



Tigernix Water Control Tower

Data-Based Smart Command
Centre for **Water 'Super Vision'**

Introduction

One-and-Only Industry 4.0-Powered Hydrocommand Platform

Understanding the data decentralisation challenges municipal councils, water agencies, and governments encounter, Tigernix Water Control Tower (TigernixWCT) bridges data gaps through a real-time, cloud-based support solution. Industry 4.0 digital capabilities power this platform, which simply provides visual clarity, actionable insights, and smart alerts across all operational layers throughout the entire water network, from catchment, treatment, distribution, and reticulation. Designed for leaders, it empowers holistic control and sustainable governance with one streamlined, intelligent system.

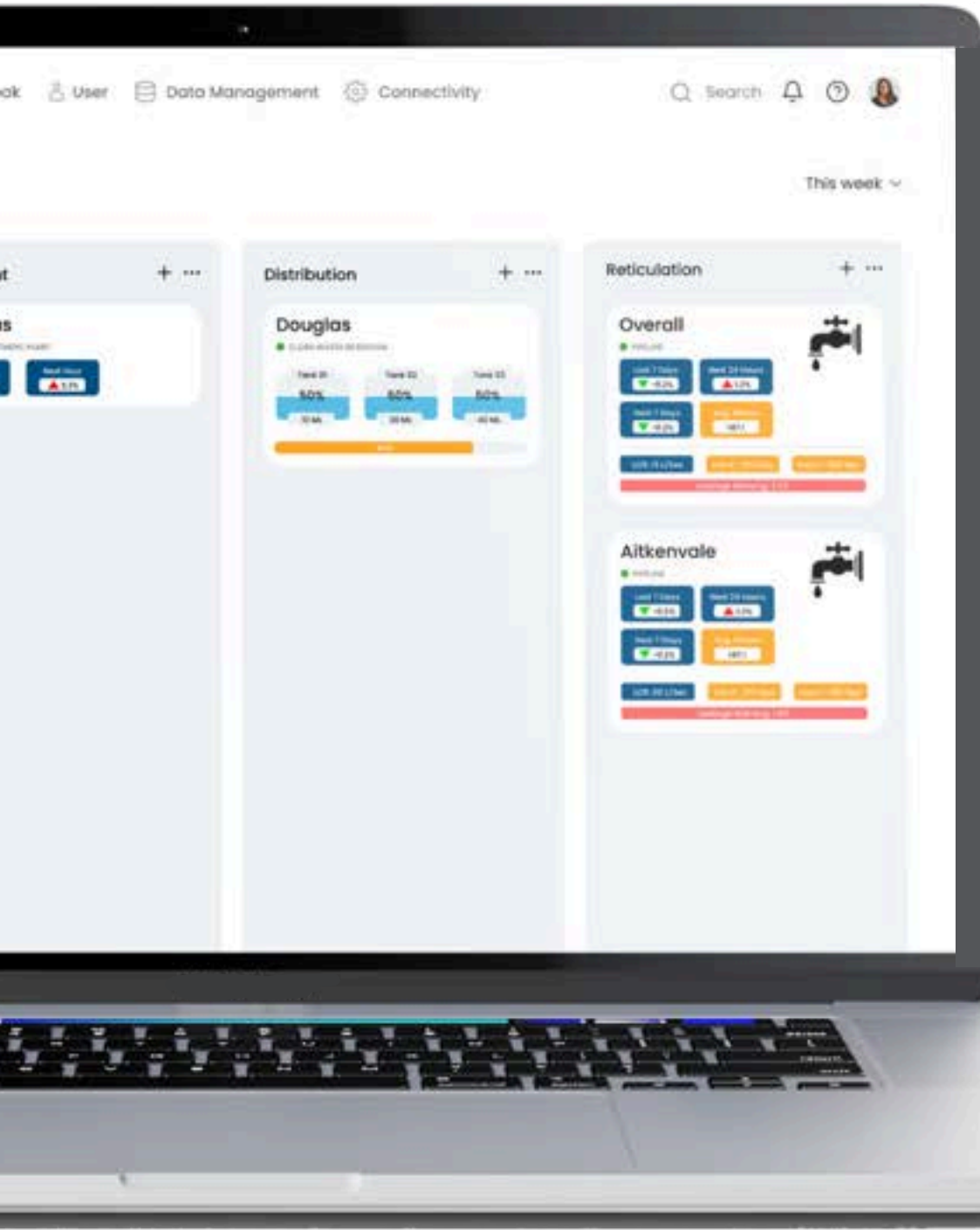


Reimagine Water
Governance with Next-Gen
Digital Power

@ 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?

