

# WASTEWATER PORTFOLIO: ***INTENZ CASE STUDY & ANALYSIS***



multi-location studies by independent labs  
Europe

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# Introduction to Wastewater Treatment



Effective wastewater treatment is essential for ensuring environmental protection, improving water quality, and reducing operational costs. Facilities tasked with treating water from industrial, agricultural, or municipal sources face significant challenges, including:

- **Energy-Intensive Operations:** Aeration processes, necessary for oxygenating water, often account for a substantial portion of a plant's electricity consumption.
- **Pollutant Management:** Removing contaminants such as chemical residues, organic matter, and suspended solids can strain system efficiency.
- **Capacity and Resource Constraints:** Existing systems must balance increased demand without costly infrastructure overhauls.
- **Sustainability Goals:** Rising pressure to reduce carbon footprints and chemical usage has made innovation in wastewater treatment a necessity.



Advances in technology have paved the way for more efficient and sustainable solutions. The implementation of cutting-edge innovations, like **InTenZ Technology**, addresses these challenges by delivering tangible improvements in water quality, energy efficiency, and operational costs—all without disrupting existing infrastructure.

# Product Introduction



**InTenZ Technology** harnesses innovative methods to enhance water treatment systems by reorganizing water molecules through mineral-based frequencies. It works as a passive and eco-friendly solution, requiring no electricity, chemical additives, or intrusive installations. Its key features include:

- **Energy Efficiency:** Reduces turbine operation time and electricity consumption by promoting natural oxygenation.
- **Pollutant Reduction:** Significantly lowers COD (Chemical Oxygen Demand) and MES (Suspended Solids) levels, improving water clarity and quality.
- **Eco-Friendly Design:** A maintenance-free, non-radioactive system certified by **Eurofins** and **CURIUM**, ensuring safety and sustainability.
- **Cost Savings:** Reduces operational expenses through optimized energy use and minimized chemical injections, delivering rapid ROI.

By addressing common wastewater challenges such as sludge buildup, algae growth, and high energy costs. Developed to optimize the performance of lagoons, basins, and wastewater treatment plants **InTenZ-Phere** proves its versatility and effectiveness across diverse environments.

## **InTenZ Technology for Wastewater Treatment: Comprehensive Overview**



## Product Claims & Benefits

### **1. Energy Efficiency:**

- Reduces turbine usage in aeration processes by optimizing natural water oxygenation.
- Leads to significant cuts in electricity consumption, enhancing long-term operational savings.

## 2. **Water Quality Enhancement:**

- Improves water clarity, reducing COD (Chemical Oxygen Demand) and MES (Suspended Solids) levels.
- Enables better pollutant removal and stabilizes system operations.

## 3. **Eco-Friendly Operations:**

- Passive and maintenance-free design—no chemicals, electricity, or modifications required.
- Decreases carbon footprint by lowering energy and chemical usage in wastewater treatment.

## 4. **Cost Savings:**

- Reduction in operational costs, particularly energy consumption and chemical injections.
- Proven Return on Investment (ROI) within 1–1.2 years, supported by enhanced efficiency metrics.

# Real-World Applications and Validation

## **Lab Verification & Certification:**

- Tested and validated by **Eurofins**, an internationally recognized water quality testing organization.
- Certified eco-friendly by **CURIUM**, ensuring the product's safety and sustainability.

## **Customer Success Stories:**

### 1. **Eurial Ultra Frais**, Château-Salins, France:

- Deployed InTenZ systems at their wastewater treatment plant.
- Results:
  - **Energy Savings:** 19.4% reduction in electricity consumption, equating to €38,784 annually.
  - **Water Quality:** COD reduced by 29%, MES reduced by 41%.
  - **Carbon Impact:** 19.6 tons of CO2 emissions avoided annually.

### 2. **Boulay-Moselle Wastewater Treatment Facility:**

- Improved water clarity and algae management despite significant increases in rainfall and flow capacity.
- Resulted in operational cost reductions through enhanced aeration efficiency.

# Test Results & Observations

## **Oxygenation Improvements:**

- Natural oxygenation increased, reducing aerator turbine operation time by 31%.
- Oxygen demand stabilized across seasonal fluctuations.

## **Water Quality Enhancement:**

- COD reduced by 29%, reflecting enhanced depollution capabilities.
- MES (Suspended Solids) levels decreased by 41%, ensuring better quality of treated water.

## **Financial Savings:**

- **Electricity Cost Reduction:** Annual savings: €38,784 due to reduced turbine usage.
- **Chemical Cost Reduction:** FeCl<sub>3</sub> usage decreased by 5%, while urea injections dropped by 7%.
- **ROI:** Breakeven achieved within **1.2 years**, reduced further with co-financing opportunities.