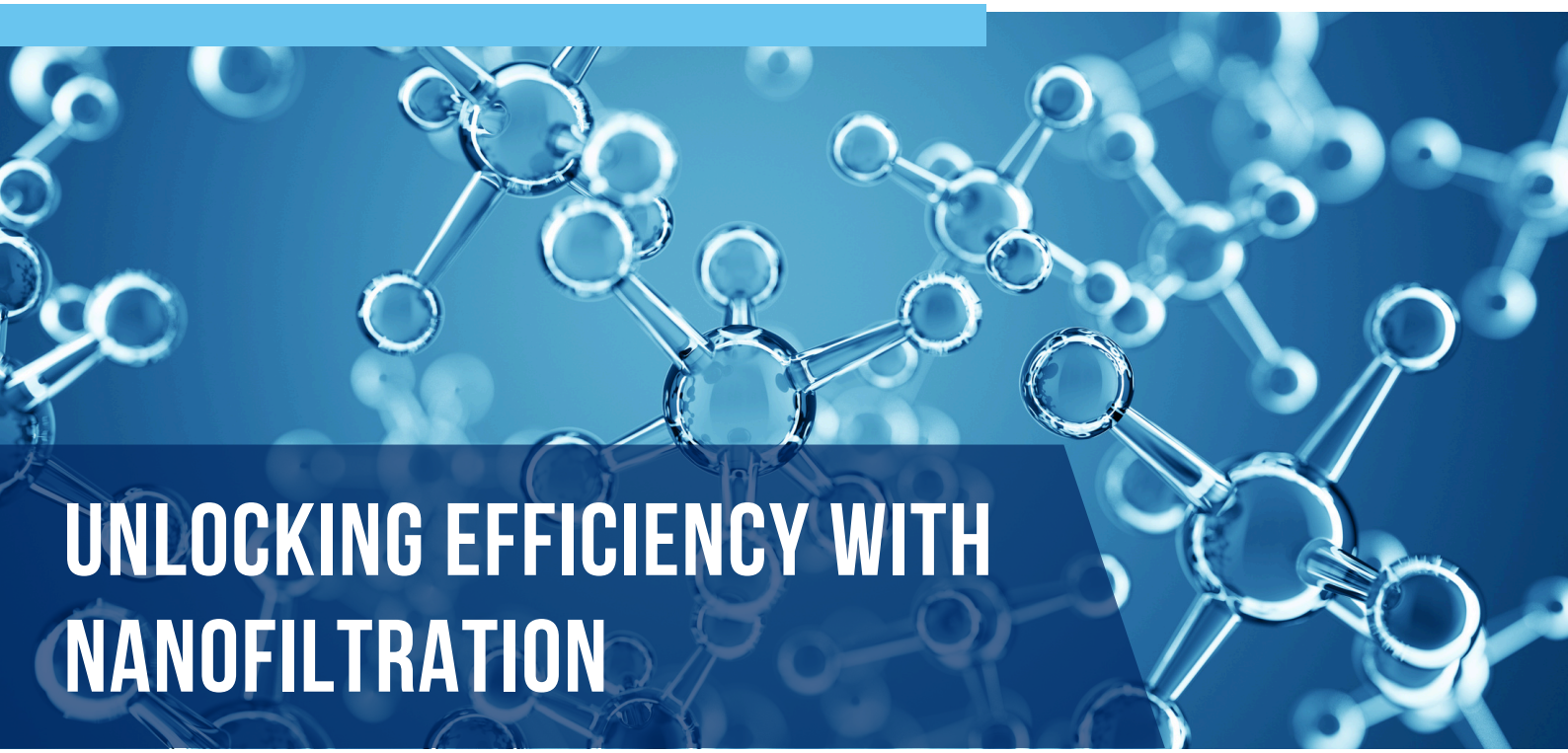
BIOZONE MANUFACTURING

# OZONEWS

**EDITION 18** | FEBRUARY 2024



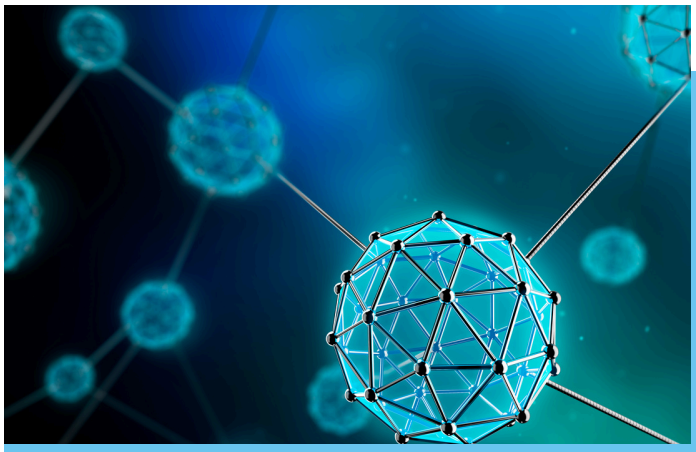
# UNLOCKING EFFICIENCY WITH NANOFILTRATION

As we step into the new year, we have some exciting updates to share with you in our first newsletter of 2024. Read on to find out how Biozone is helping customers and the environment!

## Nanofiltration in Water Treatment

Nanofiltration has gained prominence, especially in the recycling of wastewater, thanks to it's ability to deliver higher flux rates and reduced energy consumption compared to traditional reverse osmosis systems.

**Read More**



## The Essence of Nanotechnology

Nanotechnology, specifically in water treatment, involves manipulating materials at the molecular or atomic level. In our persuit of excellence, Biozone Manufacturing harness the power of nanoscale processes to enhance the performance of water treatment systems.

**Read More**


# BIOZONE MANUFACTURING IS LEADING THE WAY

In 2024, we continue to innovate and expand our offerings to meet the evolving needs of our customers. Our commitment to sustainability drives us to develop eco-friendly purification solutions that deliver superior results. By harnessing the power of ozone technology and nanotechnology, we are solving many of the water industry's most pressing challenges.

As we look ahead, Biozone Manufacturing remains dedicated to providing cutting-edge purification solutions that ensure cleaner air and water for all.

## KEY TRENDS SHAPING THE INDUSTRY IN 2024

**Ozone Technology for Water Treatment**
Ozone technology continues to gain traction for its ability to disinfect water without the use of harsh chemicals. It is particularly effective in sewage wastewater treatment, where traditional methods fall short.

**Sustainable Solutions:**
With a growing emphasis on sustainability, there is a rising demand for eco-friendly air and water purification technologies. Consumers and industries alike are seeking solutions that minimize environmental impact while delivering effective results.

**Advanced Filtration Technologies:**
Nanotechnology is revolutionising the water purification industry, offering highly efficient filtration systems that can remove even the smallest contaminants. These advanced technologies ensure cleaner and safer water for various applications.

**Smart Purification Systems:**
The integration of smart technologies, such as IoT-enabled sensors and monitoring systems, allows for real-time data collection and analysis. This enables more precise control over purification processes, leading to improved efficiency and cost savings.

