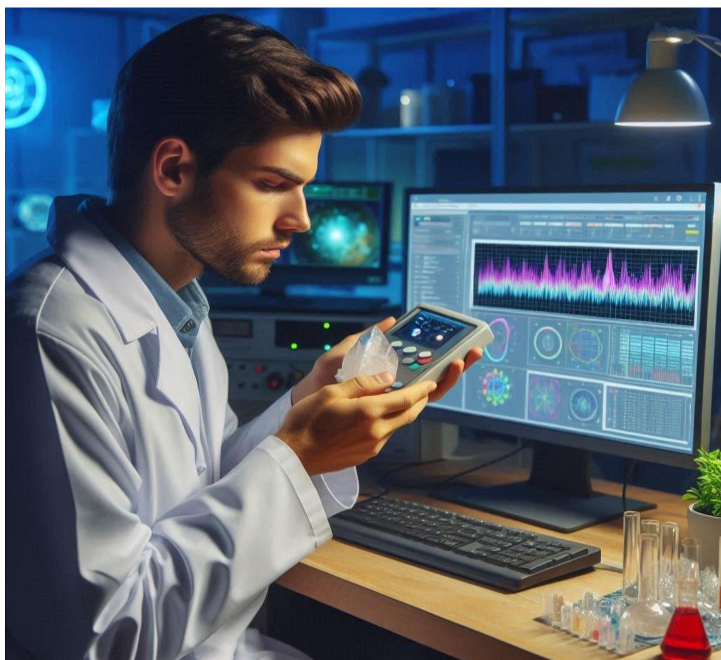
TECHNICAL STUDY:

EFFECTS OF WATER MOLECULE REORGANIZATION ON KEY QUALITY INDICATORS



Closed Loop Circuit Test - April 2025
Houston, TX USA

Contents

Introduction: A New Era in Water Treatment

As technology advances, the demand for innovative, sustainable water treatment solutions continues to grow. Traditional methods often rely on chemical additives, electricity, or mechanical filtration, leading to high operational costs and environmental impact. In contrast, InTenZ presents a breakthrough approach, leveraging natural mineral-based frequencies to charge, reorganize, and energize water molecules, enhancing water quality without external energy sources or chemical intervention.

Water treatment, a cornerstone of sustainability, continues to seek methods that reduce reliance on external energy sources while delivering real results. This study is an exploration into one such revolutionary approach—**InTenZ**.

InTenZ positions itself as a breakthrough product in water treatment technology. Unlike conventional methods, it requires **no electricity** or direct contact with water. Instead, it leverages **mineral-based frequencies** to charge, reorganize, and energize water molecules, offering a cutting-edge solution for A) Enhancing water quality, B) Improving system performance, and C) Reducing operational costs.

While reading a product's claims can inspire interest, seeing tangible results proves its true value. This study investigates whether InTenZ can live up to its promises, putting it through rigorous testing in a **closed-loop water system**—an environment designed to push the product's performance to its limits.

This study rigorously evaluates InTenZ's ability to improve system efficiency, reduce contaminants, and sustain molecular activation in a controlled closed-loop environment. Originally designed around three testing stages and two phases, additional testing revealed an important fourth stage—examining molecular activation in a non-circulating state. This unexpected extension required strategic integration into the study framework, leading to the establishment of Phase 3: Extended Observation & Long-Term Validation.

Objectives of the Study: Key Goals & Purpose

This study aims to evaluate the effectiveness of **InTenZ** in addressing key water quality challenges within a closed-loop water system. By investigating the product's ability to reorganize, energize, and transform water molecules, the research focuses on several critical outcomes:

A. **Enhanced Water Quality:** This aligns with the focus on reductions in contaminants, biofilm, and scaling, which were emphasized during the adjustment and stabilization phases.

B. **Optimized System Efficiency:** The inclusion of DO, TDS, EC, and pH matches our detailed evaluations of these metrics, and the transformations observed during testing.

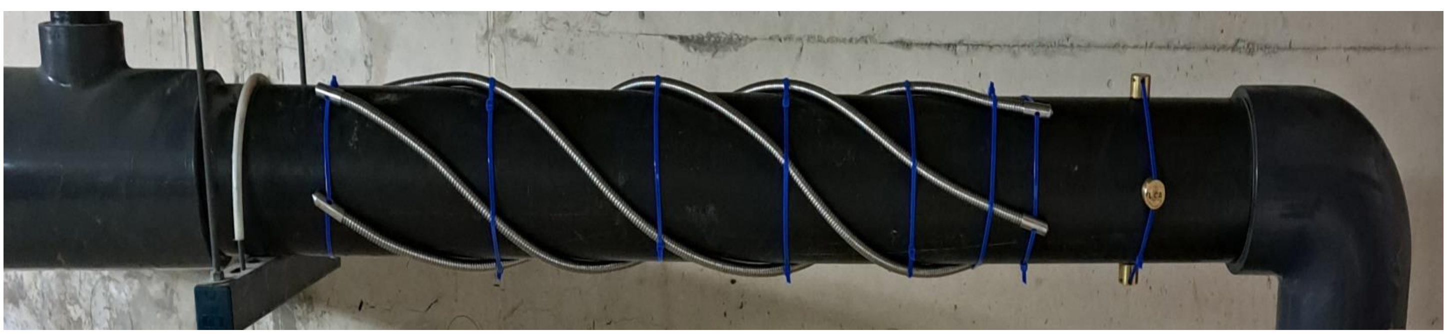
C. **Extended Equipment Longevity:** This ties directly to how InTenZ reduces scaling and fouling, supporting long-term system health and mitigating wear and tear.

InTenZ was being tested under **rigorous conditions** to validate its claims and showcase the potential applications in demanding environments. This study holds particular significance as the closed-circuit testing setup creates challenges unique to systems where contaminants cannot exit naturally.

The next section will detail the methods and equipment used to carry out this evaluation, ensuring accurate data collection and comprehensive analysis.

Overview of InTenZ Technology

InTenZ Technology represents a revolutionary approach to water treatment, leveraging natural mineral frequencies to reorganize and energize water molecules. Unlike conventional methods that rely on electricity, chemicals, or mechanical filtration, InTenZ operates passively—meaning no electricity, chemicals, or manual adjustments are needed—delivering measurable improvements in water quality and system efficiency.



Key Benefits and Functions

- **Prevention of common issues:** InTenZ helps mitigate major water system concerns, including legionella growth, pipeline clogging, sludge formation, and corrosion, ensuring long-term system health.
- **Limescale prevention:** By reorganizing water molecules, InTenZ prevents the accumulation of limescale, reducing scale-related damage and preserving pipeline integrity.
- **Cost savings:** Activated water enhances detergent efficiency, reducing detergent consumption, which translates into substantial savings for businesses.
- **Operational efficiency:** By reducing mineral buildup and optimizing water chemistry, InTenZ minimizes production downtime and emergency repair costs, increasing overall system reliability.

Key Differentiators

Unlike some outdated traditional magnetic treatment systems, which often require multiple units scattered throughout a facility and deliver inconsistent results, InTenZ provides a singular, efficient solution that conditions the entire water system seamlessly. While magnetic systems claim to alter scale formation, their effectiveness varies widely depending on water composition and environmental factors—often leading to unreliable results. Additionally, these systems still rely on external infrastructure, meaning ongoing installation costs and maintenance burdens. In contrast, InTenZ operates passively, without electricity or frequent adjustments, ensuring sustained water quality improvements without the inefficiencies of traditional methods.

