



Tigernix

We are users too

Tigernix Wastewater Control Tower

**Industry 4.0 Driven Central Command
Post** for Wastewater Operations

Introduction

Cross-Stream Decision-Support Platform for Wastewater

Tigernix Wastewater Control Tower (TigernixWWCT) is a cloud-native, Industry 4.0-driven data centralisation ecosystem for wastewater supervision. Our solution consolidates infrastructure, asset telemetry, and process analytics into a unified operational dashboard. Featuring AI-driven diagnostics and real-time data visualisation, it empowers wastewater authorities to make intelligent, data-driven decisions, optimise resource distribution, and streamline end-to-end system performance across wastewater networks via a single, integrated interface.

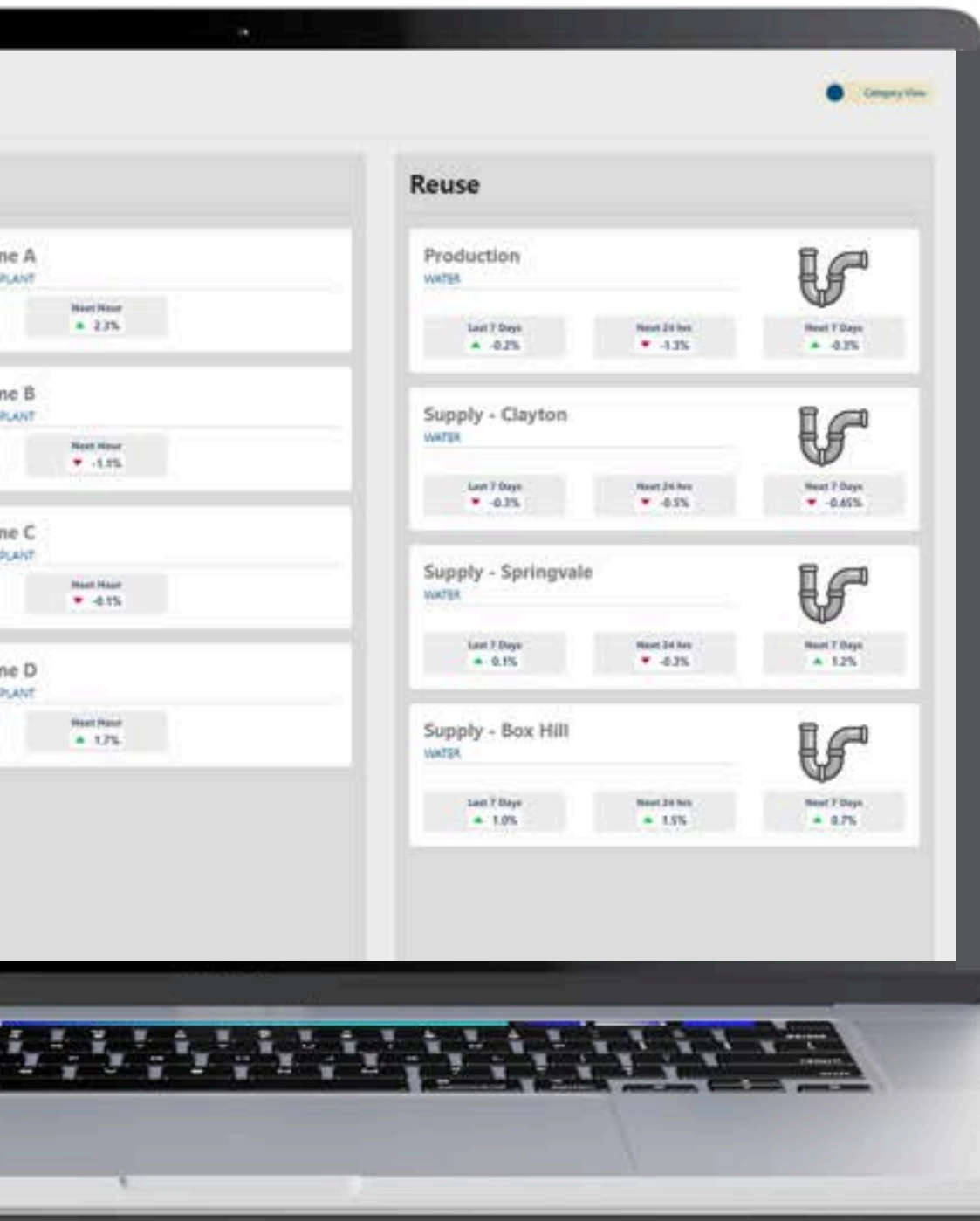


Catalysing Wastewater Control with Industry 4.0-Powered Cross-Data Collaboration

@ Tigernix Smart Wastewater 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?