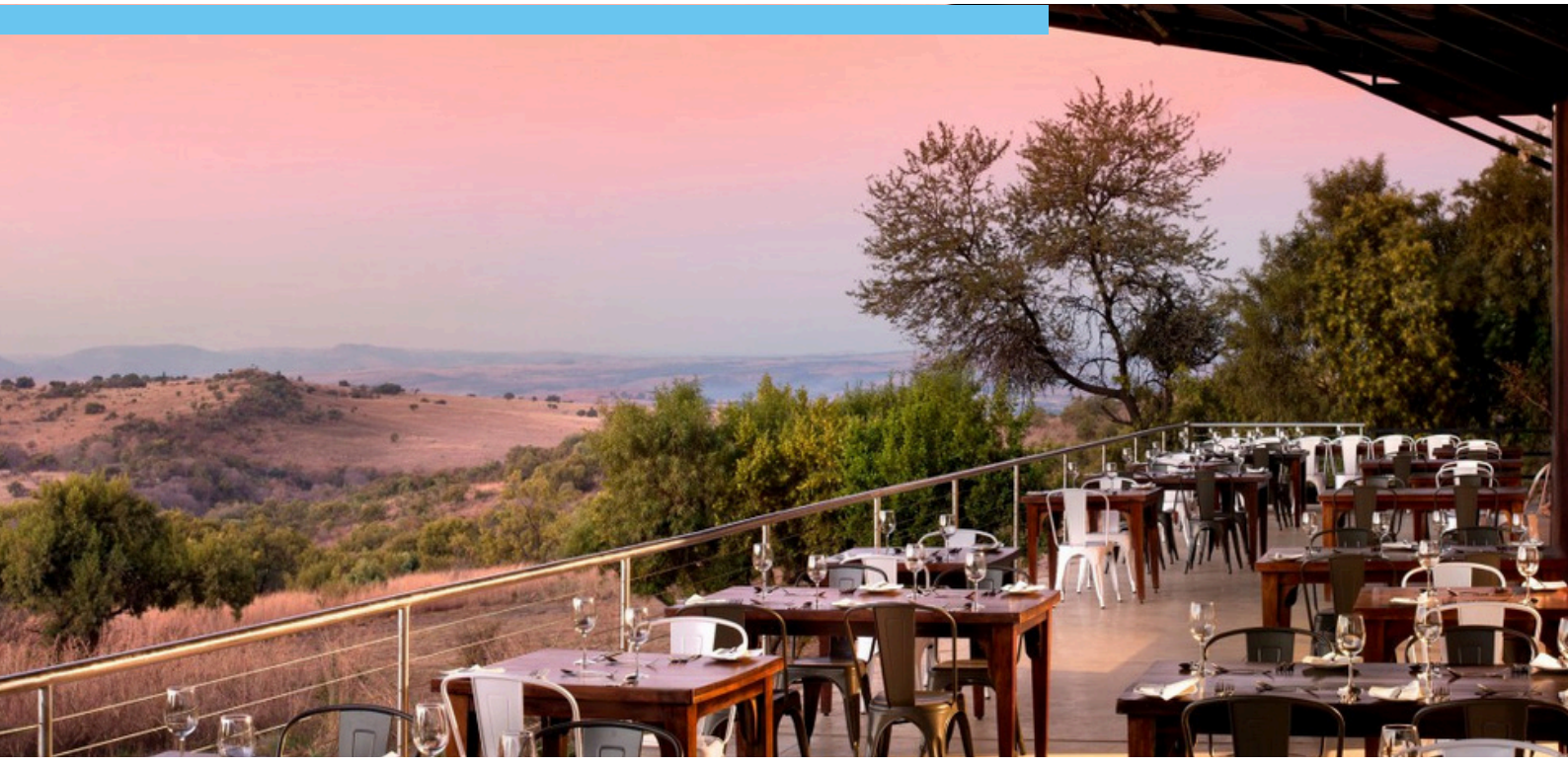
**Water Reuse and Recycling:**
With water scarcity becoming a significant issue, there is a growing trend towards water reuse and recycling. Purification technologies play a crucial role in making this possible by ensuring that reclaimed water meets quality standards for various applications.

# NADIAH BRINK

## New Administrative Controller

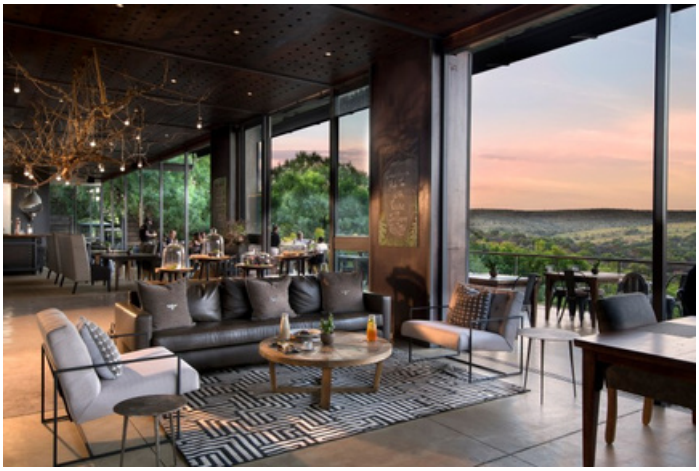
We are thrilled to announce that Nadiah will be stepping into Sia's shoes as our new Administrative Controller.

With a wealth of experience and a fresh perspective, Nadiah is well-equipped to navigate the challenges and opportunities that come with this vital role. Join us in welcoming her to the Biozone family.



