Tigernix
We are users too

Tigernix Water Treatment Solution

Digitally Interconnected Water Treatment Network

Introduction

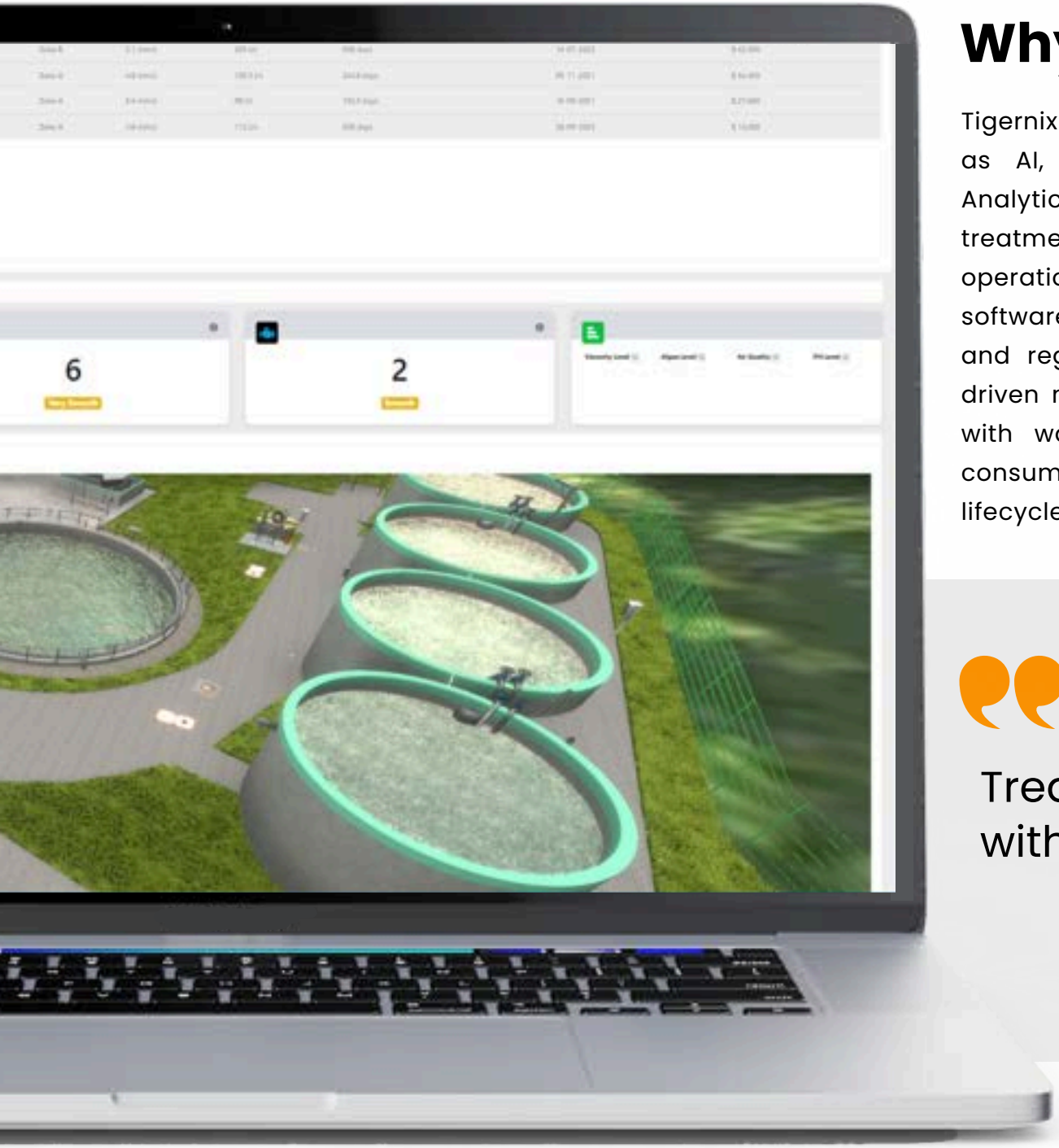
One Central Intelligence for Complex Water Treatment Ecosystem

Employing Industry 4.0 technologies, Tigernix Water Treatment Asset Management Solution acts as an all-in-one compound for all the treatment-related challenges and unifies operational control across diverse treatment assets, infrastructure, and workflows through a centralised smart dashboard. Its system-wide integration capacity and predictive insights enable comprehensive treatment network visibility, facilitating advanced decision-making, process optimisation, and proactive maintenance, transforming conventional water treatment oversight into a smart, digitally orchestrated ecosystem.