Designed for national and regional water industry decision-makers, Tigernix smart water platform replaces scattered systems with a unified, AI-powered command centre. With predictive analytics, GIS mapping, and real-time digital twin simulations, it is built to empower the leadership with confidence, control, and data-backed authority. TigernixWCT is a full-scale, authoritative decision-support controlling space that comes with a user-friendly interface, making the water leadership smooth.



Take a Revolutionary Leap in Water Management and Narrate the Story of Each Drop of Water in Seconds

Robust Features of Tigernix Water Control Room

Centralised Data Support System for Decision-Making

- Unified Multi-Source Data Integration
- AI-Powered Insight Generation & Simulation
- Cross-Sectoral Data Correlation & Visualisation

Industry 4.0 Powered Water Governance

- AI-Driven Policy Intelligence for Water Governance
- Automated Decision Workflows
- Geospatial Intelligence 100% Integration

Real-Time, Citywide Water Intelligence Dashboard

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

One Water Network Under One Controlled Space

- Interconnected Asset Predictive Intelligence
- AI-Based Resource Optimisation Engine
- Digital Twin for the Entire Network

Dynamic Weather Intelligence Integration

- Real-Time Weather Data Feed Integration
- Climate-Adaptive Water Modelling & Forecasting
- Disaster Scenario Simulation Tools

AI-Driven Crisis Command Mode

- Satellite-based Risk Detection Engine
- Auto-Prioritised Incident Dashboard & Criticality Tagging
- Cloud-Based Multi-Agency Coordination Layer