- No electricity costs: Unlike other water treatment systems that rely on electrical input, InTenZ functions without electricity, reducing operational expenses.
- 24/7 continuous operation: Works through storms or power outages, ensuring uninterrupted water conditioning.
- No additional installation costs: Requires no monthly chemicals, no power outlets, and no major infrastructure changes, making it a low-maintenance solution.
- Single unit efficiency: Unlike magnetic treatment systems that require multiple units distributed across a facility, InTenZ effectively conditions the entire system with a single unit, simplifying implementation and lowering costs.

How It Works: Molecular Reorganization & Energized Water

Instead of physically removing contaminants like filtration systems or chemically altering water composition, InTenZ harnesses natural mineral-based frequencies to influence water molecules. This process reorganizes water at a structural level, leading to enhanced ionic behavior, improved stability, and optimized system performance.

By utilizing external passive installation, InTenZ conditions water without direct contact, offering a non-invasive yet highly effective alternative to traditional treatment technologies. Its ability to promote equilibrium across key water chemistry indicators—pH, TDS, EC, and DO (see pg. 6)—supports its claims of enhancing water quality while sustaining long-term stability.

Testing Location & Water Source

The study was conducted in **Houston, Texas**, utilizing **Well Water** rather than municipal (city) water. Well water naturally contains higher mineral concentrations and may exhibit different scaling and bacterial characteristics compared to treated city water. This choice ensures that the effects of InTenZ were tested under **real-world conditions** relevant to non-municipal water systems, providing insights on the impact of natural groundwater sources.

Performance Data Points

Key operational parameters were measured throughout the study to assess system conditions and ensure consistent performance:

• Flow Rate (GPM): The system operated at 36 GPM, ensuring consistent water circulation during testing phases.
• Pressure (PSI): Recorded at 28 PSI, providing stable operating conditions for evaluating product impact.
• Temperature Range: Temperature was monitored throughout the study, with recorded values ranging from 69.2°F to 72.3°F across the three testing stages.

Methods and Equipment

Accurate and reliable data collection is critical to evaluating the effects of InTenZ on key water quality indicators. The study required precise measurements of parameters such as pH, Dissolved Oxygen (DO), Total Dissolved Solids (TDS), and Electrical Conductivity (EC) to monitor and quantify changes across the testing phases.

To ensure precision in system assessment, additional key performance metric flow rate (GPM), pressure (PSI), and temperature range—were continuously monitored.

Instrumentation & Data Collection

Accurate measurement tools are essential for evaluating InTenZ's impact on water quality. This study utilized the following instruments to ensure reliable data collection across key parameters:

• OHAUS ST10 Pen Meter – Used for measuring pH levels, providing insights into changes in water alkalinity during the study.
• UIUZMAR SMART Dissolved Oxygen Meter Kit – Designed for accurately measuring Dissolved Oxygen (DO) levels, critical for evaluating oxygenation and system health.
• HONE FOREST 3-in-1 Meter – A multifunctional device used to assess Total Dissolved Solids (TDS), Electrical Conductivity (EC), and temperature, capturing key metrics essential for understanding water chemistry and system performance.

Phased Testing Approach

Test Bench (Closed-Loop Water Circuit)

The testing system was designed as a closed-loop circuit, ensuring controlled water flow and consistency in evaluating InTenZ's impact.

Core Components:

- Pressure Monitoring:
  - **2x Digital PSI Gauges** – Used to measure initial system pressure and monitor any changes.
- Flow Measurement:
  - 2x 2-inch Positive Displacement (PD) Meters – Ensures accurate flow rate measurements.
- Storage & Circulation:
  - 3x 330-Gallon Food-Grade IBC Containers – Serves as primary water reservoirs.
  - 1x 1.5HP Single-Speed Pool Pump
    - 220V / 1100W – Standard power rating.
    - 5280 GPH Max. Flow – Ensuring consistent agitation and circulation.
- Pipe and Hose Material
  The test bench utilizes non-metal piping and hoses, chosen for durability, chemical compatibility, and pressure stability in a closed-loop setup. Strategically distributed throughout the system, these materials optimize flow dynamics, maintain stable water chemistry, and ensure long-term reliability under continuous recirculation.

This closed-loop system prevents external contamination from outside air, maintains steady operational conditions, and ensures precise observation of water quality changes throughout all phases. The pipe and hose materials further enhance performance by resisting debris accumulation and microbial buildup, minimizing surface adhesion to support sustained cleanliness, consistent flow, and long-term system durability

Why We Measure What We Measure: Real-World Implications

Understanding the parameters tested in this study illustrates how InTenZ improves water quality and system performance. These metrics not only demonstrate technical effectiveness but also hold significant real-world implications for end users:

Dissolved Oxygen (DO): Stabilization and Context

DO measures the amount of oxygen dissolved in water, which supports vital biological and chemical processes. In the study's closed circuit testing scenario, DO levels showed a slight decrease, contrary to initial expectations. However, this outcome reflects the high bar nature of closed circuits, where mobilized contaminants remain trapped within the system. In real-world applications, open circuits offer exit points for these contaminants, allowing for stabilization or even increases in DO levels. Additionally:

- Open circuits benefit from added chemicals (e.g., oxidizers), which enhance oxygen interaction and stabilization over time.
- Environmental exposure in open systems promotes natural oxidation processes, leading to higher DO levels compared to controlled testing conditions.

The ability of InTenZ to stabilize DO above industry standards ensures predictable water quality performance, even in demanding scenarios.

pH (Acidity/Alkalinity)

Balanced pH prevents pipeline corrosion and equipment damage, ensuring consistent water system performance. Conversely, unbalanced pH can result in costly repairs, inefficiencies, and damage to water infrastructure.

Total Dissolved Solids (TDS)

TDS measures water quality by indicating dissolved minerals. Higher levels can lead to scale buildup, which InTenZ actively prevents, thereby enhancing system longevity and reducing maintenance costs.

Electrical Conductivity (EC)

EC reflects ionic behavior in water, critical for predicting potential scaling or corrosion. By promoting ionic stability, InTenZ enables systems to operate efficiently and reduces the wear and tear on industrial equipment.

Technical Study Results

pH – Analyzing Water Acidity and Alkalinity

Total Dissolved Solids (TDS) – Evaluating Water Quality

Electrical Conductivity (EC) – Assessing Ionic Properties

Dissolved Oxygen (DO) – A Comprehensive Overview

Data Collected	Stage 1 - Base	Stage 2- 9 Day	Stage 3 - 25 Day	Stage 4 - 43 Day
	3/18/2025	3/27/2025	4/11/2025	4/30/2025
Temp	69.2	72	72.3	77
Dissolved Oxygen	18.33	17.1	17	15.9
PH	8.8	8.5	8.3	7.9
TDS	249	272	263	291
EC	534	585	572	619

pH – Analyzing Water Acidity and Alkalinity

The pH level of water is a critical parameter that determines its acidity or alkalinity. Maintaining an optimal pH range is essential for ensuring water quality, system performance, and compatibility with intended applications. This study measured pH across three testing phases—Base, 9th Day, and 25th Day—to evaluate the effects of InTenZ on pH stabilization and system chemistry.

Stage 1 – Base (Day 0): Establishing Baseline

At the start of the study, the baseline pH level was recorded at **7.52**, indicating slightly alkaline water conditions. This value falls within the acceptable range for well water and suggests that the system was initially well-balanced without any significant acidic or overly alkaline tendencies.

Stage 2 – 9th Day: Initial Molecular Reorganization

Within the first 9th Days of InTenZ activation, the pH level increased slightly to **7.63** (+0.11). This upward shift indicates a potential alkalizing effect caused by molecular reorganization within the system. However, despite this minor increase, the pH remained well within acceptable limits, demonstrating that the product did not disrupt pH balance.