## SUSTAINABLE SEWAGE TREATMENT AT STERKFONTEIN CAVES

Located within the Sterkfontein Caves in Maropeng the local restaurant faced a unique challenge regarding sewage treatment.



Traditional septic tank or soakaway systems were not viable due to the limestone ground, which posed a risk of contamination.

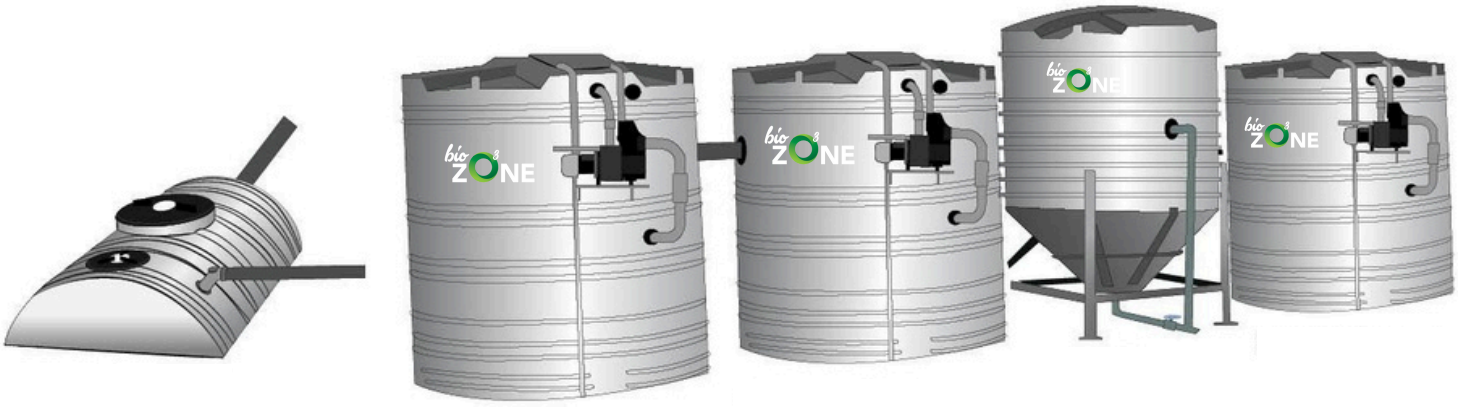
Initially, a wetland system was employed, but its effectiveness waned over time, leading to an unsustainable solution. To address these issues, a modern sewage treatment plant, specifically the Biozone 5-Shin technology treatment system, was installed.


## CHALLENGES

**Environmental Constraints: The presence of limestone soil prohibited the installation of conventional sewage systems due to contamination risks.**

**Space Limitations: The restaurant's low floor height necessitated the installation of low-level tanks, presenting spatial challenges for the sewage treatment infrastructure.**

# SOLUTION: BIOZONE "5 SHIN" TECHNOLOGY TREATMENT SYSTEM




Collection Stage: Sewage is gathered, and non-biodegradable solids are separated, laying the foundation for subsequent treatment processes.

Nitrification Stage : Bacteria undergo supercharging with oxygen, optimizing their metabolic activity for effective organic matter breakdown.

Decentrification Stage : Bacteria experience controlled oxygen deprivation, triggering a response that intensifies organic material consumption, enhancing treatment efficiency.

Clarification Stage : Remaining solids settle to the bottom, facilitating their removal through pumping back to the collection tank, ensuring sustained system functionality.

Disinfection Stage : Ozone is introduced to the treated water, purifying it to irrigation standards, thus meeting stringent quality requirements for environmentally responsible water reuse.

**The plant is designed to naturally process effluent which results in environmentally safe water that is re-introduced into the compound via the flushing systems or for the irrigation of gardens, surrounding vegetation.**

The successful implementation of the Biozone sewage treatment system at Sterkfontein Cave's restaurant underscores its efficacy in addressing complex sewage treatment challenges within environmentally sensitive areas. By integrating advanced technology with a tailored operational framework, the project not only meets regulatory requirements but also contributes to the sustainable management of water resources, ensuring the preservation of this globally significant site for future generations.