Our solution is far beyond a standard control room you have seen. Powered by Industry 4.0 technologies like AI, IoT, Digital Twin, GIS, CAD, and Predictive Analytics, it consolidates scattered data into one central digital wall. TigernixWWCT unified ecosystem enhances comprehension, streamlines decision-making, and improves operational control over wastewater management for the regional and national level wastewater leaders.



One Smart Feature-Rich Dashboard
to Make
Success-Guaranteed Wastewater
Decisions

Robust Features of Tigernix Wastewater Control Room

Unifying Decentralised Data into One Analytical Screen

- Edge-to-Cloud IoT Synchronisation Engine
- Cross-Platform Asset Intelligence Dashboard
- Simulation-Enhanced Visual Forecast Models

Industry 4.0 Driven Oversight of Entire Wastewater Network

- Digital Twin Integration for Infrastructure, Assets and Processes
- Sensor-Driven Anomaly Detection Intelligence
- IoT-Based Cross-Location Asset Trackers

Digital Twin Scenario Modelling & Simulations

- Live Water Infrastructure & Asset Status
- Citywide Water Quality Index Indicator
- Smart Meter Analytics

GIS & AI-Driven Environmental Impact Analysis

- AI-Powered Ecosystem Stress Mapping Tool
- Location-Wide Risk Exposure Visualiser
- Sustainability Target Deviation Analysis

Multi-Layer Data Analytics & Predictions

- Water Quality Compliance Trajectory Visualising
- Asset Depreciation Predictive Intelligence
- Climate Risk and Resilience Mapping

AI-Satellite-Based Stormwater Prediction Modelling

- Rainfall-to-Runoff Forecasting & Visualising
- Floodplain Vulnerability Mapping with Radar Intelligence
- AI-Based Overflow Risk Prioritisation Grid



Faster Wastewater
Decisions



Situation-based
Simulations



Consolidated
Wastewater Asset Views



User-friendly and
Clearer Perspectives

System Capabilities

Cross-Location Governance Intelligence Dashboard

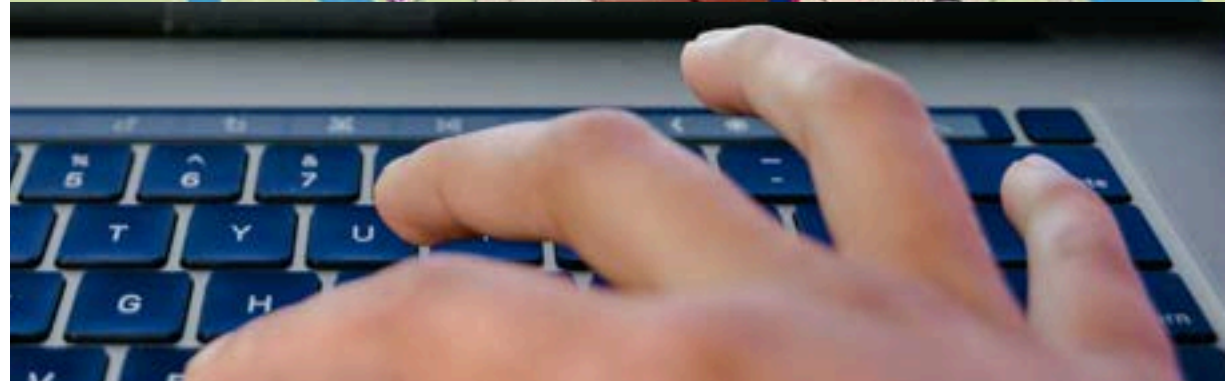
With IoT, AI, NLP, RPA, and advanced DSS, our command post centralises scattered wastewater data into a single video wall, allowing decision-makers to visualise policy impacts and environmental changes.

Unified Policy Impact Simulation Panel

Since Tigernix utilises AI, predictive analytics, and Digital Twin, etc., our digital dashboard consolidates data into an intuitive, visually driven policy impact simulation panel, empowering decision-makers with clear insights.

Dynamic Investment Visual Forecast Engine

Tigernix control tower's smart dashboard integrates advanced technologies like Digital Twin, simulations, and predictive analytics, providing real-time dynamic financial forecasts for wastewater governance.





System Capabilities

Water Quality Surveillance

Our control room integrates IoT, AI, and sensor networks into one smart dashboard, enabling real-time water quality surveillance for wastewater management and decision-making, ensuring compliance and effective resource management.

AI-Based Legislative Compliance Risk Analyser

Gathering technologies like AI, machine learning, and GIS, our control room's smart dashboard integrates data to run AI-driven legislative impact simulations, enhancing wastewater management and regulatory forecasting.

Climate Intelligence Integration

Tigernix wastewater control room employs advanced predictive analytics and high-tech intelligence to assess shifting weather patterns, vulnerable flood zones, and wastewater collection basin capacity, driving informed and timely flood management actions.