> The Smartest Brain Behind Consolidated Treatment Network
>
> @ Tigernix Smart Water Solutions

Industry 4.0 Capabilities We Offer

- GIS
- IoT
- AR & VR
- Predictive & Prescriptive Analytics
- 5G
- Cloud Computing
- Robotic Automation
- Digital Twin
- Simulation
- Big Data



Why Choose Tigernix?

Tigernix gathers all the Industry 4.0 digital capabilities, such as AI, Digital Twin modelling, Satellite, Drones, Data Analytics, Predictive Maintenance and IoT, etc., to centralise treatment infrastructure, assets, and water production operations under an integrated central platform. Our software enables seamless coordination across national and regional treatment systems while supporting data-driven management, ensuring high efficiency, compliance with water quality standards, and full alignment with consumer expectations across the water production lifecycle.

> Treatment Asset Optimisation within Your Fingertips

Robust Features of Tigernix Treatment Solution

Hydrological Model Integration

- Digital Twin-Driven Treatment Workflow Simulation
- Groundwater Recharge and Depletion Modelling
- Integrated Watershed Management Optimisation

Smart Meteorological Forecasting

- AI-Powered Precipitation Prediction Models
- Climate Change Impact Intelligence
- Hydrometeorological Event Correlation Analytics

Cloud-Based Water Production Simulation

- Real-Time Production Forecasting Algorithms
- IoT-driven Multi-Site Water Production Optimisers
- Hydraulic Pressure and Flow Simulators

Behavioural Analytics for Treatment Asset Usage

- AI-Driven Asset Utilisation Pattern Recognition
- Predictive Maintenance Scheduling
- Asset Behaviour Trend Visualisation

IoT-enabled Water Quality Mapping

- GIS-Based Water Quality Data Indicators
- Multi-Parameter IoT Sensor Integration
- Advanced Water Quality Index Calculation

Cross-Border Water Production Workflow Trackers

- Collaborative Production Workflow Synchronisation
- Automated Water Production Process Reporting
- Integrated Regulatory Compliance Trackersr

Futuristic Treatment Decision Screens

Risk Mitigation Protocols

Insight Consolidation Technology

Customisable Dashborads and Smart Visualisation

System Capabilities

SCADA System Integration

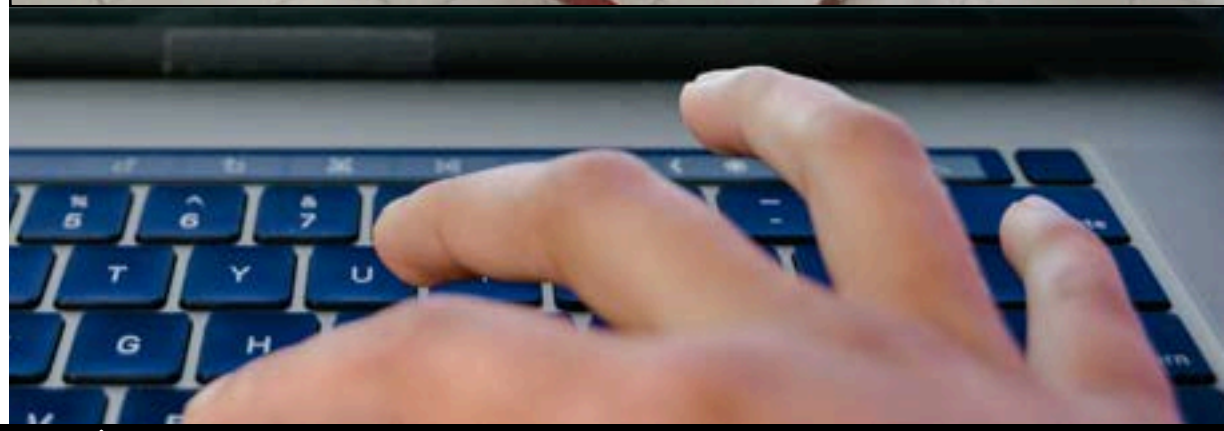
This integration empowers water treatment operations with advanced data collection, real-time control, and predictive insights, optimising asset performance, water quality monitoring, and treatment process automation on one dashboard.

