

BIOBOX

NITRATE



>95% Nitrate
Removal

↓ 50%

Lower Operating Costs
than Reverse Osmosis



No
Polluting Waste

max
5% vs 30%

Reduced Water Waste
Compared to Reverse
Osmosis

THE EQUIPMENT

BIOBOX Nitrate provides prefabricated plants for the biological removal of nitrates in both **wastewater and drinking water**.

Designed in container formats and prefabricated skid modules, our systems adapt to a wide range of needs and flow rates. We focus on delivering **tailored, sustainable solutions to address your challenges**. Combining cutting-edge **engineering, automation, and proprietary technology**, our equipment stands out in the market for its efficiency and profitability.

Let us evaluate your specific case and craft a personalized solution to help you reduce costs, optimize efficiency, and meet the highest standards of quality and sustainability. With BIOBOX Nitrate, water treatment becomes a competitive advantage. Embrace change with state-of-the-art technology!



BIOLOGICAL DENITRIFICATION

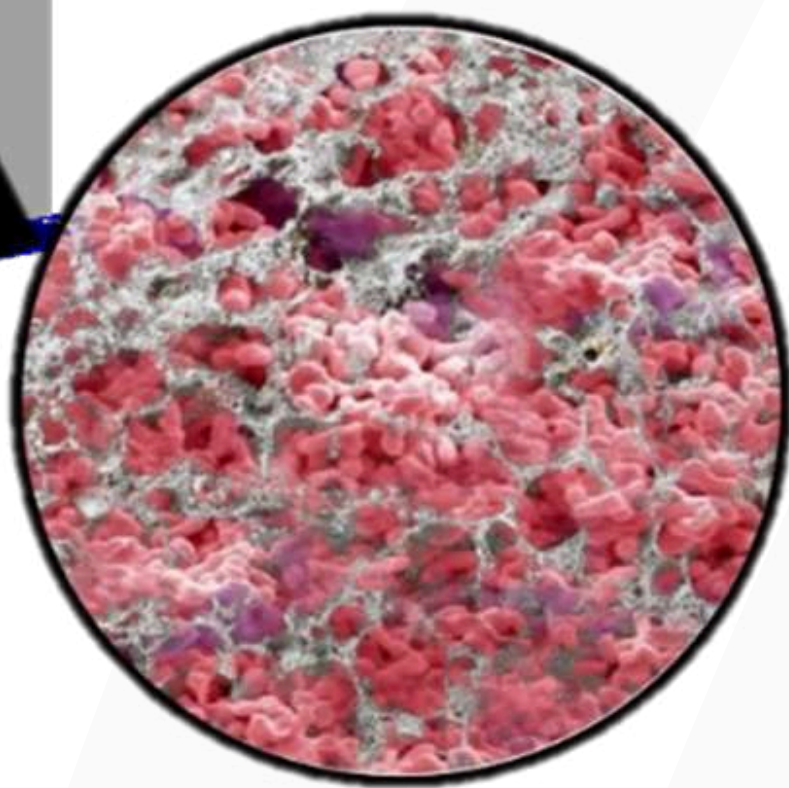
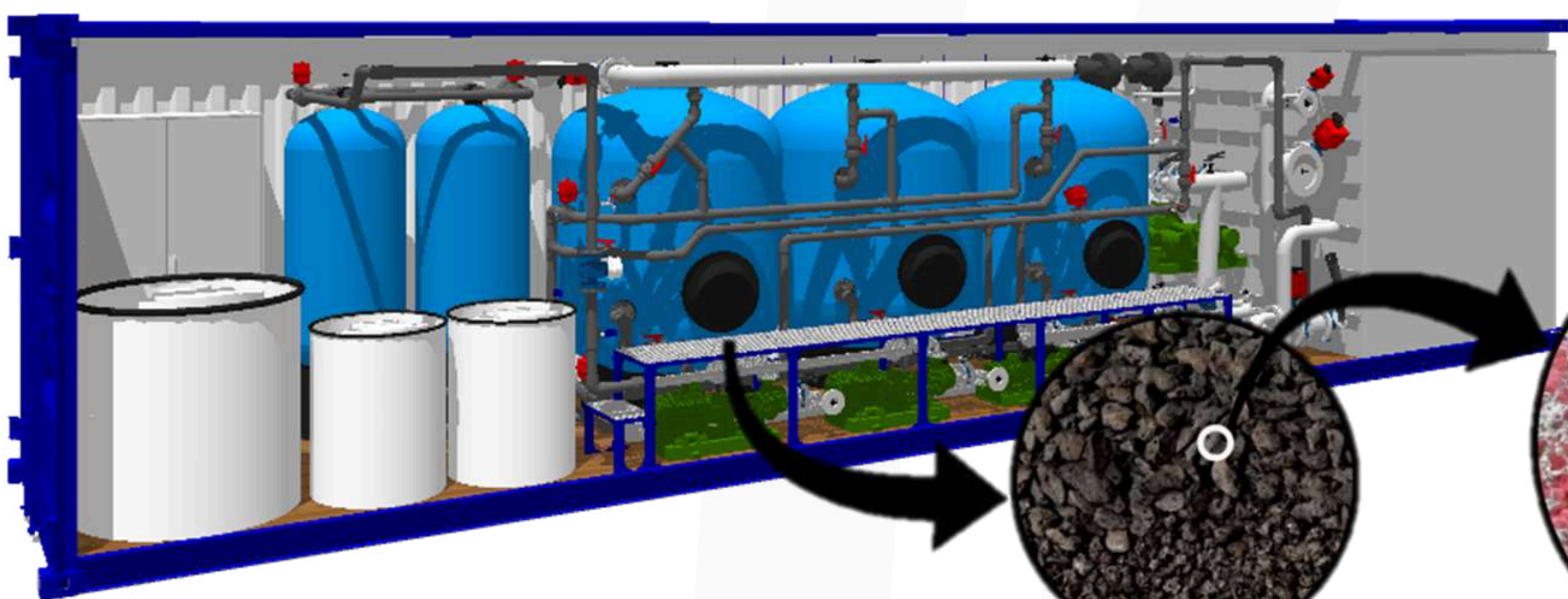
BIOBOX Nitrate integrates **proprietary, patented technology certified by SGS** that biologically transforms nitrates into harmless nitrogen gas, completely eliminating the contaminant without producing difficult-to-manage, polluting waste.

