



# Revolution in Water Treatment & Optimization

No chemicals  
Radically effective



# The water problems



Toxic levels of poisonous algae



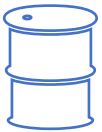
Unpleasant smell and appearance



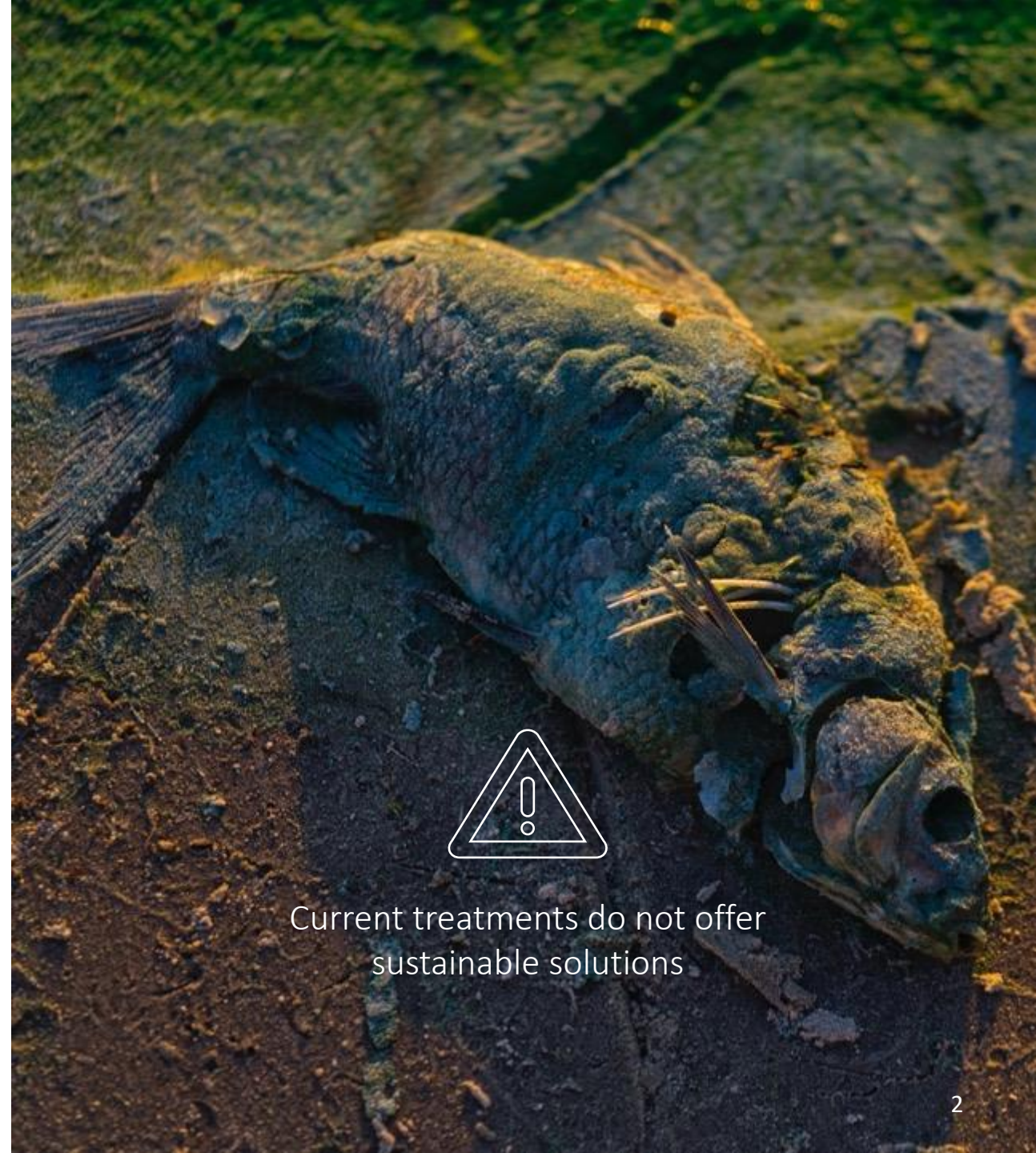
Very low levels of dissolved oxygen



Dangerous pathogens and faecal contaminants



Hazardous levels of chemicals and heavy metals



Current treatments do not offer sustainable solutions

# Ultrafine Bubbles (Nanobubbles)

Human hair **100,000 nm**  
for scale

Fine beach sand **90,000 nm**

Grain of salt **60,000 nm**

Dust particle **10,000 nm**

Red blood cell **7,500 nm**

Bacterium **1,000 nm**

Ultrafine Bubble  
**100 nm**

We create  
40,000,000,000  
Ultrafine bubbles  
in standard 200 ml  
glass



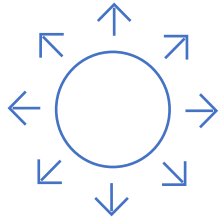


# Nanobubble Technology

Nanobubbles change the properties of the water without adding chemical or biological agents, electricity or radiation

## Industry game changer

1  
Size



Nanometer range

c.79,000 x larger active surface  
area = super oxygenated water

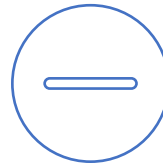
2  
Lifetime



Long

up to 4 months in  
water body

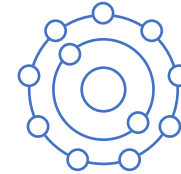
3  
Charge



Negative charge

Even dispersion and  
binding properties

4  
Oxidation potential



OH radicals

Sterilizing and  
oxidizing effect

5  
Permeable



Nanoparticle transporter

Potential to deliver  
multiple gases



# Nanobubbles are Industry Game Changer


Nanobubbles are the only water treatment technology, which has direct impact on all 3 fundamental pillars of water treatment value for the users:



## QUALITY

**Increase treatment process efficiency without chemicals:**


- Disinfection / Oxidation
- Surface Foulant Mitigation
- Pollutant Biodegradation
  - Coagulation



## QUANTITY

**Increase availability of clean water with:**

- Less Loss Through Increased Use Efficiency
- More Re-used Water Availability



## EFFICIENCY

**Achieve same results with:**

- Less Power
- Less Work
- Less Infrastructure
- Less Maintenance
- Less Resources
- Less Capital



# Benefits Across Multiple Industries & Applications

					
	Open Water	Agriculture	Aquafarms – Ozone diffusion	Irrigation and Hydroponics	Wastewater Treatment