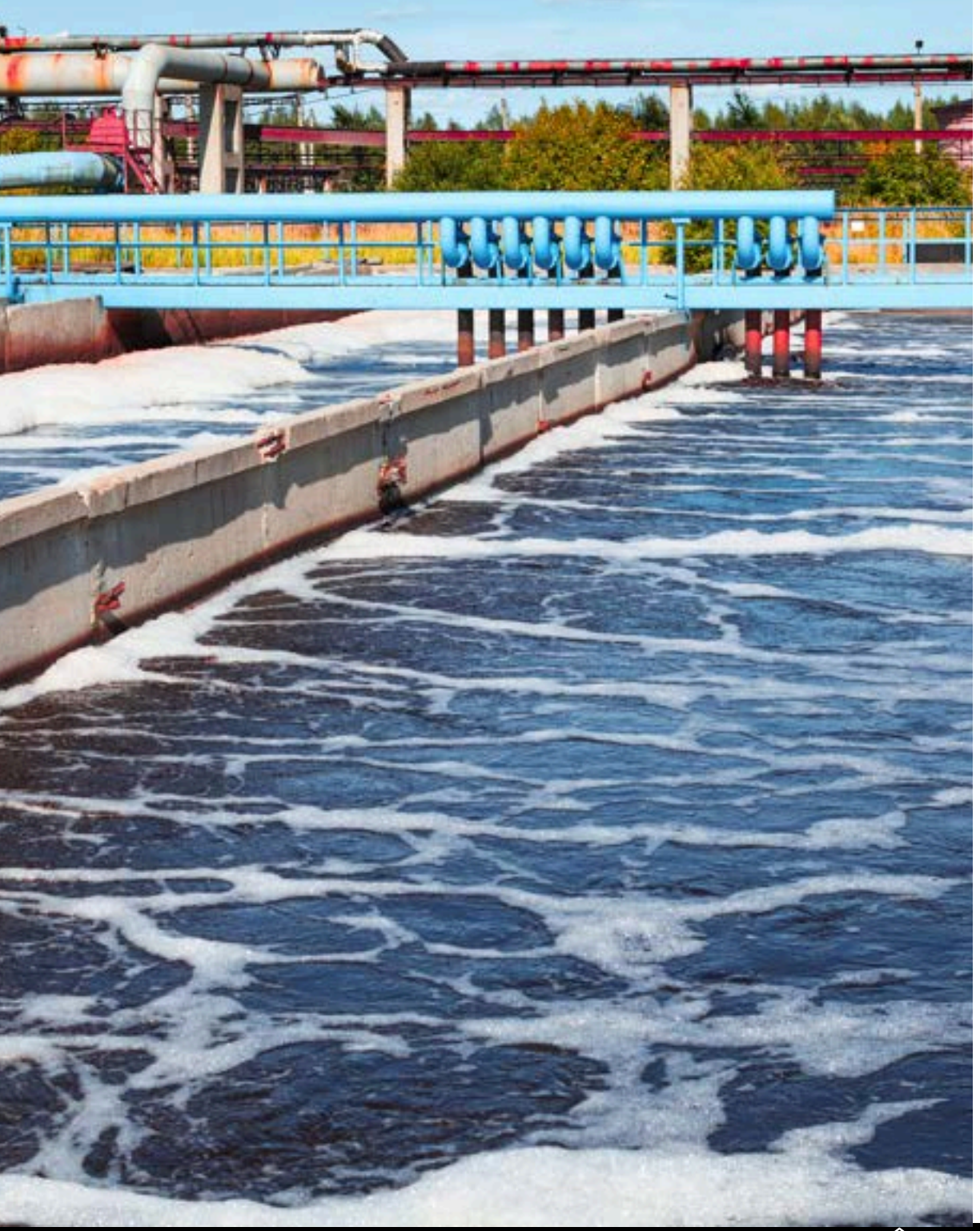
Real-Time River Flow Forecasting

Our software solution uses machine learning and IoT connectivity to predict river flow dynamics, supporting water treatment operations by optimising reservoir levels, distribution efficiency, and environmental impact.

Self-Healing Automation Architecture

Tigernix intelligence platform features smart fault recovery frameworks, automatically diagnosing and rectifying issues, enhancing water treatment efficiency, reducing operational disruptions, and improving asset performance through intelligent automation.





System Capabilities

Satellite-Powered Infrastructure Surveillance

Tigernix gathers data from high-resolution satellite, CCTV and Radar monitoring, offering comprehensive surveillance of water treatment assets, optimising infrastructure performance and enhancing predictive maintenance and resource allocation on a single screen.