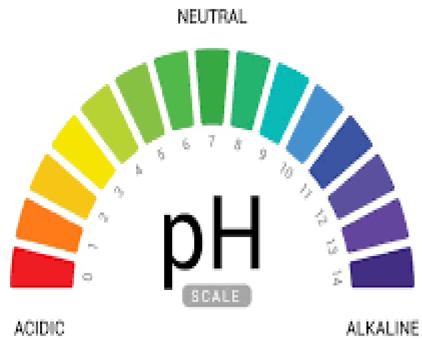
Stage 3 – 25th Day: Stabilization and Long-Term Effects

By the 25th day, the pH level had stabilized at **7.61** (-0.02 from Stage 2). This slight adjustment indicates a long-term balancing effect, with the system maintaining consistent alkalinity over time. The stabilization of pH aligns with InTenZ's claims of promoting equilibrium in water chemistry without causing any dramatic shifts or disruptions in pH levels.

Stage 4 – Non-Circulating State: Molecular Activation

The pH level remained stable over **18 days of inactivity**, confirming charge retention.

- **Baseline Carryover:** pH before stagnation was **8.3 (Stage 3)**.
- **Observed Shift:** pH settled at **7.9 (-0.4; a 4.82% decrease)**.
- **Significance:** The slight decrease reflects natural equilibrium adjustment, **not a disruption of molecular activation**.
- **Implication:** InTenZ maintained its structural effects **even in stagnant water**, reinforcing the stability of molecular organization.



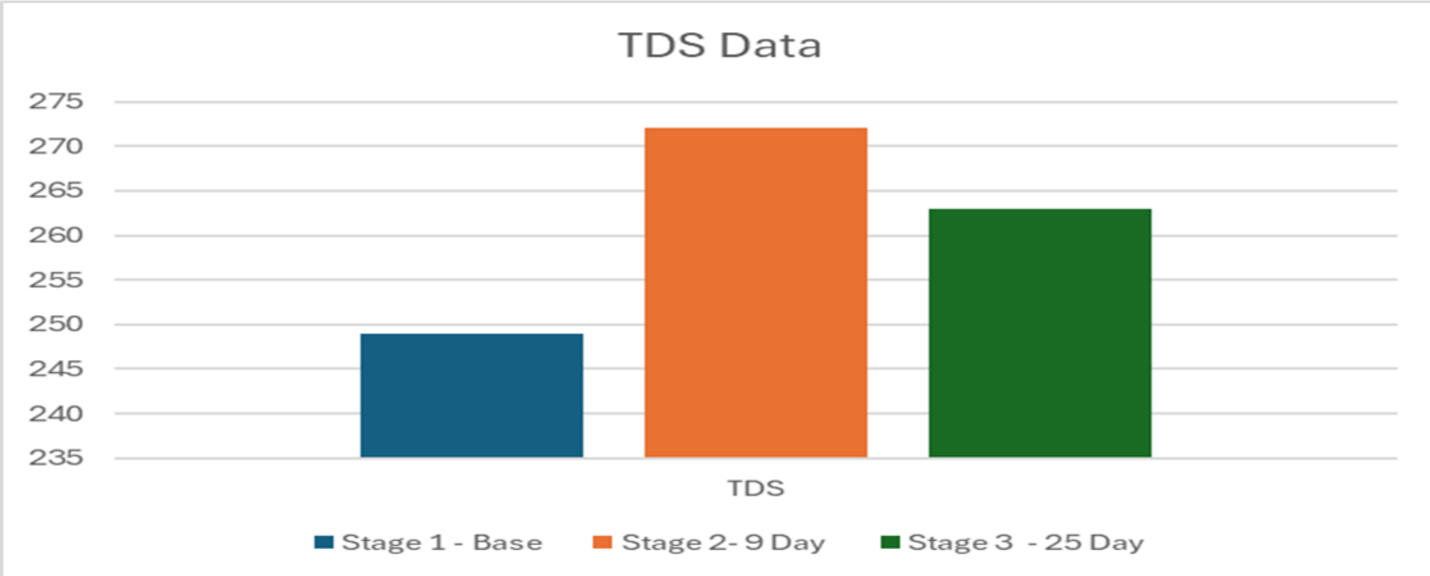
Key Findings

The pH data demonstrated the following trends and implications:

- **Consistent pH Range:** Across all three phases, pH levels remained within a narrow range (7.52 to 7.63), indicating stable system behavior.
- **Alkalizing Effect Without Disruption:** While there was a slight increase in pH during the 9th Day Phase, the minimal fluctuation confirms that InTenZ supports stability rather than disrupting pH levels.
- **Long-Term Stability:** By the 25th Day Phase, the system achieved equilibrium, with pH stabilizing at 7.61, demonstrating well-balanced water chemistry.
- **Extended Activation in Non-Circulating State:** During an additional 18-day test period, the system remained inactive, yet pH adjusted slightly from 8.3 to 7.9, confirming that molecular activation remained stable even without water movement.

The stability observed in this study directly supports InTenZ's claim that it does not disrupt pH levels. Instead, the product subtly interacts with water chemistry, promoting long-term stabilization without causing imbalances that could negatively affect system performance—even in non-circulating conditions.

Total Dissolved Solids (TDS) – Evaluating Water Quality



Total Dissolved Solids (TDS) represent the concentration of dissolved substances in water, including minerals, salts, and organic matter. TDS is a fundamental indicator of water quality, influencing taste, clarity, and suitability for various applications. The study tracked TDS levels across four distinct phases—Base, 9-Day, 25-Day, and 43-Day (Non-Circulating)—to evaluate the impact of InTenZ on water composition and stability.

Stage 1 – Base (Day 0): Establishing Baseline

At the beginning of the study, TDS levels were recorded at **249 mg/L**, providing a reference point for measuring changes throughout the testing phases. This baseline value reflects the natural mineral composition of the well water prior to activation.

Stage 2 – 9th Day: Initial Molecular Reorganization

During the first 9th Days following activation, TDS levels increased to **272 mg/L** (+23 mg/L; a 9.24% increase). This rise aligns with the initial "pipe cleaning process" triggered by InTenZ. As water molecules are reorganized, clinging contaminants and dissolved solids adhered to the system are dislodged and redistributed into the water flow, causing the observed increase.

Stage 3 – 25th Day: Stabilization and Long-Term Effects

By the 25th day, TDS levels stabilized at **263 mg/L** (-9 mg/L; a 3.31% decrease from Stage 2). This gradual reduction reflects the impact of InTenZ's molecular reorganization. By altering the **charge and size** of certain ions, the system facilitated a breakdown or elimination of some dissolved solids, leading to improved water quality and equilibrium.

Stage 4 – Non-Circulating State: Molecular Activation

At Stage 4, the system transitioned into a **non-circulating state for 18 days**, testing InTenZ's ability to **maintain activation** without continuous water flow.

- **Baseline Carryover:** TDS levels before stagnation were **263 mg/L (Stage 3)**.
- **Observed Increase:** Over the non-circulating test period, **TDS rose to 291 mg/L (+28 mg/L; a 10.64% increase)**.
- **Significance:** Even without circulation, **ion redistribution continued**, proving sustained activation and charge retention.
- **Implication:** This confirms InTenZ's **long-term molecular stability**, reinforcing its impact beyond conventional flow-dependent processes.