<b>Prevent</b> 	<ul style="list-style-type: none"> <li>Algae blooms</li> <li>Fish mortality</li> <li>Toxic odour</li> </ul>	<ul style="list-style-type: none"> <li>Biofilm in piping</li> <li>Scaling in piping</li> <li>Contamination</li> </ul>	<ul style="list-style-type: none"> <li>Stock contamination</li> <li>Pests</li> <li>Biofilm</li> </ul>	<ul style="list-style-type: none"> <li>Anaerobic conditions in the soil</li> <li>Scaling in piping</li> <li>Algae buildup</li> <li>Biofilm in piping</li> </ul>	<ul style="list-style-type: none"> <li>Downtime from upgrades</li> <li>Large investments</li> <li>Extreme toxic odours</li> <li>Biofilm</li> </ul>
<b>Eliminate</b> 	<ul style="list-style-type: none"> <li>E. coli</li> <li>Coliforms</li> <li>Sulfur Reduction Bacteria (SRB)</li> </ul>	<ul style="list-style-type: none"> <li>Toxic water</li> <li>Pathogens and viruses</li> <li>Heavy metals</li> </ul>	<ul style="list-style-type: none"> <li>Wastewater contamination</li> </ul>	<ul style="list-style-type: none"> <li>Wastewater</li> <li>Pathogens &amp; viruses</li> <li>Contamination</li> </ul>	<ul style="list-style-type: none"> <li>Ammonia build-up</li> <li>Stratification</li> <li>Filamentous algae</li> <li>Use of chlorine for disinfection</li> </ul>
<b>Reduce</b> 	<ul style="list-style-type: none"> <li>Heavy metals</li> <li>Sludge layer</li> <li>Remediation costs</li> <li>Maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>Chemical use</li> <li>Antibiotic use</li> <li>Costs</li> </ul>	<ul style="list-style-type: none"> <li>Chemical use</li> <li>Antibiotic use</li> <li>Cost</li> </ul>	<ul style="list-style-type: none"> <li>Heavy metals</li> <li>Use of chemicals</li> <li>Use of fertilizers</li> <li>Manual cleaning</li> <li>Cost</li> </ul>	<ul style="list-style-type: none"> <li>Energy consumption</li> <li>Operating costs</li> <li>Maintenance cost</li> <li>Sludge production</li> </ul>
<b>Improve</b> 	<ul style="list-style-type: none"> <li>Bio-diversity</li> <li>Dissolved oxygen</li> <li>Water clarity</li> <li>Water safety</li> </ul>	<ul style="list-style-type: none"> <li>Food conversion ratio (yield)</li> <li>Dissolved oxygen</li> <li>Pen sterilization</li> <li>Animal health</li> <li>Water safety</li> </ul>	<ul style="list-style-type: none"> <li>Production yield</li> <li>Tank sterilization</li> <li>Fish health</li> <li>Taste</li> <li>Self-cleaning water</li> </ul>	<ul style="list-style-type: none"> <li>Crop yield</li> <li>Dissolved oxygen</li> <li>Nutrient uptake</li> <li>Plant health</li> <li>Root structure</li> </ul>	<ul style="list-style-type: none"> <li>Output of existing infrastructure</li> <li>Oxygen transfer</li> <li>Environmental compliance</li> </ul>