European health ministries, including Spain's, have been approving projects using this technology since 2017.

Container Format:

Container Example:

MODULES	CAPACITY
1	175 gpm
2	220 gpm
3	440 gpm
4	660 gpm
5	880 gpm
(To reduce 18 ppm of N-NO3)	



Health-Safe Bacteria
[Group 1]



SGS



Drinking Water



Wastewater

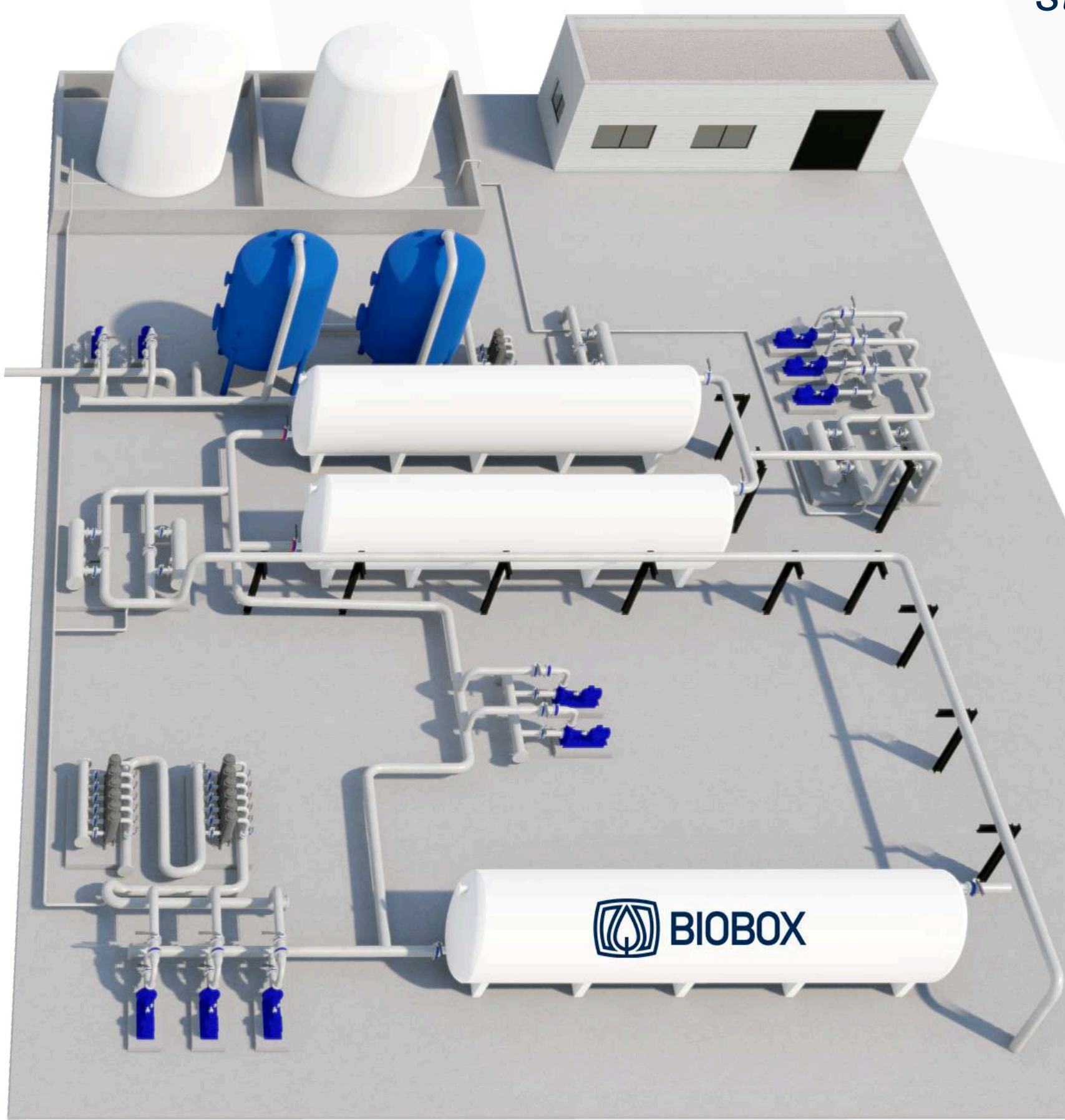
“The same process that occurs in nature,
intensified and automated”