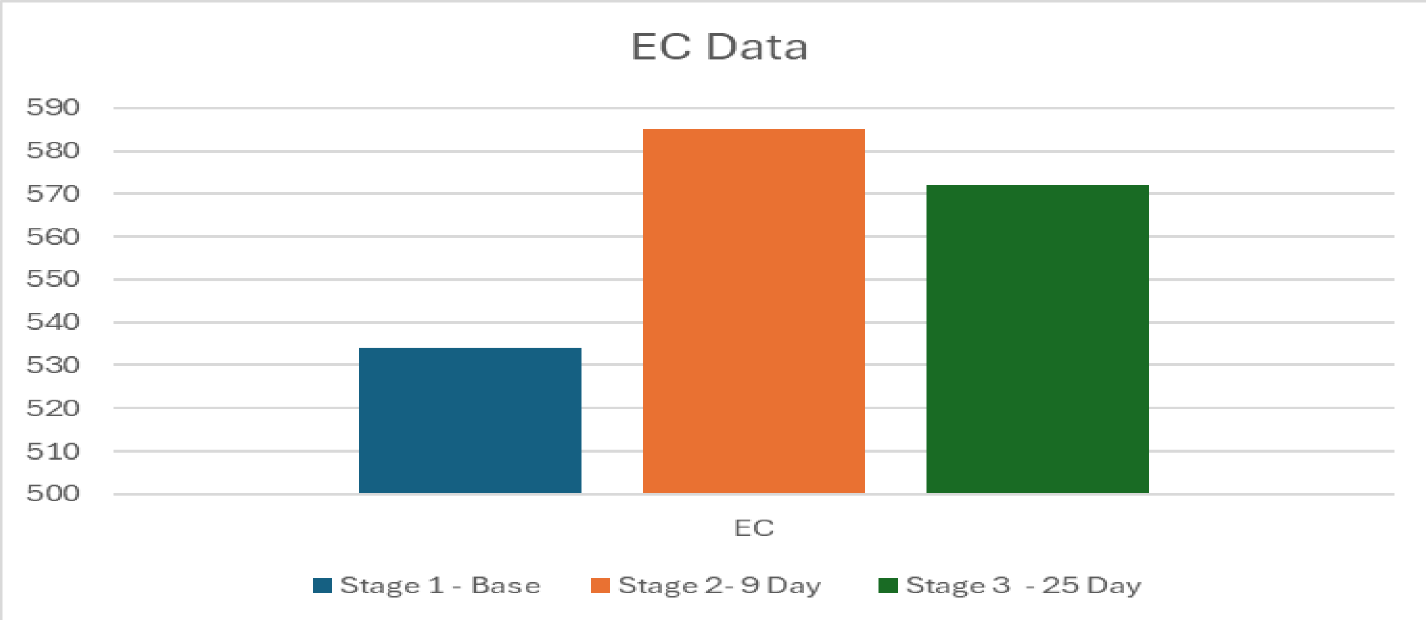
Key Findings

The study's results highlight several important trends:

- **TDS Mobilization:** The increase observed in the 9th Day Phase aligns with the initial "pipe cleaning process" triggered by InTenZ. As water molecules are reorganized, clinging contaminants and dissolved solids are dislodged and redistributed into the water flow, resulting in a **9.24% increase in TDS levels** (from 249 mg/L to 272 mg/L).
- **Ion Breakdown & Reduction:** Over the next 25th Days, InTenZ's molecular reorganization effects facilitated a gradual reduction in TDS levels. By altering the charge and size of certain ions, the system achieved stabilization and equilibrium, with **TDS levels decreasing by 3.31%** (from 272 mg/L to 263 mg/L). This trend underscores the product's ability to shave down or eliminate some ions over time, contributing to improved water quality.
- **Extended Activation in Non-Circulating State:** During an **additional 18-day test period**, the system remained in a **non-circulating state**, yet TDS **continued increasing to 291 mg/L (+10.64%)**, proving **ongoing molecular activation**. The absence of circulation did not disrupt the system's charge retention—water molecules **remained activated**, continuing to interact with impurities over time.
- **Closed-Loop System Behavior:** As expected in closed-loop environments, dissolved ions remained within the system with no discharge, influencing related parameters such as Electrical Conductivity (EC) and Dissolved Oxygen (DO). Despite the lack of water movement in Stage 4, EC rose from 572 to 619 µS/cm, proving sustained ionic interaction.
- **Verification Through Electrical Conductivity (EC):** Since EC is directly influenced by TDS (ppm), fluctuations in EC validate ion mobilization during the "pipe cleaning process" and confirm stabilization during the long-term equilibrium phase. In Stage 4, EC **continued increasing**, reinforcing InTenZ's ability to maintain ion interaction beyond conventional flow-dependent methods.

This powerful observation confirms that InTenZ not only redistributes dissolved solids initially but also plays a key role in reducing ion size and promoting water chemistry stabilization over time. These findings reinforce the effectiveness of InTenZ in improving overall system performance and water quality within closed-loop environments.

Electrical Conductivity (EC) – Assessing Ionic Properties



Electrical Conductivity (EC) measures water's ability to conduct electricity, which is directly influenced by the concentration and type of dissolved ions. EC serves as an important indicator of ionic properties, providing insights into the relationship between water composition and system performance. This study monitored EC levels across four distinct phases—Base, 9-Day, 25-Day, and 43-Day (Non-Circulating)—to evaluate the impact of InTenZ on ionic behavior and system stabilization.

Stage 1 – Base (Day 0): Establishing Baseline

At the start of the study, EC was recorded at **512 µS/cm**, providing a reference point for assessing conductivity changes over time. This baseline value reflects the well water's natural ionic properties prior to activation, indicating moderate conductivity suitable for typical applications.

Stage 2 – 9th Day: Initial Molecular Reorganization

During the first 9th Days following activation, EC increased to **542 µS/cm** (+30 µS/cm; a 5.86% increase). This rise aligns with the increase in TDS levels observed during the same phase, as higher ion concentrations contribute to greater electrical conductivity. The molecular reorganization triggered by InTenZ redistributed dissolved ions throughout the system, enhancing conductivity as particles were mobilized.

Stage 3 – 25th Day: Stabilization and Long-Term Effects

By the 25th day, EC decreased slightly to **532 µS/cm** (-10 µS/cm; a 1.84% decrease from Stage 2). This reduction mirrors the stabilization observed in TDS levels and reflects InTenZ's ability to promote long-term equilibrium within the system. The slight decrease suggests that while dissolved ions remained present, the product influenced their distribution and interaction, leading to balanced conductivity levels.

Stage 4 – Non-Circulating State: Molecular Activation

The system remained stagnant for **18 days**, yet EC readings demonstrated continued molecular interaction.

- **Baseline Carryover:** EC before stagnation was **572 µS/cm (Stage 3)**.
- **Observed Increase:** EC rose to **619 µS/cm (+47 µS/cm; an 8.22% increase)**.
- **Significance:** The increase indicates that **activated water molecules remained active**, continuing to influence impurities.
- **Implication:** This validates **InTenZ's ability to sustain ion activity** and maintain conductivity even without movement.

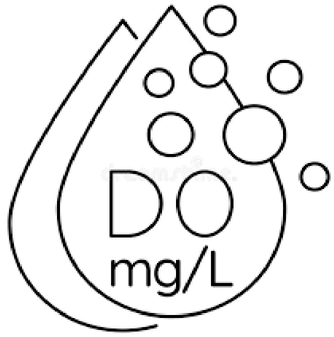
Key Findings

The study's results highlight several important trends:

- **Direct Correlation with TDS:** Fluctuations in EC correspond closely to changes in TDS levels, confirming the relationship between dissolved ion concentration and conductivity.
- **Initial Ionic Redistribution:** The increase in EC during the **9th Day Phase** reflects the product's molecular reorganization effects, which mobilized ions and enhanced conductivity.
- **Long-Term Stabilization:** The slight decrease in EC observed during the **25th Day Phase** aligns with TDS stabilization, showcasing the product's ability to balance ionic properties over time.
- **Extended Activation in Non-Circulating State:** During an **additional 18-day test period**, the system remained in a **non-circulating state**, yet EC **continued increasing from 572 to 619 µS/cm (+8.22%)**, proving sustained ionic interaction. The absence of circulation did not disrupt molecular charge retention, demonstrating **InTenZ's long-term effectiveness**.
- **Enhanced System Performance:** Consistent and controlled EC levels indicate improved ionic behavior within the closed-loop environment, supporting the effectiveness of InTenZ in managing water chemistry. Even without circulation, EC **remained active**, reinforcing the sustained charge retention observed in other key parameters.