**Profit**



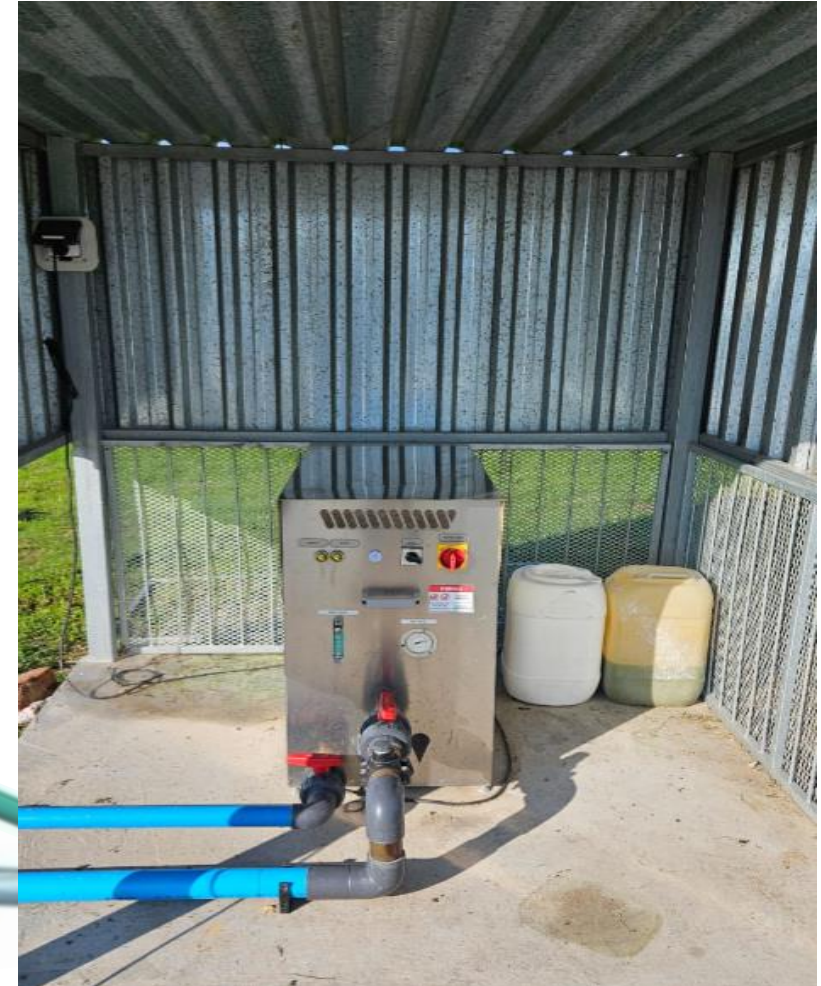
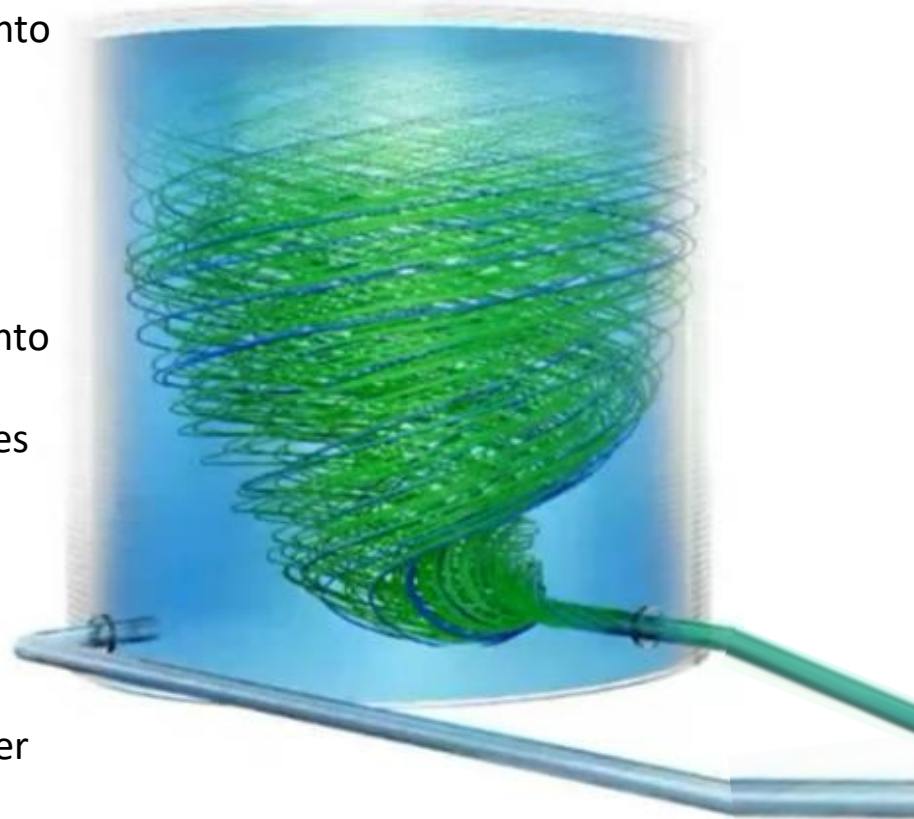
# How does it work

Our equipment injects two forms of gas into water:

## Dissolved Gas and Nanobubbles

Gas (oxygen, ozone, CO<sub>2</sub> or others) is injected into the flow and then diffused into a “**Nanobubble Generator**” forming hundreds of millions of nano-sized bubbles per each millilitre

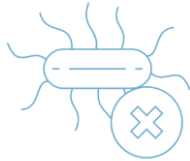
- Robust
- Scalable
- Easy-to-install
- Best in class >90% gas (oxygen) transfer efficiency





# One machine – Multiple Smart Solutions

Chemical free water disinfection & enrichment



Pathogens Removal



Heavy Metal Removal



Organics & Toxic  
Algae Removal



Oxygen Enriched Water



Safe & healthy  
drinking water



Sanitizer



Agriculture  
Fertilizer  
Booster





# Waboost Product Range

- Capacity & architecture covering most of market applications
- Modular design & customizable
- In house developed hardware components & software
- Integrated oxygen & ozone generators – unique on global market
- Fully automated remote operations