Modular / Skid Prefabricated Format:

Approximate minimum flow rate of 5m³/h
**Cases outside this range are under study*



SGS



COMPARISON OF NITRATE REMOVAL TECHNOLOGIES

There are two types of technologies for nitrate removal: separation technologies and transformation technologies (*Chart 1*). Although reverse osmosis has traditionally been the most widely used, biological denitrification is gaining acceptance due to its ability to permanently remove the contaminant in a more cost-effective, sustainable, and efficient manner.

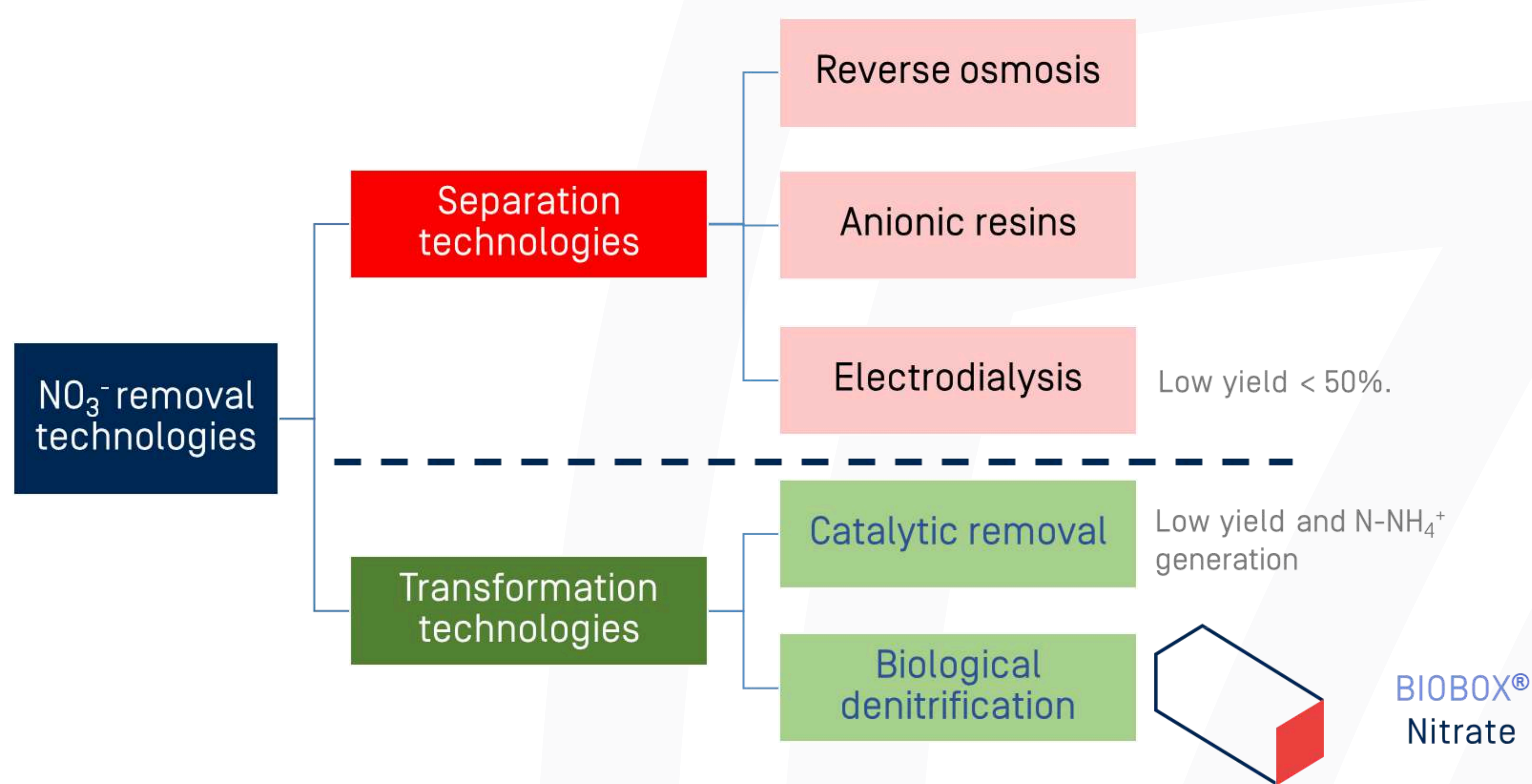
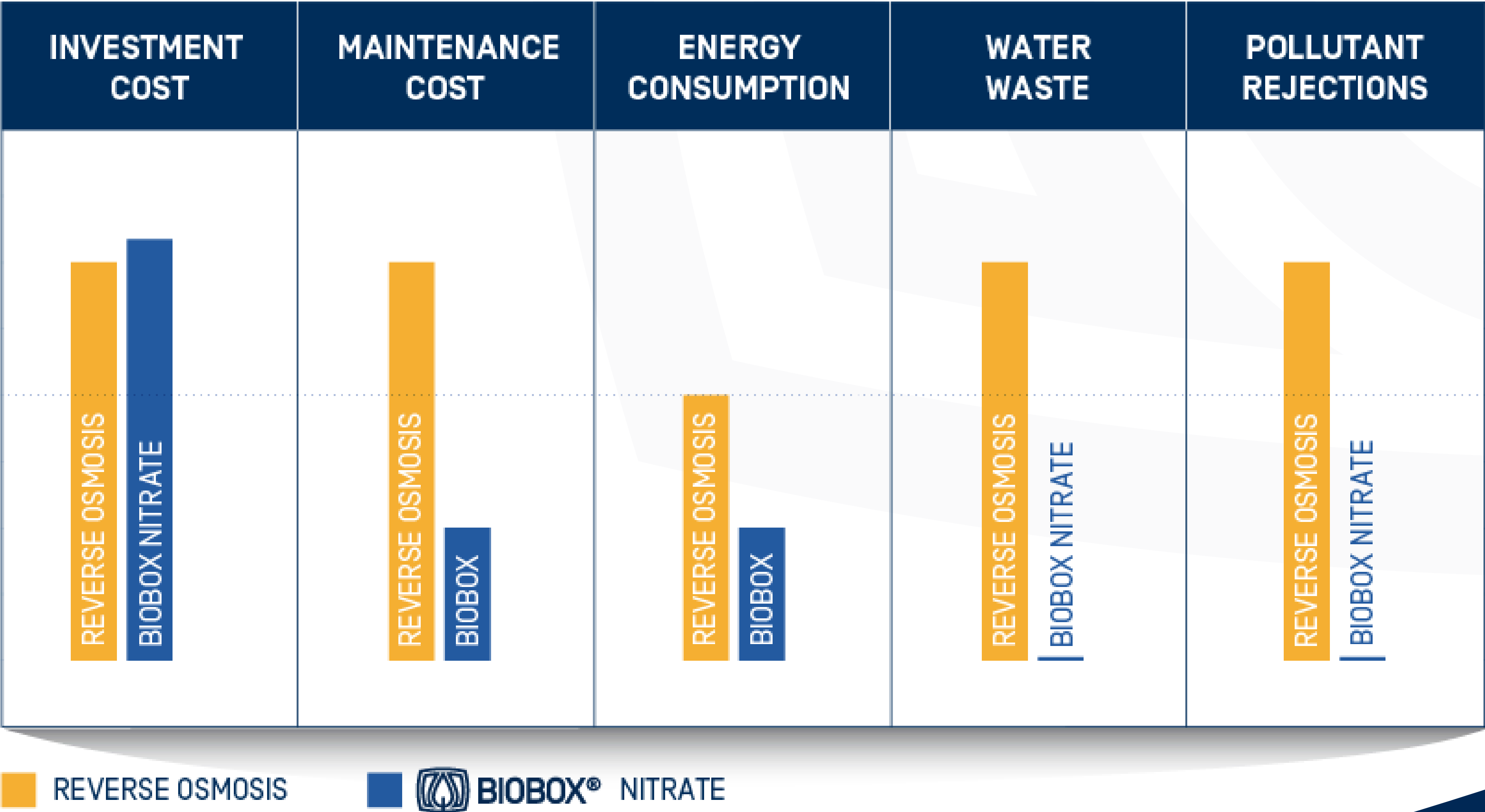