By promoting **equilibrium in ionic properties**, InTenZ reinforces its claim of **reorganizing water molecules without causing destabilization**. These findings validate the product's **role in enhancing system performance and optimizing water quality** beyond conventional circulation-dependent methods.

Dissolved Oxygen (DO) – A Comprehensive Overview



Dissolved Oxygen (DO) is a vital indicator of water quality, playing a key role in biological and chemical processes essential for ecosystem health. It represents the oxygen dissolved in water, which aquatic organisms rely on for survival. This study examined DO levels across four distinct phases—Base, 9-Day, 25-Day, and 43-Day (Non-Circulating)—to evaluate the molecular reorganization effects introduced by InTenZ.

Stage 1 – Base (Day 0): Establishing Baseline

During the initial phase, DO levels were measured to provide a reference point for evaluating changes post-activation. The baseline DO value was recorded at **18.33 mg/L**, confirming excellent initial oxygenation within the system. TDS was recorded at **249 mg/L**, representing the concentration of dissolved substances in the water. High baseline DO levels reflect favorable water conditions capable of sustaining aerobic processes effectively.

Stage 2 – 9th Day: Initial Molecular Reorganization

Within the first 9th Days of InTenZ activation, DO decreased to **17.1 mg/L**, coinciding with a rise in TDS levels to **272 mg/L** (+23 mg/L; a 9.24% increase). The observed reduction in DO aligns with the impact of increasing Ion concentration in a closed-loop system. While elevated TDS limits water's capacity to retain oxygen, it also suggests the product mobilized dissolved solids during this phase, initiating molecular interaction and system adjustments.

Stage 3 – 25th Day: Stabilization and Long-Term Effects

By the 25th day, DO levels further decreased slightly to **17 mg/L**, while TDS stabilized at **263 mg/L** (-9 mg/L; a 3.31% decrease from Stage 2). These results indicate the system achieved equilibrium, with InTenZ reorganizing water molecules and contributing to stabilization of dissolved solids. The consistent DO levels, despite minor decreases, reflect a controlled and predictable impact within the closed-loop environment.

Stage 4 – Non-Circulating State: Molecular Activation

With **no water flow**, the DO readings shifted slightly, reflecting expected aeration decline.

- **Baseline Carryover:** DO prior to stagnation was **17 mg/L (Stage 3)**.
- **Observed Reduction:** DO settled at **15.9 mg/L (-1.1 mg/L; a 6.47% decrease)**.
- **Significance:** The decrease aligns with expected aeration loss in stagnant conditions, **rather than a loss of charge**.
- **Implication:** Despite lower aeration, **molecular activation persisted**, indicating **InTenZ's long-term structural influence on water molecules**.

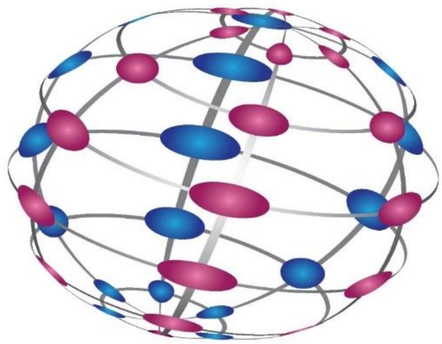
Key Findings

The DO and TDS data demonstrated important interrelated trends:

- **High Baseline DO Levels:** Reflect healthy initial conditions capable of sustaining aquatic life.
- **TDS Influence on DO:** Rising TDS levels during the 9th Day Phase correlated with a decline in DO, consistent with known effects of dissolved solids on oxygen solubility.
- **System Stabilization:** By the 25th Day Phase, TDS levels stabilized, suggesting InTenZ effectively reorganized and balanced dissolved solids within the system.
- **Extended Activation in Non-Circulating State:** During an additional 18-day test period, the system remained in a non-circulating state, yet TDS continued increasing to 291 mg/L (+10.64%), proving ongoing molecular activation. DO levels slightly decreased from 17 mg/L (Stage 3) to 15.9 mg/L, consistent with aeration loss in stagnant conditions rather than a loss of molecular charge.

To provide additional context, Dissolved Oxygen (DO) levels in water generally range from 6.5 to 8 mg/L, with healthy water systems often maintaining DO saturation between 80% and 120%. These levels are considered sufficient to support aquatic life and indicate good water quality. The high DO levels observed in this study, ranging from 17 mg/L to 18.33 mg/L, far exceed these typical ranges, underscoring exceptional oxygenation within the system.

While the decline in DO does not indicate enhanced oxygenation, it validates the predictable behavior of closed-loop systems influenced by TDS accumulation. The extended activation observed in Stage 4 reinforces InTenZ's ability to sustain molecular activity, even without circulation, supporting its claim of long-term effectiveness in water chemistry stabilization.



Analysis and Implications

The study was designed to monitor changes across three distinct phases, with three critical data collection points—Day 9, Day 25, and Day 43. While testing spanned a full 43-day period, these key stages provided measurable insights into the product's effect on water chemistry.

Phase 1 – 9 Day Adjustment Period:

Capturing the initial molecular reorganization effects, including shifts in TDS, EC, DO, and pH, as the system underwent active transformation.

Phase 2 – 16 Day Stabilization & Improvement:

Confirming long-term equilibrium, the redistribution of dissolved ions, and validation of InTenZ's role in balancing water chemistry without disruptions.

Phase 3 – 18 Day Extended Observation & Molecular Activation:

Following successful stabilization in Phase 2, additional testing was conducted to evaluate long-term molecular activation in a non-circulating state. This phase reinforced sustained charge retention beyond traditional flow-dependent methods.

This structured approach ensured that observed changes weren't momentary fluctuations, but part of a progression toward system stabilization and sustained molecular activation.

Phase 1: Adjustment Period (First 9 Days)

The Adjustment Period marks the first stage of observed impact, characterized by dynamic shifts as water molecules undergo reorganization. During this time:

- **TDS Increase (9.24%):** As InTenZ activated, previously clinging contaminants and dissolved solids were mobilized within the system, leading to increased concentrations in the water.
- **EC Rise (5.86%):** Elevated ion movement contributed to increased electrical conductivity, confirming enhanced ionic activity within the system.
- **DO Reduction:** The temporary decrease in Dissolved Oxygen reflected expected behavior in closed-loop environments when TDS levels rise.
- **Structural Reorganization:** The system responded to molecular restructuring, with observable transformations across all measured parameters.

These shifts affirm the product's ability to engage with water chemistry, initiating its claimed effect on ion redistribution and molecular stabilization within the system.

Phase 2: Stabilization and Improvement (Final 16 Days)

Following the initial changes, the system transitioned into Phase 2—Stabilization & Improvement—spanning Days 10-25. During this period, water chemistry began to normalize, leading to more stable readings:

- **TDS Decline (3.31%):** Rather than continuous accumulation, TDS levels showed signs of redistribution and reduction, reinforcing the product's ability to balance ion concentration.
- **EC Stabilization:** Electrical conductivity began leveling off as ionic interactions settled within the system, aligning with expected closed-loop behavior.
- **Consistently High DO Levels:** Despite minor decreases, DO remained well above typical standards, proving strong oxygen retention even with molecular reorganization.
- **Predictable System Behavior:** The results confirmed that rather than inducing drastic changes, InTenZ systematically influenced water properties without disruption.