Waboost Model Range	Fauna	Flora	Gea
Water flow rates [m3/h]	1 – 100	1 – 100	1 – 100
Applications	Disinfection, CIP, biofilm removal, Surface cleaning	Enrichment with oxygen Hyperoxygenation	All
Industries	Drinking water F&B, RAS RO pretreatment	Irrigation, Waste water, Aquaculture, Mining, Open Water	All
Built-in Oxygen generator	-	☑	☑
Built-in Ozone generator	☑	-	☑
Oxygen transfer (kg/day)		5 – 1.800	5 – 1.800
Ozone transfer (g/hour)	10 – 100		10 – 500
Embedded remote monitoring & sensors	☑	☑	☑



# Machine Capacities

						Water Treatment		Disinfection & hyper-aeration			
Product	Water Flow		Oxygen delivery*		Ozone**	Waste water	Lakes & Ponds	Irrigation water	Fish farm	Shrimp farm	Poultry drinking water
Type	m3/hr	GPM	LPM	kg/hr	g/hr	m3/day	Volume in m3	m3 used/day	kg of fish	kg of shrimp	nb. of animals
<b>Gea 1</b>	1	4	3	0,25	10	< 10	< 100	< 100	< 500	< 1.000	< 50.000
<b>Gea 10</b>	10	44	10	0,75	50	50	10.000	1.000	3.000	5.000	100.000
<b>Gea 100</b>	100	440	100	75	500	500	100.000	10.000	30.000	50.000	1.000.000

General guidelines. Exact number of required machines will be defined by Waboost team based on all available (water lab test, water system schematics, number of water tanks and KPI parameters)

\*Based on gas pressure equal to 1,013.25Pa and temperature of 20 degree Celsius

\*\*Max available add on option



# Smart Water Platform – Remote Monitoring & Optimisation





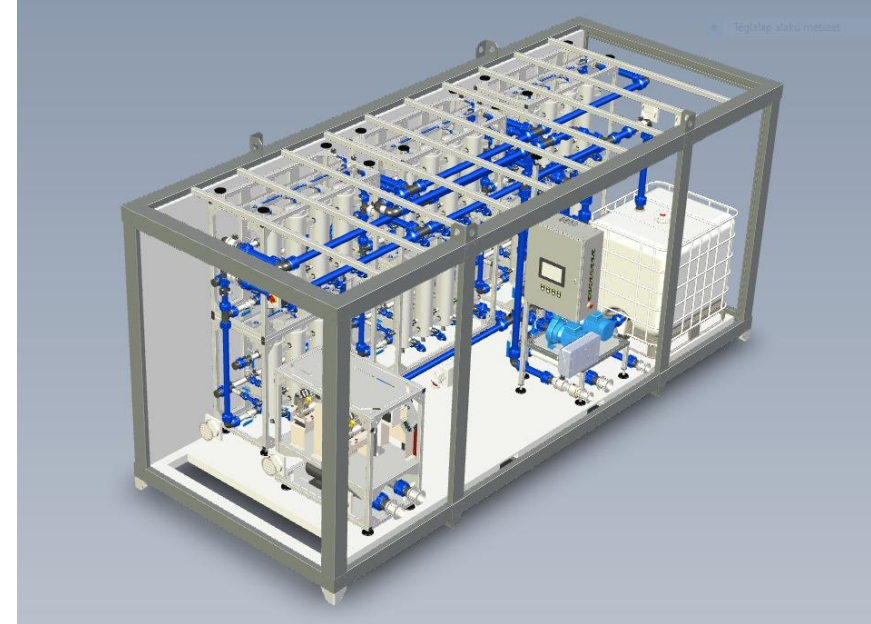
# Waboost Custom Water Solutions

We design and build custom water treatment solutions enhanced with nanobubble technology.