AI-Driven Water Purification & Filtration Analytics

We incorporate AI with filtration optimisation technologies, enhancing water purification efficiency, enabling predictive quality analytics, and automating system maintenance for improved operational performance and reduced downtime.

GIS-Driven Environmental Impact Analyser

Our software platform simply integrates GIS-driven environmental evaluation tools, enabling precise tracking of water treatment impacts, ensuring optimal resource use, and enhancing sustainability with proactive decision-making capabilities.

System Capabilities

Predictive Maintenance Control Dashboard

This solution is where we deploy machine learning-based maintenance forecasting, enhancing water treatment management by predicting system failures, optimising maintenance schedules, and improving overall asset performance for efficiency.

Cloud-Based Remote Purification Control

Since our solution offers remote accessibility and control over purification workflows, it ensures seamless management of water treatment systems, utilising real-time data, AI analytics, and IoT for optimised performance and resource efficiency.

Sediment Management Modelling

Tigernix collaborates with advanced tech such as machine learning and digital twin, delivering powerful sediment management modelling for efficient sedimentation control, optimising water quality, and enhancing treatment system performance.

System Capabilities

Cloud-Driven Disaster Recovery Scenarios

We incorporate digital capabilities such as IoT sensors and cloud-based satellite data analytics, providing an intelligent disaster recovery brain for water treatment systems, enhancing resilience and minimising downtime during critical events.

Smart Financial Investment Analyser

It is a synergy of advanced AI algorithms and financial modelling, providing water treatment systems with real-time investment insights, optimising financial decisions, and ensuring sustainable operations across the treatment network.

Sustainability Trackers & Report Generators

We offer a fusion of predictive analytics, machine learning, and data visualisation, enabling precise tracking of sustainability goals and automated report generation for water treatment systems' eco-conscious management.

Key Challenges & Solutions

Tigernix Treatment Solution is a digital-first water treatment infrastructure ecosystem designed to transform how water treatment facilities operate and manage assets. By leveraging real-time data from IoT-enabled sensors, satellite imagery, and remote sensing technologies, the platform delivers continuous, 24/7 monitoring of treatment infrastructure, enabling early detection of potential issues and supporting proactive maintenance to prevent costly disruptions. This unified approach not only reduces downtime but also enhances long-term asset management, ensuring water treatment plants remain resilient.

Digital-First Water Treatment Infrastructure Ecosystem

Using real-time data from IoT-enabled sensors, satellite imagery, and remote sensing technologies, our platform continuously monitors water treatment infrastructure 24/7. It can detect potential issues, enabling proactive maintenance and facilitating faster, more effective corrective actions to prevent disruptions in a virtual realm.

Streaming a Wealth of Data onto One Dashboard

We witnessed that traditional systems failed to provide actionable insights for predictive maintenance, resulting in costly downtime. Our platform streams data onto one dashboard, integrating advanced analytics and AI, predicting maintenance needs and optimising asset performance, reducing downtime and enhancing long-term asset management.

Key Challenges & Solutions

The solution's AI capabilities empower predictive analytics for asset health, failure probability, and optimal maintenance scheduling, significantly reducing downtime and operational costs while extending asset lifespans. IoT-enabled sensors provide continuous monitoring of water quality, equipment condition, and network performance, allowing for rapid detection of contamination or system anomalies. The Digital Twin models offer real-time visualisation and simulation of the entire treatment network, supporting proactive decision-making and efficient resource management.

Reducing Energy Waste and Lowering Treatment Costs

Without smart energy monitoring, water treatment processes were energy-intensive, leading to high costs. Since our solution employs energy-efficient algorithms and predictive maintenance along with AI, the software helps minimise waste, reducing energy consumption and lowering overall treatment costs for sustainable plant management on a single screen.

Efficiency and Sustainability in Balance

Excessive chemical usage and wasteful practices in the water treatment scenario destroy the environment. Integrating advanced technologies like IoT, impact detectors, and AI, our software ensures sustainable processes while maintaining high treatment performance, reducing the environmental footprint and aligning with eco-friendly targets.

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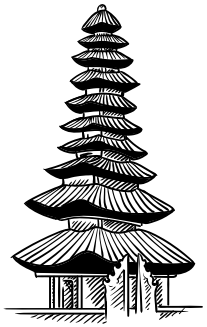

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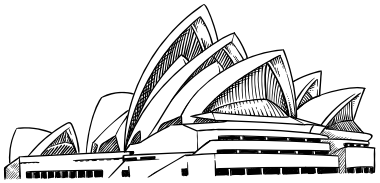

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