System Capabilities

Predictive Maintenance Algorithms

Our wastewater control room utilises predictive maintenance models, integrating sensor data, AI, and IoT analytics to foresee equipment issues, ensuring operational continuity and supporting informed decision-making.

Stormwater & Wastewater Integrated Oversight Map

We unify wastewater and stormwater data into GIS maps through satellite, radar, and CCTV technologies, offering visual insights that support catchment-wide management and proactive decision-making using a smart screen.

Geo-AI Socioeconomic Impact Heatmapping

Tigernix solution cross-references wastewater inefficiencies with demographic and economic data, applying predictive analytics and AI to enhance operational efficiency and support evidence-based decision-making.





System Capabilities

Crisis Command Synchronisation Interface

TigernixWWCT seamlessly connects national, state, and municipal leaders during wastewater crises via an integrated digital platform, enabling real-time communication, coordinated decision-making, and data-driven resource management.

360-Degree Sustainability Visualisation Interface

Our control tower visualises environmental, social, and economic ramifications of wastewater decisions, integrating advanced data analytics and predictive modelling to optimise sustainable practices and guide strategic policy development.

Interactive Data Storytelling Platform

This control panel transforms complex wastewater data into intuitive, easy-to-understand visual narratives, simplifying technical details for non-technical audiences and enabling informed decision-making across the government.

5-Phase Framework



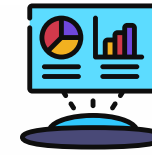
Data Flow

- Data is transmitted via APIs and cloud middleware for seamless integration with industrial and analytical systems.
- Real-time aggregation ensures interoperability across diverse hardware and software environments.



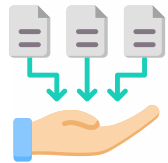
Data Process

- IoT sensors, 5G, edge devices, AI, and predictive analytics process incoming data in the control room.
- Advanced processing enhances data clarity, predictive insights, and system interoperability.



Data Visualisation

- Data is visualised through live dashboards, thematic maps, automated reports, 3D simulations, and flood risk heatmaps.
- Visual tools support collaborative decision-making and strategic operational planning.



Data Capture

- TigernixWWCT collects data from SCADA, PLCs, sensor networks, flow meters, analysers, and environmental monitoring systems.
- Multi-point data collection ensures comprehensive monitoring of operational, chemical, and environmental parameters.



Data-Driven Decision-Making

- The Control Tower unifies real-time data into a single dashboard for production, sustainability, and stormwater management.
- The centralised interface enables informed, efficient, and strategic decision-making.



Key Challenges & Solutions

Tigernix Wastewater Control Tower accelerates decision-making by centralising fragmented data from IoT sensors, satellite imagery, and remote sensing into a single digital platform, enabling wastewater leaders to access unified, real-time insights across multiple locations. This Industry 4.0-powered system delivers 10x faster operational responses by providing region-wide visibility. By unifying diverse data streams, Tigernix empowers utilities to optimise operations across geographically dispersed wastewater networks.



Fast Decision-Making due to Centralised Wastewater Data

It is a challenge that wastewater leaders receive scattered information from separate wastewater aspects. Since our platform is powered by Industry 4.0 technologies, it unifies fragmented data from IoT sensors, satellite imagery, and remote sensing into a central platform, facilitating 10x faster decision-making.



Real-Time Visibility Across Diverse Geographic Areas

Tigernix offers a unified digital screen that captures wastewater insights from multiple locations through satellite feeds and IoT sensors, giving decision-makers region-wide operational visibility in real-time. This promotes strategic planning, resource allocation, and effective emergency response across wastewater plants.



Key Challenges & Solutions

Tigernix's Wastewater Control Tower (TigernixWWCT) revolutionises infrastructure planning by merging AI-powered financial forecasting and data translation tools, enabling scenario-based investment modeling for climate-resilient wastewater systems while converting technical metrics into plain-language insights. Its integrated dashboards empower leaders to visualise long-term asset performance, justify expenditures, and deliver transparent, equitable infrastructure outcomes.



Transparency in Wastewater Investments

With scenario-based investment forecasting, TigernixWWCT empowers decision-makers to visualise long-term asset performance, justify capital expenditure, and deliver smarter, publicly accountable infrastructure outcomes that align with climate-resilient governance and intergenerational equity in wastewater planning.



Data Decoded for Policy Makers

TigernixWWCT bridges the gap between engineers and executives, using AI and NLP to convert technical wastewater metrics into plain-language reports, empowering policymakers with simplified insights for informed governance, budget planning, and public transparency all under one screen.

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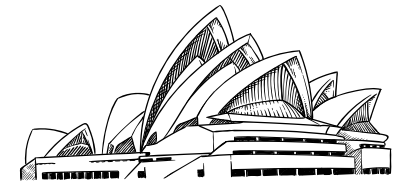
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