Example: **Pre-treatment for SWRO&BWRO**

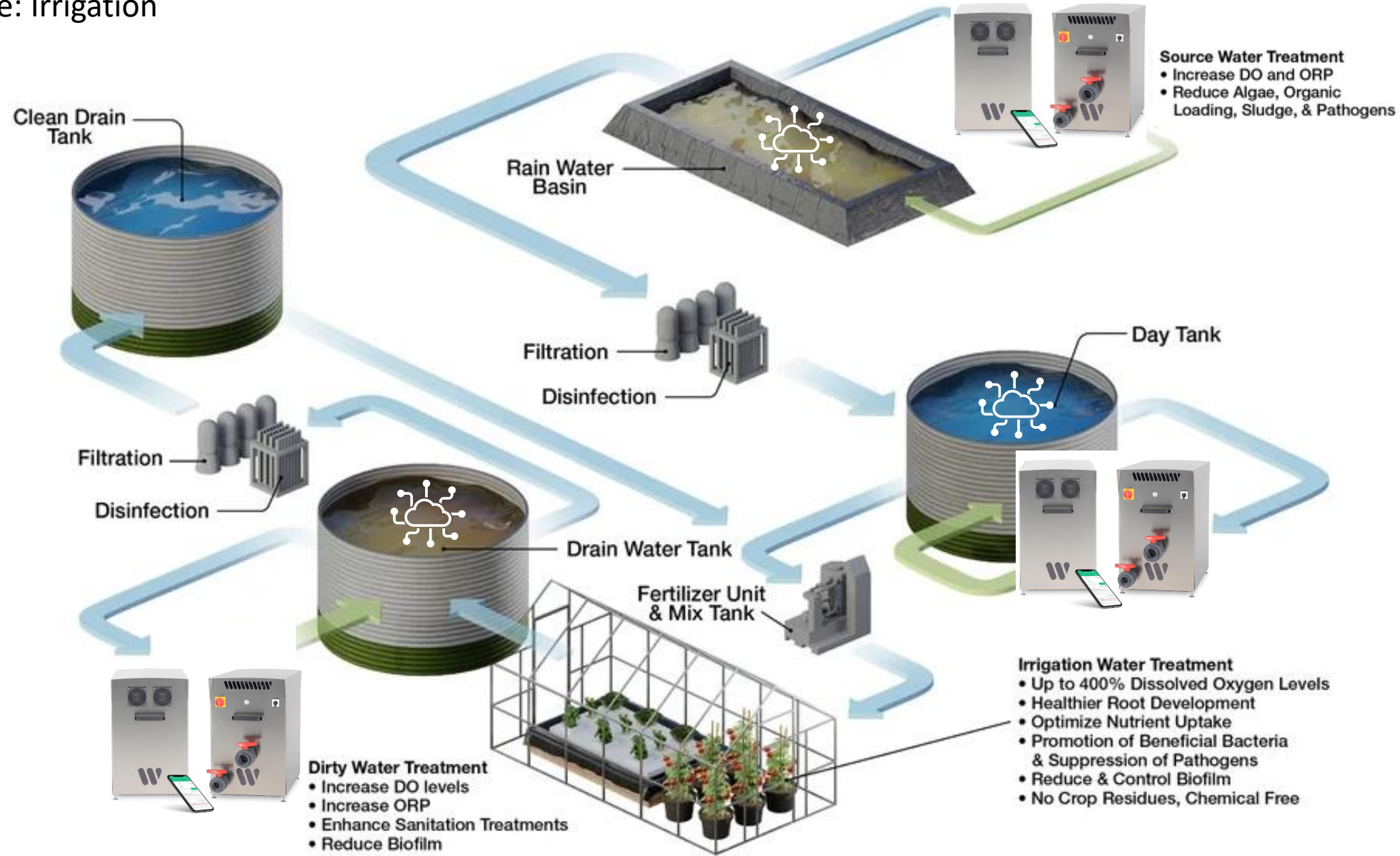
## Advantages

- Increase the flow turbulence on the membrane;
- Effectively control the calcium scale;
- Reduce the OPEX for chemicals;
- Increase the SWRO membrane lifespan;
- Increase the initial flux rate by changing the membrane permeability;
- Seawater & NB mixture has lower viscosity what reduces the required electrical consumption for high pressure pumps;
- The turbulence of the NBs reduces the crystal growth and increase the solute rejection;



