treatment plants welcomes this landmark year with a renewed strategic focus serving newfound frontiers and a rapidly expanding geographic footprint.

Launching in 1999 as Vivendi Water with a complement of 80 people, today Veolia South Africa employs over 700 people, making it one of the continent's largest water treatment specialist organisations, all working towards realising the company's *Ambitions for Africa*. Through cost-effective, reliable and compact treatment solutions utilising the company's over 350 proprietary technologies, Veolia is improving access to water and sanitation, optimising water usage in industry, and ensuring environmental compliance.

From a strong initial focus on design and build projects – with an impressive portfolio of projects that includes the Ambatovy Mine crystallisation plant in Madagascar; the 15 Mℓ/day Mossel Bay desalination plant; and the 55 Mℓ/day Lower Thukela potable water treatment plant – today Veolia is a total water treatment partner to municipalities and industry. These include the company's Water Techno Packages, which are modular packaged plants, as well as operations and maintenance and the supply of chemicals and spares.

"As the demand for smaller-scale plug-and-play water and wastewater systems that can be supplied at short notice has increased, it is in the modular plant market that Veolia is experiencing concentrated growth," explains Veolia's Chris Braybrooke, general manager for marketing.

Supplied since 2005, initially as made-to-order, customised plants, Veolia now

supplies these plants as standard, off-the-shelf solutions. The benefit is even greater fabrication speed, with complete factory acceptance tested plants being produced in 10 to 12 weeks according to ISO 9001 quality standards.

From its Sebenza production facility in Johannesburg, these plants cater for a complete range of water treatment applications, from potable water and trickling filter plants to Veolia's high-specification Orion plants for ultra-pure water.

Another key growth area is in the increasing demand for operations and maintenance services, as companies seek to rationalise costs and improve overall efficiency and profitability of their water cycle. "Structured O&M agreements benefit companies by ensuring plants are professionally maintained and achieve compliance and, through continuous process optimisation, we can work towards lowering their overall costs of production over time," Braybrooke explains.

In one of the largest municipal contracts of its kind, Veolia has recently begun an operations contract for the management of a number of plants and over 100 km of potable and sewerage infrastructure for the Overstrand Municipality in the Western Cape.

In the water treatment chemicals market, Veolia has increased production from 80 to 350 tpm of its Hydrex™ range of chemicals, courtesy of the company's new 6 600 m² production facility in Pomona that opened in 2018.



Expanded production capabilities have led to shorter lead times for orders, and, as the primary chemical manufacturing hub for the entire continent, the facility services plants all over South Africa, as well as in Botswana, Namibia, Angola, Mozambique, Kenya and Ghana. Recent geographic expansion has established the company's presence in North Africa and the Middle East through contracts in Morocco and Qatar.

Veolia is constantly innovating and introducing new tested technologies to market, and this year, it introduces its AquaVista™ digital platform to African markets. This award-winning, Internet of Things-based technology allows customers to implement real time monitoring and diagnostics capabilities to their water works. It delivers in-depth plant intelligence that, via Veolia's secure cloud technology, allows Veolia's engineers in South Africa and from around the world to provide real-time support, predictive maintenance and optimisation avenues. The platform will also be standard in Veolia's Water Techno Package in the future.

"Constant innovation and the ability to adapt our technologies to market requirements are some of the key factors that have allowed Veolia to become South Africa's leading water solutions supplier, and will continue to form the backbone as we look to a future of exciting water treatment opportunities across the continent," Braybrooke says.

Modular sewage treatment plants (STP™)

The plight of South Africa's sewage treatment infrastructure is relatively well documented. Severe challenges both in maintaining South Africa's existing sewage treatment works as well as their expansion to accommodate a growing population, means less than 10% of the country's sewage plants currently meet compliance.

With over 50 000 ℓ of untreated sewage estimated to flow into our rivers every second, an underperforming sewerage infrastructure poses a significant health hazard, threatens

the ecology of our natural water sources, and increases the cost of water treatment plants to produce potable water from rivers and dams.