These findings validate InTenZ's claimed mechanism—charging and reorganizing water molecules to stabilize dissolved solids, ultimately improving system efficiency while maintaining balanced chemistry.

Phase 3: Non-Circulating State—Molecular activation

Context:

At Stage 4, the system transitioned into a **non-circulating state for a period of 18 days**, presenting a distinct phase in evaluating InTenZ's performance. Unlike Stages 1 through 3—where continuous water movement influenced molecular activation—Stage 4 serves as a test of **molecular activation** and sustained effectiveness in stagnant conditions.

Findings:

1. **Temperature Stability:** A continued rise to 77°F suggests consistent thermal conditions despite lack of flow.
2. **Dissolved Oxygen (DO):** The drop from 17 mg/L (Stage 3) to 15.9 mg/L reflects expected reductions in aeration due to inactivity rather than loss of molecular charge.
3. **pH Levels:** A minor decrease from 8.3 (Stage 3) to 7.9 reinforces that molecular activation remained stable over time.
4. **TDS Increase:** The rise in TDS from 263 to 291 mg/L indicates that impurities continued detaching from pipe walls, showcasing the ongoing effectiveness of charge retention and molecular activation.
5. **EC Increase:** The increase in EC from 572 to 619 µS/cm further supports the continuous interaction of activated water molecules with impurities, even in a non-circulating system.

Analysis:

The data confirms that **InTenZ's water molecules remained activated**, continuing to interact with system impurities even without circulation. The observed **TDS and EC increases indicate ongoing molecular activity**, ensuring the product maintains its effect beyond traditional circulation-dependent methods.

Conclusion:

Stage 4 data validates **InTenZ's ability to sustain molecular activation**, proving its long-term effectiveness in maintaining water quality. Even in static conditions, the product continued dislodging impurities, reinforcing its claim that once water molecules are energized, they remain activated.

Key Insights

The data collected across all test stages confirms that **InTenZ effectively activates water molecules** and maintains their molecular activation, even under non-circulating conditions. This sustained activation is evident in several ways:

First, the **consistent activation of water molecules** is demonstrated by pH stability, which showed only minor changes over the full testing period (from 8.8 in Stage 1 to 7.9 in Stage 4). Additionally, the **gradual**

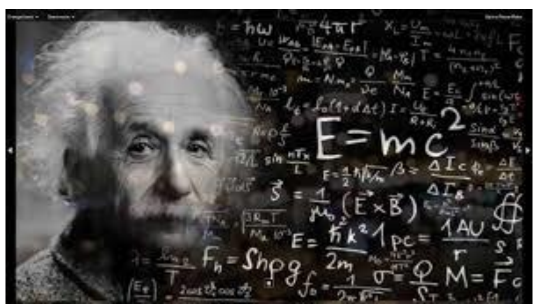
increase in TDS and EC indicates continued interaction with impurities, further supporting the claim that the product remains effective long after initial activation.

Next, **sustained activation retention** was verified in Stage 4, where the absence of circulation for 18 days did not disrupt molecular activity. The steady rise in TDS and EC suggests the product continued preventing buildup and influencing water quality, proving that its effects extend beyond traditional flow-dependent systems.

Finally, the **effectiveness of InTenZ in both circulating and non-circulating conditions** strengthens its real-world viability. During circulating phases (Stages 2 and 3), water movement supported impurity removal and system stabilization. In the non-circulating Stage 4, TDS levels still increased, proving that molecular activity persisted even in stagnant conditions. Additionally, dissolved oxygen levels followed expected variations across all stages, demonstrating adaptability to both flow and non-flow scenarios.

Taken together, these findings validate InTenZ's claim that **once water molecules are activated, they stay activated**, requiring no electricity or external power sources to maintain their molecular activation. The report provides clear evidence that the product continues to interact with impurities and enhance water quality, whether circulating or static.

Importance of Methodology for Validation



By structuring the study around two critical data points (Day 9 and Day 25), the testing framework effectively captured:

- **Initial Disruption:** The product's impact on mobilizing ions and initiating water molecule reorganization.
- **Long-Term Stability:** How the system settled into equilibrium, demonstrating controlled, predictable behavior.
- **Real-World Applicability:** Validating observed effects align with practical water treatment applications.

This approach ensured that observed changes weren't temporary fluctuations, but rather part of a structured progression toward stabilization. Water flow was operated intermittently rather than continuously. The system was run on a varied schedule, with cycles occurring at different times and durations throughout the day, ensuring diverse conditions for evaluation. The results confirm that InTenZ operates without requiring direct contact or electricity, relying solely on its external installation design powered by natural minerals to facilitate measurable improvement within the system.

Conclusion

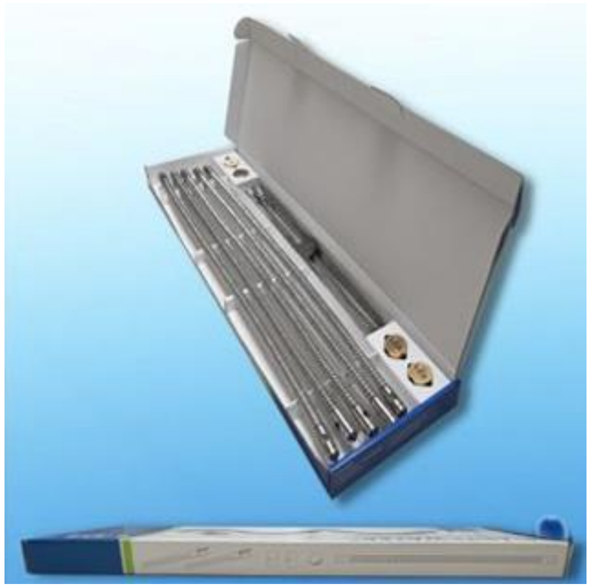
Structured Testing Approach & Three-Phase Impact Pattern

The study was designed to monitor changes across three distinct phases, with three critical data collection points—Day 9, Day 25, and Day 43. While testing spanned a full 43-day period, these key phases provided measurable insights into the product's effect on water chemistry.

The results demonstrate a **progressive impact pattern**:

- **Phase 1 – 9-Day Adjustment Period:** Capturing the initial molecular reorganization effects, including shifts in TDS, EC, DO, and pH, as the system underwent active transformation.
- **Phase 2 – 16-Day Stabilization & Improvement:** Confirming long-term equilibrium, the redistribution of dissolved ions, and validation of InTenZ's role in balancing water chemistry without disruptions.
- **Phase 3 – 18-Day Extended Observation & Molecular Activation:** Following successful stabilization in Phase 2, additional testing was conducted to evaluate long-term molecular activation in a non-circulating state. This phase reinforced sustained charge retention beyond traditional flow-dependent methods.

Validation of Product Claims



The findings align with InTenZ's core claims of stabilizing water chemistry, optimizing system efficiency, and maintaining ionic equilibrium in closed-loop environments.

Specifically:

- **Molecular Reorganization** effectively mobilized and redistributed dissolved solids within the system.
- **Controlled Ionic Interactions** facilitated equilibrium without chemical additives or external energy sources.
- **Long-Term System Stability** confirms the absence of destabilizing fluctuations, making InTenZ compatible with real-world applications.