# Seamless Integration into any Water Systems

## Example: Irrigation





# Installations examples

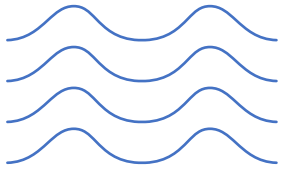




# Our product range serve multiple industries

## Productivity, Reduced Investment and Environmental Benefits

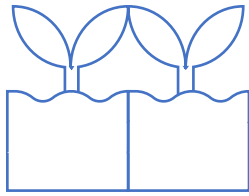
Open  
water bodies



Lakes, ponds, canals, ports and  
reservoirs

Clean water bodies

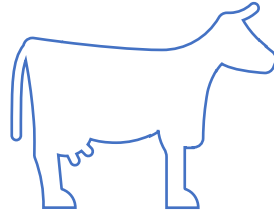
Increase  
crop yields



Benefits for over  
10 crops tested

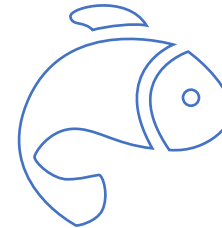
Healthier, larger,  
faster growing and more sustainable  
crops

Increase  
livestock yields



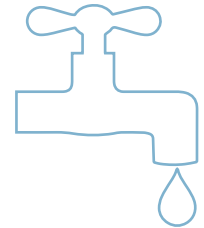
Multiple species applications  
Healthier, larger, faster growing  
and more  
natural livestock

Aquaculture  
yields



Multiple  
species applications  
Healthier, larger, faster growing  
and more  
natural fish farming

Improve sewage  
treatment



Retrofitting legacy  
treatment plants  
Increase capacity,  
lower energy usage and  
reduce capex



# Yield increases across multiple crops

+50%

Turf

+60%

Cucumber

+47%

Trees

+21%

Pepper

+30%

Lettuce

+19%

Strawberries

+15%

Tomatos

+35%

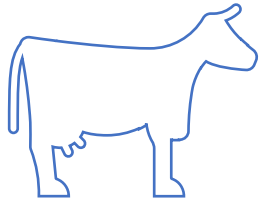
Rocket

+34%

Spinach

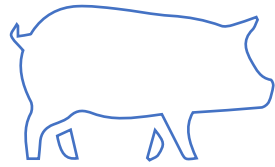


# Yield increases across animal husbandry



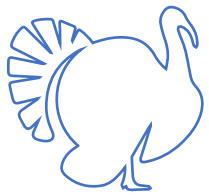
+15%

Cattle



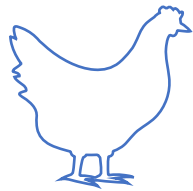
+10%

Pigs



+7%

Turkeys



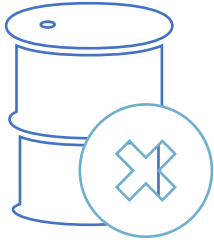
+9%

Chicken

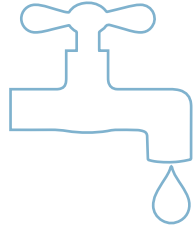




# We Deliver Results Sustainably



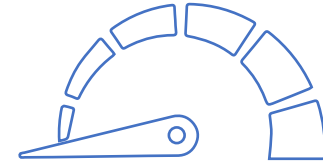
Without chemicals



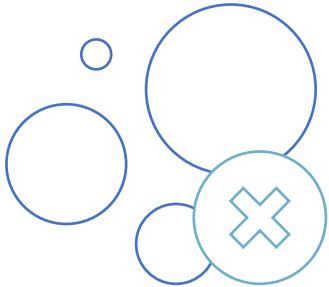
Without creating undesirable  
residuals  
in water



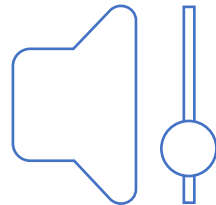
Intelligent & Remotely controlled



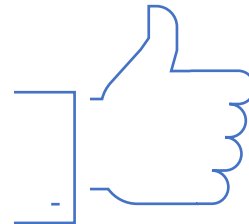
Low energy  
consumption



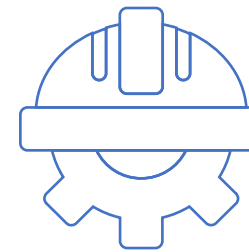
Without biological agents



Low noise



Without infrastructure Works



Simple installation  
and low  
cost operation



Boosting The Value of Your Water

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