In response, Veolia had developed a new, resilient and efficient approach to sanitation resource management. "Over the past few years, Veolia has supplied packaged wastewater treatment plants for a number of different sewage treatment applications, across South Africa and further afield into countries such as Ethiopia and Tanzania," explains Braybrooke.

From meeting the needs of isolated communities, to supplying facilities such as hospitals, airports and remote mining camps with adequate sewage treatment services, Veolia's modular Sewage Treatment Plants (STP™) have proved to be a reliable, cost-effective



Above: Veolia supplied a 100 m³/day hybrid modular sewage treatment plant (STP™) for Ethiopian Airlines' cargo terminal at Addis Ababa International Airport in under 16 weeks (ex-works).

Left: Veolia's water reuse technologies, such as Biobulk® CSTR, have enabled companies such as Distell to recycle their process water, lowering their consumption of bulk water while harvesting the biogas for use as fuel for the plant's boilers.

alternative to in-ground plants, and can be supplied in a fraction of the time.

"These packaged plants are based on trickling filter technology, a simple but extremely versatile technology that is both robust and easy to operate," Braybrooke says. "Its ability to accommodate highly variable inflows is an additional benefit, and the sludge, which is digested to approximately a third of its original volume, only has to be removed every two to three years."

The major treatment components of the STP are: screening; anaerobic digestion; carbon removal and nitrification; sludge removal; and disinfection in a chlorine contact tank. Pre-assembled and factory-acceptance tested (FAT) at the company's Water Techno

Products production facility in Sebenza, Veolia's STP can be manufactured to order in as little as 12 weeks, to treat domestic sewage to RSA General Standards for Discharge.

The plants are available as fully containerised systems or as a hybrid system, which includes a civil-based septic tank in treatment capacities from 25 to 600 m³/day.

"Plug-and-play, rapidly deployable, and with minimal installation and maintenance requirements, these off-the-shelf, packaged plants are now a critical component in our ability to meet the sewage treatment requirements of our communities in permanent, temporary and emergency applications," Braybrooke explains. "This is our Ambition for Africa." □

Veolia secures largest operations and maintenance contract to date

In order to cope with very fast population growth, the Overstrand municipality embarked on the expansion of its major bulk water and waste water infrastructure. The municipality implemented newer technologies in the process, including reverse osmosis, ultrafiltration, Nerda and biofiltration of ground water. In order to sustain high levels of service and to meet the skills required to manage the newer technologies, the municipality decided to outsource the operation and maintenance of its bulk water and waste water infrastructure to an experienced contractor.

Veolia was awarded a new 15-year operations and maintenance contract in December 2018. This contract is the largest of its kind in South Africa in terms of equipment and the number of facilities to be maintained, which consist of: five surface water sources, one river abstraction plant, 17 boreholes and three springs; its bulk water infrastructure, which is made up of nine water treatment plants, 19 pump stations, 44 reservoirs and 78 km of bulk pipelines; and its bulk wastewater infrastructure, comprising 45 km of bulk pipelines, 36 pump stations and six waste water treatment plants. The total water treatment capacity is 59 Mℓ per day, and the total wastewater treatment capacity is 18 Mℓ a day.

Veolia will continue to manage the day-to-day operations of the water and sewage treatment plants, while the municipality retains all responsibility for reticulation infrastructure. The company will supply all water treatment chemicals and will operate a comprehensive laboratory facility, which is used to control water quality

and support the operational team.

About 30 skilled artisans and engineers will be employed while aiming to uplift the NQF qualification of the existing operational teams, who have been transferred in accordance with the Labour Relations Act, section 197. In addition, the contract will benefit various smaller enterprises and companies in the area and reach out to local communities on a regular basis. □



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At the Bellville wastewater treatment works, Veolia's membrane bioreactors process 20 Mℓ/day of sewage in a footprint five times smaller than the conventional plant.