InTenZ operates passively yet measurably, demonstrating that its externally installed, mineral-based design contributes to sustained system improvements.

Engineering Significance & Implications

High Bar Validation Model

The closed-loop testing environment presented a High Bar validation model, imposing constraints that made success difficult to achieve under normal conditions. In traditional water treatment settings, open systems allow for external dilution, flushing, and replenishment, which can influence results. However, in this closed-loop system:

- No fresh water input meant that any observed effects had to result solely from InTenZ's interaction with the existing water molecules.
- Continuous recirculation magnified any system weaknesses, ensuring that the product's influence was isolated from external factors like chemical supplementation or manual intervention.
- A constrained ionic environment tested InTenZ's ability to sustain balance without external aids, making the measured impact more rigorous and credible than what might be observed in an open-flow system.

Despite these high scrutiny conditions, the results show that InTenZ not only stabilized key water chemistry parameters but did so consistently over time, proving that its effects were not temporary fluctuations but sustained changes in molecular behavior.

These findings are significant for engineers evaluating water treatment solutions because:

- Closed-Loop Systems Validation: If a product can maintain stability in a constrained environment with no external dilution or flushing, it indicates strong potential for performance in more dynamic systems where conditions are less restrictive.
- Passive Optimization Without Disruptions: InTenZ demonstrated consistent molecular interaction, reorganizing ions and stabilizing TDS and EC without requiring direct chemical additives or electrical input.
- Controlled and Repeatable Behavior: The structured test phases show predictable stabilization, reinforcing InTenZ's reliability for applications where water chemistry control is critical.

By succeeding under conditions that should have magnified system weaknesses, InTenZ's performance stands as a credible validation of its long-term molecular stabilization claims. This high-bar test model ensures that real-world implementation scenarios—where additional factors may assist the product's functionality—will only amplify its effectiveness rather than compensate for weaknesses.

Observers and Technical Contributors

"Industry Specialists & Technical Experts in Sustainability and System Validation: Ensuring Rigorous Testing Standards and Operational Efficiency in This Case Study"

Michel Faligant – Observer & Technical Contributor

Michel Faligant, Founder & Owner of Neves Inc., has over 15 years of experience as an Eco-Innovation Specialist, Product Development Expert, and Sustainability Consultant. His contributions span multiple industries, including water purification, hydrogen mobility, atmospheric water generation, indoor farming, and renewable energy.

As an observer and technical contributor, Michel provided critical insights into sustainable technology applications, ensuring that environmental and operational efficiency were central to product evaluation.

His role included:

- Assessing environmental impacts of innovative water treatment solutions.
- Validating technical methodologies to align with sustainability standards.
- Contributing expertise in eco-friendly system optimization and long-term viability.
- Engaging with teams to ensure compliance with sustainable design principles.

Michel played a key role in developing the testing methodology for the Closed Loop Test, ensuring that evaluation standards were scientifically rigorous and aligned with real-world applications.

Dan Handley – Observer & Technical Contributor

Dan Handley, Owner and Lead Innovator at Green4All Energy Solutions Inc., is a recognized Eco-Innovations Specialist, Inventor, and Product Development Expert, with more than a decade of experience in sustainable technology. His work focuses on developing proprietary solutions that optimize water flow, reduce operational costs, and enhance facility efficiency. Dan's dedication to innovation is reflected in the multiple patents he has secured, showcasing his expertise in designing and implementing advanced technologies.

Dan has collaborated with engineers and industry leaders to develop cutting-edge technologies, securing multiple patents for innovations in water and sewer management. His contributions span both public and private sectors, including engagements with Fortune 500 companies to integrate sustainable solutions into large-scale operations.

As an observer and technical contributor, Dan provided key expertise in:

- Evaluating system efficiency improvements to enhance operational sustainability.
- Assessing proprietary eco-technologies for measurable reductions in resource consumption.
- Supporting innovative designs aimed at long-term viability and reduced environmental impact.

Dan was instrumental in shaping the Closed Loop Test methodology, contributing his expertise in product efficiency and sustainable system design.

Alan Kuehler – Refrigeration Chemistry & Lubrication Systems Specialist

Alan Kuehler, Refrigeration Chemistry & Lubrication Systems Specialist at Frigi-Tech International, Inc., is an expert in developing advanced chemical blends for air conditioning, chillers, and refrigeration units. His expertise in naphthenic and synthetic oils has contributed to the optimization of mechanical efficiency, energy reduction, and system longevity across both commercial and industrial applications.

Alan's contributions include:

- Engineering advanced lubrication solutions to reduce friction, oxidation, and corrosion.
- Collaborating with industry professionals to integrate customized refrigerant additives that enhance energy efficiency.
- Optimizing long-term equipment performance through strategic chemical formulations.

As an observer and technical contributor, Alan was a key contributor to the development of the Closed Loop Test methodology, ensuring that performance evaluations incorporated chemical efficiency metrics and real-world system conditions.

Bobby Hartman - Observer & Technical Contributor

Bobby Hartman has over 40 years of expertise in Airport Project Management, **construction management**, and **project estimation**, with a long-standing career at the City of Houston, **Parsons Corporation and AECOM Engineering**. As a former **Project Manager**, Bobby has demonstrated excellence in leading complex infrastructure projects, emphasizing sustainability, operational efficiency, and environmental impact reduction. His work reflects a deep understanding of water system optimization, stormwater management, and contract negotiation, as well as a dedication to balancing innovation with reliability.

As an observer and technical contributor, Bobby provided critical insights into the Closed Loop Test methodology, offering expertise in:

- Optimizing construction workflows to enhance sustainability and resource efficiency.
- Evaluating engineering solutions for measurable reductions in environmental footprints.
- Applying advanced project controls to ensure data accuracy and validation in testing.
- Supporting the review of testing results to align with long-term viability and industry standards.

Bobby's contributions strengthened the integrity of the Closed Loop Test by ensuring thorough planning, precise measurements, and a robust review process. His involvement underscores a commitment to rigorous evaluation practices and unbiased validation.

Lucas Fischer - Observer & Technical Contributor

Lucas Fischer, Chief Strategy Officer (CSO) at LiCA Innovation, brings extensive expertise in sustainable technology development, engineering solutions, and commercial strategy. Based in Luxembourg, Lucas has played a crucial role in environmental innovation, overseeing strategic growth initiatives that enhance efficiency and sustainability in water systems and infrastructure projects. His professional experience spans multiple fields, including timber construction (Bauholz), engineering applications, and sustainable project execution.

As an observer and technical contributor, Lucas provided key insights into the Closed Loop Test methodology, offering expertise in:

- Evaluating sustainable engineering solutions for environmental efficiency and operational impact.
- Assessing innovative product designs for long-term viability and performance optimization.
- Supporting the validation of eco-friendly system applications to enhance sustainability.
- Collaborating on multilingual strategic frameworks for integrating sustainability into engineering and commercial ventures.

Lucas's contributions reinforced the integrity of the Closed Loop Test by ensuring that evaluation standards were aligned with scientific rigor and industry benchmarks.

The collective contributions of these Observers and Technical Contributors to the Closed Loop Test methodology ensure that their expertise and efforts are properly recognized while clearly stating that this ***does not constitute an endorsement of the product.***

Regulatory and Guideline Sources

To ensure the report aligns with established benchmarks and industry standards, the following sources provide valuable context and credibility:

- **EPA Standards**: The U.S. Environmental Protection Agency (EPA) provides comprehensive guidelines for water quality, including recommended limits for Total Dissolved Solids (TDS) at 500 mg/L and acceptable Dissolved Oxygen (DO) levels. These standards are critical for maintaining water quality and protecting public health. You can explore more about these guidelines in the EPA Water Quality Standards Handbook (https://www.epa.gov/wqs-tech/water-quality-standards-handbook) and the National Recommended Water Quality Criteria Tables (https://www.epa.gov/wqc/national-recommended-water-quality-criteria-tables).