Chart 1: Comparison of Technologies for Nitrate Removal from Water

"Reverse osmosis membranes separate nitrates, while **BIOBOX Nitrate technology removes them**"

Table 1: Comparison of BIOBOX® Nitrate vs. Reverse Osmosis



BIOBOX PROJECTS

Nitrification Treatment Plant in Torrent (Valencia, Spain)



Date:

2022-2023

Treated Water:

Drinking Water

Technology Used

BIOBOX® Nitrate

Plant Features:

- **Treated Flow:** 120 m³/h
- **Influent Nitrate Concentration:** 60-70 mg/L
- **Effluent Nitrate Concentration:** < 35 mg/L



Nitrification Treatment Plant in Calaf (Catalonia, Spain)



Date:

2021

Treated Water:

Groundwater Source

Technology Used

BIOBOX® Nitrate

Plant Features:

- **Treated Flow:** 20 m³/h
- **Influent Nitrate Concentration:** 80 mg/L
- **Effluent Nitrate Concentration:** < 40 mg/L



BIOBOX PROJECTS

Nitrification Treatment Plant at the San Clemente Well in Mahón (Menorca, Spain)



Date:

2023 - 2024

Treated Water:

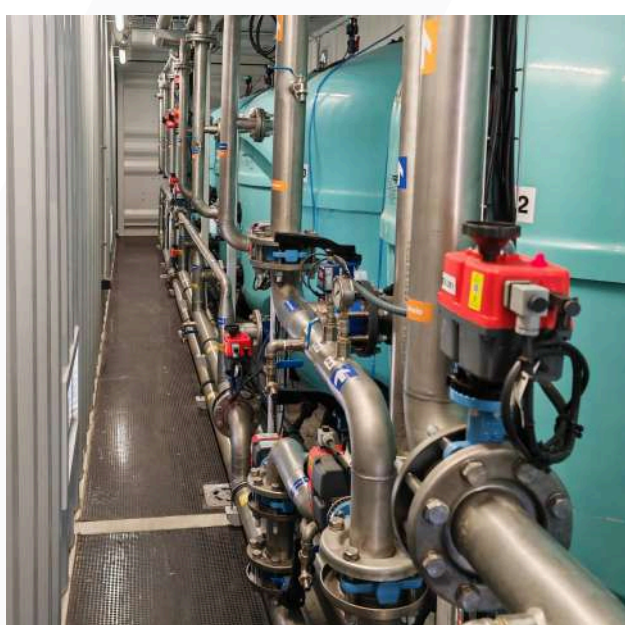
Drinking Water

Technology Used:

BIOBOX® Nitrate

Plant Features:

- **Treated Flow:** 15 m³/h
- **Influent Nitrate Concentration:** 170 mg/L
- **Effluent Nitrate Concentration:** < 40 mg/L



Project for Biological Nitrogen and Phosphorus Removal (Mining Operation, Zamora-Chinchipe Region, Ecuador)

LUNDINGOLD

Date:

2021

Treated Water:

Wastewater

Technology Used:

BIOBOX® Nitrate

BIOBOX® Ammonium

BIOBOX® Phosphorus

Plant Features:

- **Treated Flow:** 7 m³/h
- **Influent Nitrate Concentration:** 400 mg/L
- **Influent Ammonium Concentration:** 60 mg/L
- **Effluent Nitrogen Concentration:** < 10 mg/L
- **Influent COD Concentration:** ≈ 500 mg/L
- **Effluent COD Concentration:** < 15 mg/L
- **Influent Phosphorus Concentration:** 8 mg/L
- **Effluent Phosphorus Concentration:** < 2 mg/L



a: BIOBOXWATER S.L. Development and laboratory center, Calle María de Luna nº11 Nave 8, 50018 Zaragoza, Spain

t: +34 876 451 732 (Spain)

e: info@biobox-water.com | w: www.biobox-water.com

BIOBOX PROJECTS

BIOBOX Nitrate Technology Demonstration in Gilbert (Arizona, USA)



Date:

2024

Treat Water:

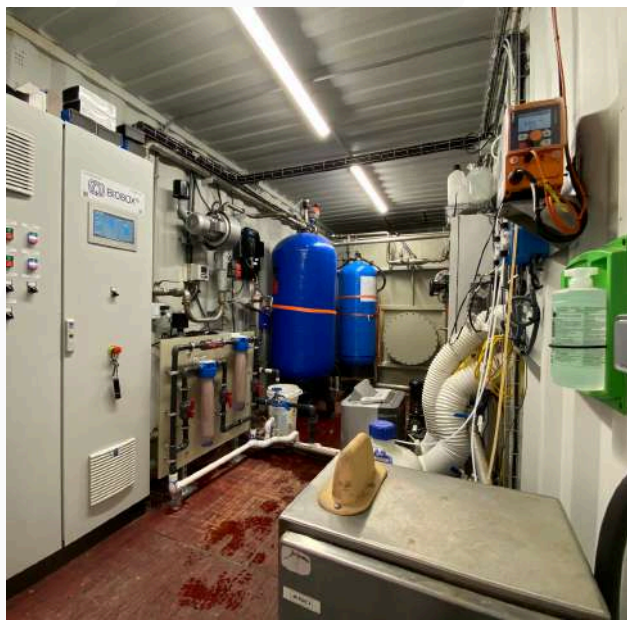
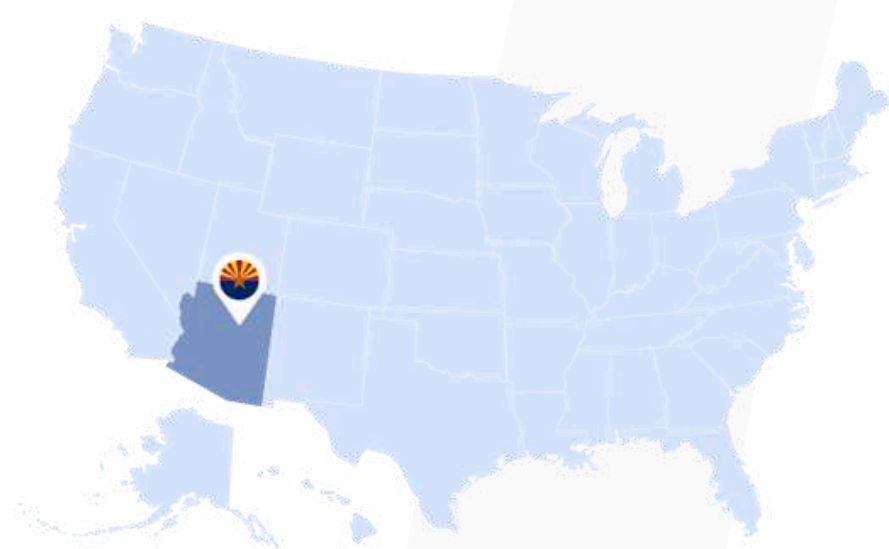
Drinking Water