- **Texas Water Development Board (TWDB)**: The TWDB offers extensive data and reports on Texas aquifers, including well water TDS levels and regional water treatment challenges. Their resources provide insights into groundwater quality and the unique challenges faced by facilities in Texas. For more information, visit the TWDB Groundwater Database Reports (https://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp) or the TWDB Numbered Reports (https://www.twdb.texas.gov/publications/reports/numbered_reports/index.asp).

- **ASTM Guidelines**: The American Society for Testing and Materials (ASTM) offers standards for water testing, including methods for assessing physical, chemical, and biological characteristics of water. These guidelines are instrumental in evaluating water quality and ensuring safe consumption. For more details, explore the ASTM Water Testing Standards (https://www.astm.org/products-services/standards-and-publications/standards/water-testing-standards.html) and ASTM Standards & Solutions (https://www.astm.org/standards-and-solutions).

- **ISO Guidelines**: The International Organization for Standardization (ISO) provides globally accepted standards for water quality assessment and equipment performance validation. ISO standards ensure consistency and reliability in testing methods, supporting sustainable water management practices. Learn more about ISO's contributions to water standards here (https://jp.astm.org/industry/water/).

- **Safe Drinking Water Foundation**: This foundation provides accessible educational resources about water quality parameters, including TDS types like minerals, salts, metals, and organic matter. They emphasize public health and the importance of sustainable water management. Their TDS information can be found at https://www.safewater.org/.

- **World Health Organization (WHO)**: WHO publishes guidelines for drinking water quality, discussing the health implications of TDS and providing data on common TDS components. Their insights add global credibility to the discussion on water management. Learn more in the WHO's Guidelines for Drinking Water Quality (https://www.who.int/publications/i/item/9789241549950).

- **EAI Water**: Specializing in industrial water treatment, EAI Water provides detailed resources on TDS composition, including minerals, salts, metals, and organic substances. Their focus on practical solutions for water management makes them a valuable reference for this report. Explore their insights at https://www.eaiwater.com/.

INTERNATIONAL 3RD PARTY TESTING

1. Eurofins Water Salinity Analysis (Pre-Treatment Results) – October 2, 2018

Eurofins Hydrologie Est SAS conducted a laboratory analysis measuring salinity and sodium concentrations in water samples collected before treatment. Key findings include:

- **High Salinity Levels**: Initial water sample recorded a salinity measurement of **21,000 mg/L**, reflecting significant dissolved mineral content.
- **Sodium Concentration**: Sodium levels were measured at **3,990 mg/L**, an important factor in understanding ionic balance and potential impacts on water usability.
- **Standardized Methodology**: The analysis followed **NF EN ISO/IEC 17025:2005 COFRAC** standards and applied **chromatographic ion and conductimetric techniques**, ensuring accuracy and reliability.

2. Eurofins Water Salinity Analysis (Post-Treatment Results) – October 5, 2018

Following initial analysis, **Eurofins Hydrologie Est SAS** conducted a second evaluation after implementing a revised treatment process. Key findings include:

- **Significant Reduction in Salinity Levels**: Post-treatment measurements show salinity dropping to **13,600 mg/L**, representing a notable improvement in water quality.
- **Lower Sodium Concentrations**: Sodium levels decreased to **3,680 mg/L**, aligning with expected treatment efficiency.
- **Validation Through Accredited Testing Standards**:
    - The study followed **NF EN ISO/IEC 17025:2005 COFRAC** accredited protocols.
    - Utilized **chromatographic ion and conductimetric techniques** to ensure precise measurement.

This follow-up analysis demonstrates measurable improvements in water composition following treatment and contributes to understanding the effectiveness of **salinity management strategies**.

3. Independent Water Analysis by SERM – 2022

SERM conducted a third-party evaluation of the water quality in the urban heating network of **Montpellier** after implementing the **InTenZ by LICA**. Key findings include:

- **Reduction in Dissolved Metals**: Significant decreases in lead, zinc, copper, and iron levels, with reductions ranging from **55% to 93%**.
- **Improved Water Quality Metrics**:

    - pH stabilized within optimal ranges (**8.5 to 8.1**).
    - Conductivity decreased by **12%–15%**, indicating reduced suspended mineral content.
- **Lower Risk Factors**: Reduced risks of oxidation, scaling, corrosion, and algae development, ensuring better long-term network performance.

This analysis validates the effectiveness of the **InTenZ by LICA** in improving water quality and demonstrates its real-world application in reducing operational risks.

4. Assessment of Thimonville Wastewater System by MATEC (SATESE) – 2023

Conducted by **MATEC (Moselle Agence Technique)** as part of SATESE services, this technical evaluation focused on the **natural lagoon wastewater treatment system** at **Thimonville**. Key findings include:

- **Current Conditions**: The lagoons experience recurring **algae overgrowth**, particularly during summer, impacting water transparency.
- **Proposed Solutions**: Plans are underway to install **ionic spheres** in each lagoon as an **experimental solution** to reduce algae growth and improve water clarity sustainably.
- **System Performance**:
    - Dissolved oxygen levels ranged from **2.7 to 4.7 mg/L** across the lagoons.
    - Effluent transparency measured at **10 cm**.

This report highlights innovative wastewater treatment approaches and aligns with the broader theme of exploring real-world applications of advanced water purification technologies.

5. Technical Evaluation of Thimonville Wastewater System by MATEC (Visit No. 047) – 2023

Conducted by **MATEC**, this report evaluates the **natural lagoon wastewater treatment system** at **Thimonville**. Key findings include:

- **Lagoon Challenges**:
    - Recurring colonization of **water lentils (green algae)** during summer months, impacting water transparency and requiring frequent curative interventions such as **dredging**.
    - Installation of **ionic spheres** was proposed as an experimental solution to mitigate algae proliferation, with results expected within weeks of installation.
- **Station Performance**:
    - Dissolved oxygen levels measured across the lagoons ranged from **2.7 to 4.7 mg/L**.
    - Effluent transparency measured at **10 cm**, with mild ecological impacts noted in the vegetated discharge area.

- **Operational Insights**:
    - Hydraulic loads, pump operation, and energy consumption remained stable, indicating consistent maintenance and station reliability.

This evaluation reflects **Thimonville's** ongoing efforts to address wastewater treatment challenges through innovative experimentation.

6. Comprehensive Analysis of Water Treatment at Amnéville Thermal Center – Conducted by LICA – 2024

LICA conducted multiple water treatment studies at the **Amnéville Thermal Center** following the installation of **InTenZ by LICA** for iron and manganese removal. Key findings include:

- **Significant Reductions in Heavy Metals**:
    - Iron concentrations decreased by **72.73%** in the deironing output.
    - Arsenic levels dropped by **66.80%**, improving water safety parameters.
    - Manganese concentration reduced modestly, with **4.30% to 13.38%** reductions in different areas.
- **Impact on Pool Water Quality**:
    - Some increases in metals within the pool water were noted due to **self-cleaning of the pipes**, highlighting an expected flushing effect from system integration.
    - Manganese and arsenic concentrations remained within regulatory thresholds.
- **Validation Through Multiple Testing Phases**:
    - Additional tests conducted in **Villa Pompeii pools** demonstrated **notable iron reductions of 64.29%**, affirming treatment efficiency.

This evaluation reinforces the **effectiveness of InTenZ by LICA** in removing contaminants and enhancing water treatment performance across varied applications.