Technology Used:

- BIOBOX® Nitrate
- BIOBOX® Turbidity

Plant Features:

- **Treated Flow:** 1.25 m³/h
- **Influent Nitrate Concentration:** 105 mg/L
- **Effluent Nitrate Concentration:** < 4 mg/L
- **Effluent Turbidity:** < 0.3 NTU



Nitrification Treatment Plant in La Eliana (Valencia, Spain)



Date:

2022-2024

Treated Water:

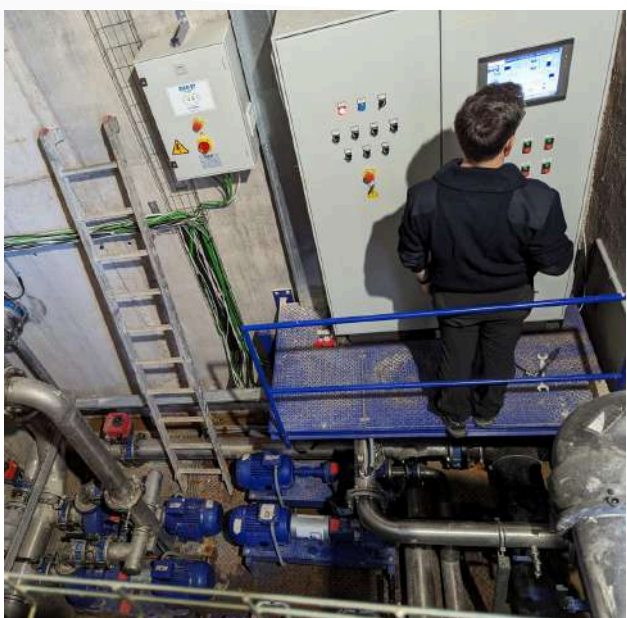
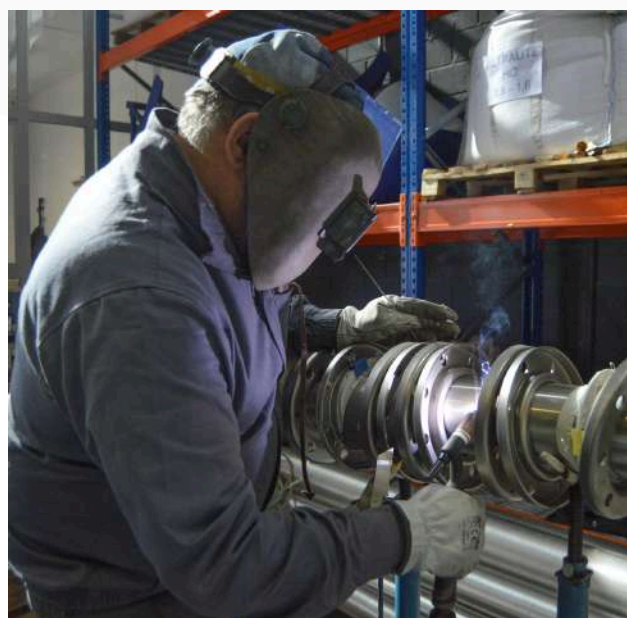
Drinking Water

Technology Used:

- BIOBOX® Nitrate

Plant Features:

- **Treated Flow:** 65 m³/h
- **Influent Nitrate Concentration:** 60 - 70 mg/L
- **Effluent Nitrate Concentration:** < 35 mg/L



BIOBOX PROJECTS

BIOBOX® Nitrate Demonstration Service in the Mar Menor (Murcia, Spain)



Date:

2022 (April 2022 – July 2022)

Treated Water:

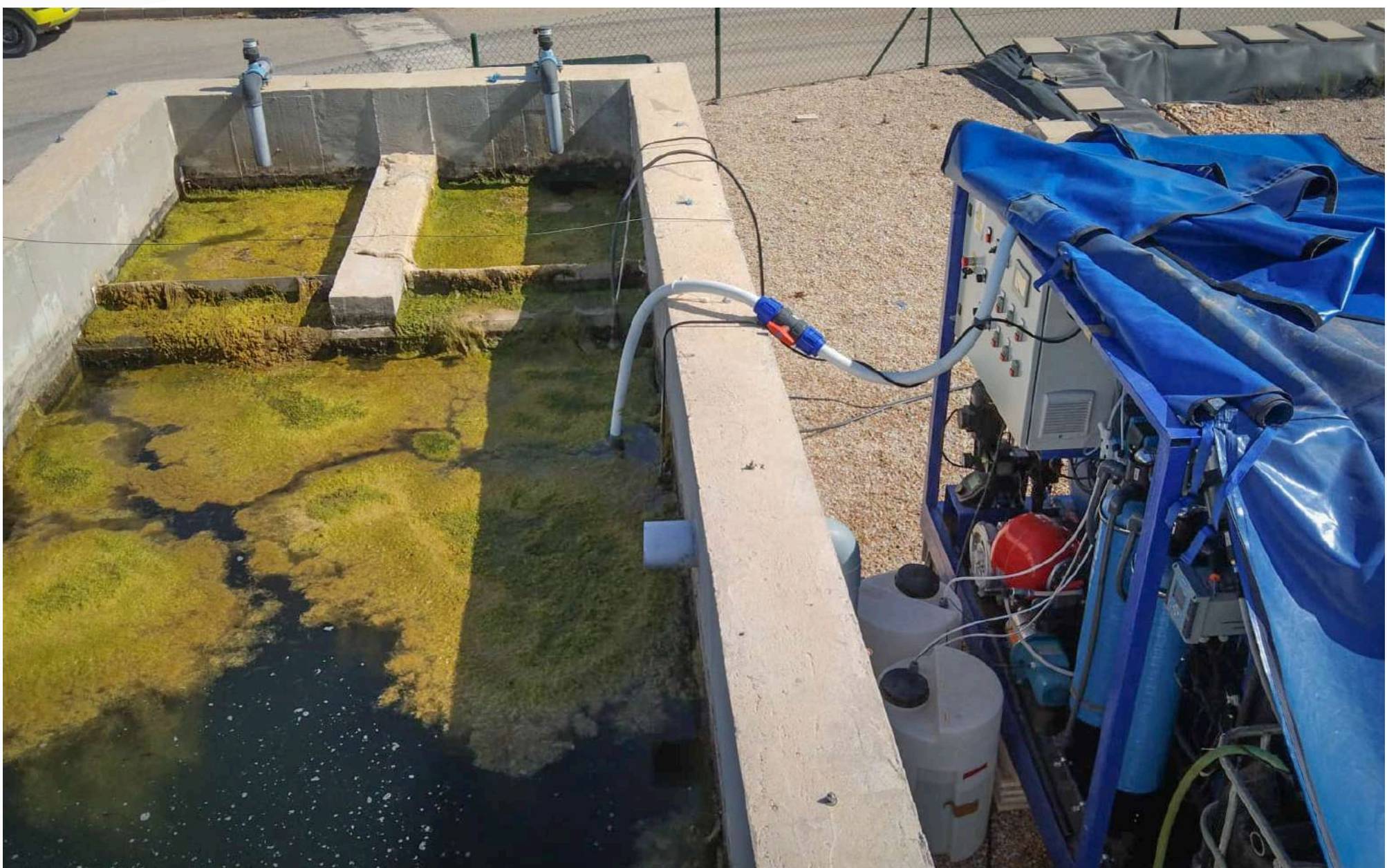
Irrigation Water from the Shallow Aquifer of the Campo de Cartagena

Technology Used:

BIOBOX® Nitrate

Plant Features:

- **Treated Flow:** 0.24 m³/h
- **Influent Nitrate Concentration:** 90 - 120 mg/L
- **Effluent Nitrate Concentration:** 5 - 15 mg/L



CHS



esamur

Nitrification Treatment Plant in Falset (Tarragona, Spain)



Date:

2016 - 2017

Treated Water:

Drinking Water

Technology Used

BIOBOX® Nitrate
BIOBOX® Arsenic



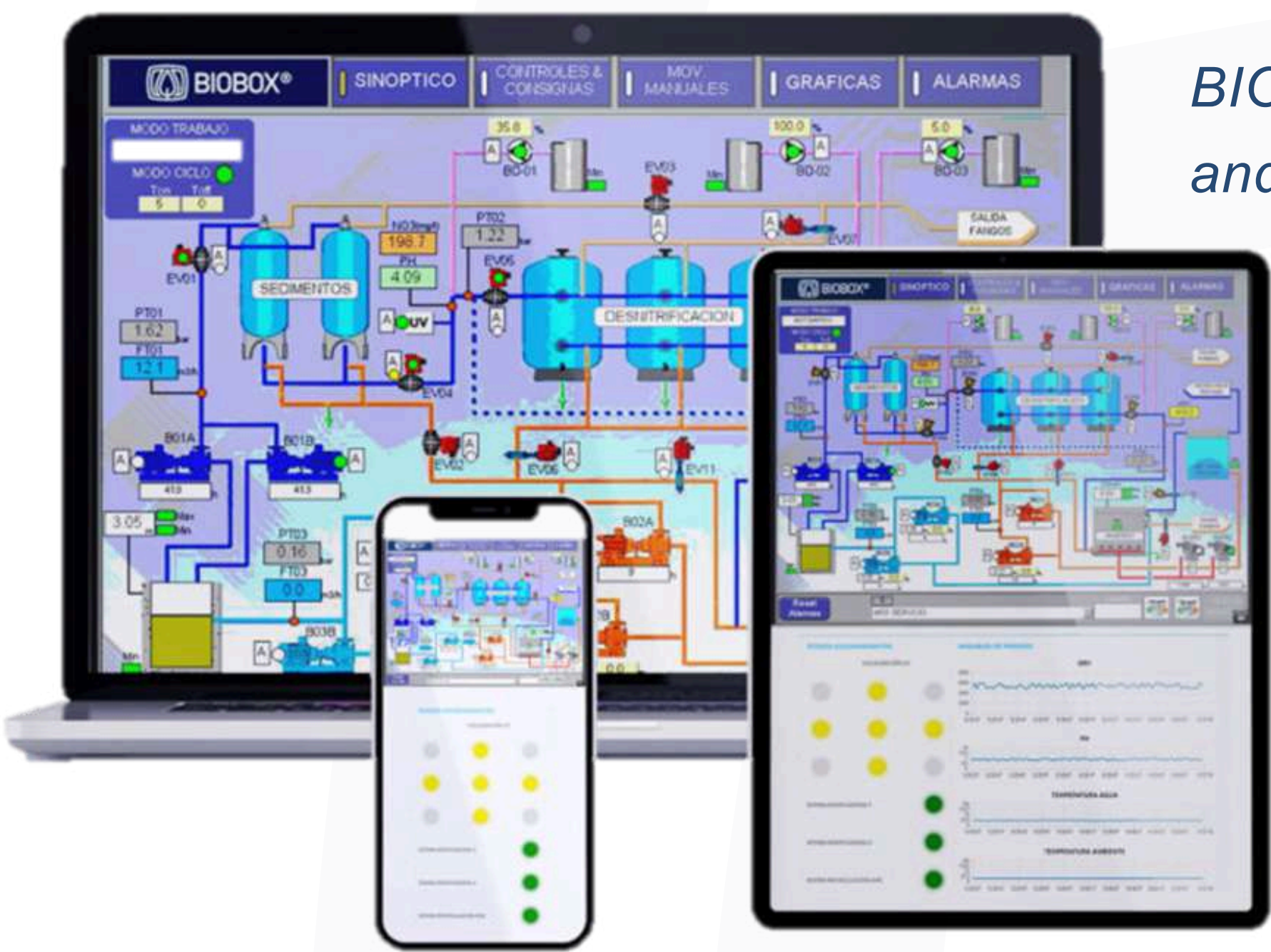
Plant Features:

- **Treated Flow:** 20 m³/h
- **Influent Nitrate Concentration:** 60 - 70 mg/L
- **Effluent Nitrate Concentration:** < 40 mg/L
- **Influent Arsenic Concentration:** 20 µg/L
- **Effluent Arsenic Concentration:** < 2 µg/L

BIOBOX BENEFITS

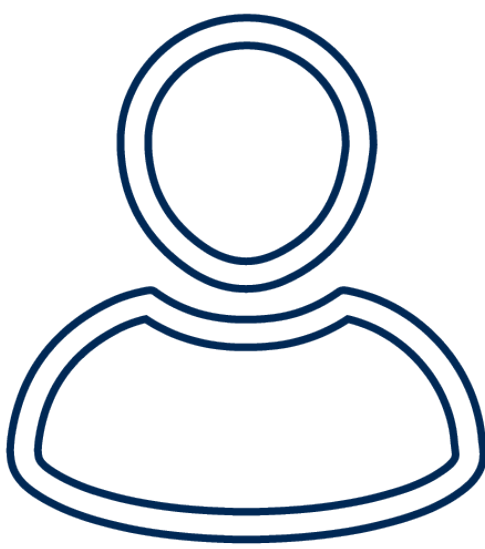
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BIOBOX Remote Monitoring and Control

“The same process that occurs in nature,
intensified and automated”



No need for
constant personnel.



24/7 Remote Monitoring
and Control



Lower
Costs

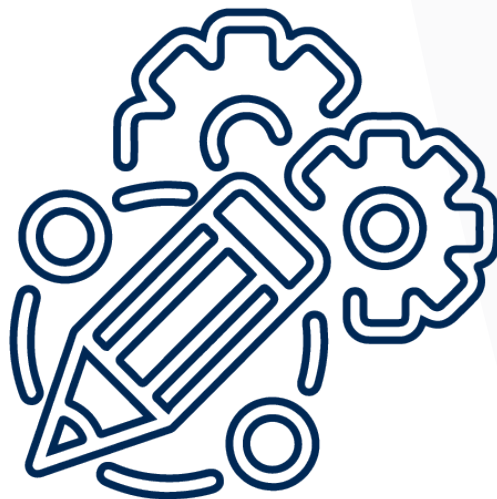


Sustainable approach,
with no waste.



Unique Solution
Proprietary Technology

Patented and Certified



Custom-built Plant
Tailored to Your Needs



Low Energy
Consumption



Guaranteed
Results

Get a Free Evaluation!

Contact us today and discover how our innovative, customized technology can transform your water quality, optimize costs, and ensure a more sustainable future.

a: BIOBOXWATER S.L. Development and laboratory center, Calle María de Luna nº11 Nave 8, 50018 Zaragoza, Spain
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