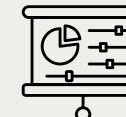
Futuristic Water
Decision Screens



Emergency Features
for Risk Mitigation



Insight Consolidation
Technology



Easily Digestible
Visualisation

System Capabilities

Smart Predictive Models

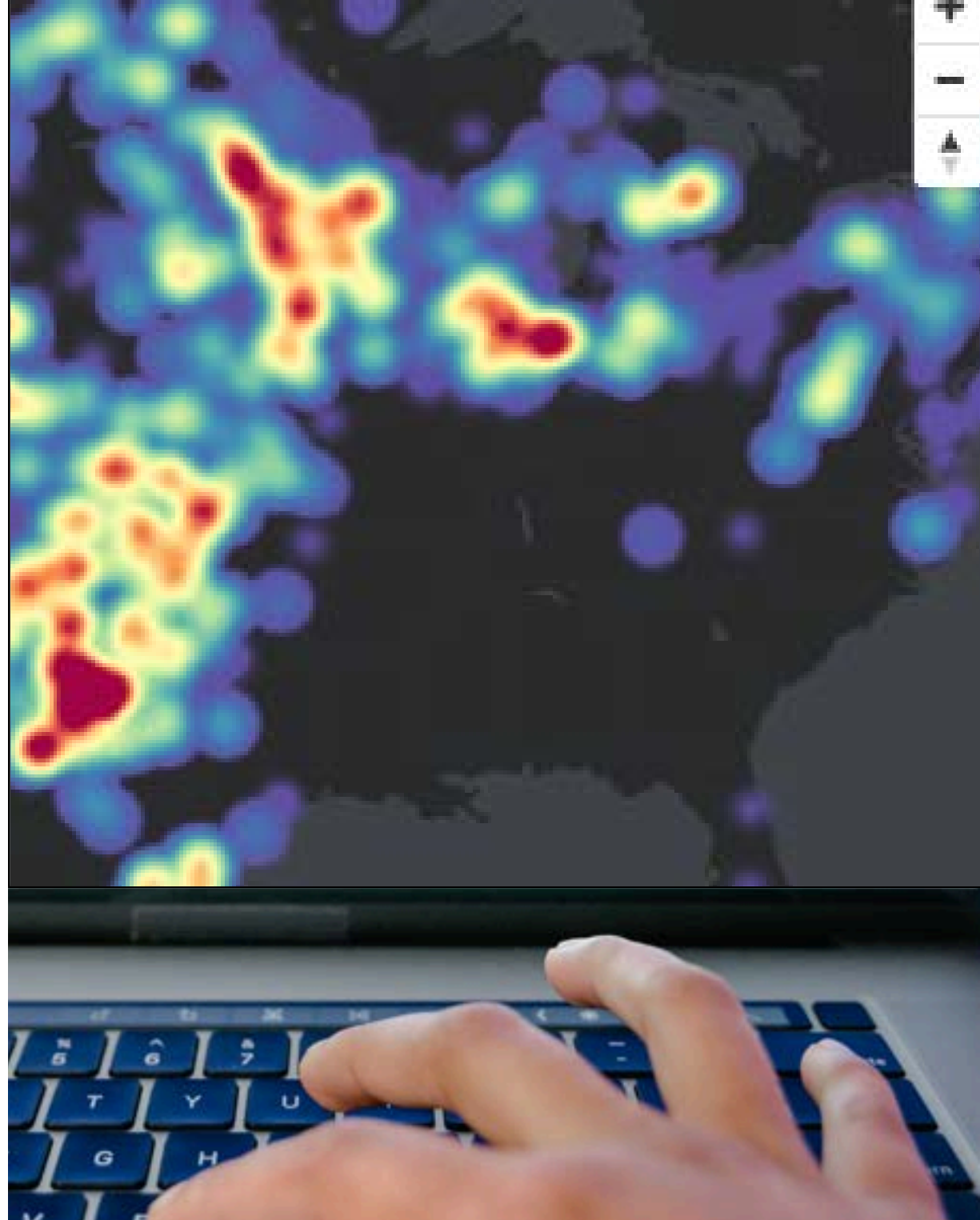
Its embedded AI models predict consumption spikes and low-demand periods, enabling load balancing, pressure zoning, and resource optimisation for sustainable citywide water governance.

Central Command Interface

TigernixWCT provides a macro-level operational overview of the integrated water infrastructure, displaying mission-critical KPIs, real-time alerts, and network telemetry through advanced geospatial and analytics-driven dashboards.

Digital Twin Simulation Module

Our solution digitally replicates water infrastructure via high-fidelity simulations, enabling policymakers to test operational scenarios, evaluate risk mitigation strategies, and optimise asset performance within a unified decision-support interface.





System Capabilities

Integrated GIS Mapping

TigernixWCT provides water leaders with geospatially mapped infrastructure—pipes, valves, assets, and faults enhancing macro-level visibility, rapid situational assessment, and coordinated infrastructure response planning.

Water Quality Surveillance

Our sensor-based anomaly detection feeds real-time alerts into governance dashboards, helping decision-makers initiate targeted responses, coordinate agencies, and maintain transparency during contamination events.

CCTV & Satellite Monitoring Tools

It feeds climate data streaming down from satellite, radar, CCTV, etc., into hydrological models, allowing water leaders to adjust dam operations, irrigation cycles, and inter-basin transfer regulations for maximum efficiency.

System Capabilities

ESG & SDG Alignment Visualiser

The solution integrates real-time environmental, social, and governance data with operational KPIs, enabling leaders to monitor compliance and strengthen ESG reporting frameworks across water utilities.

Predictive Maintenance Algorithms

Our support system receives predictive failure insights to inform smarter procurement policies, driving standards for sensor-enabled, AI-compatible equipment aligned with long-term resilience and sustainability goals.

Natural Language Executive Reports

Our special AI models synthesise critical information, offering non-technical summaries that bridge communication gaps between policymakers, regulators, and environmental agencies, establishing unified responses to water-related issues.





System Capabilities

Smart Financial Investment Models

Our smart financial modules provide real-time insights into infrastructure performance and costs, supporting decision-makers in identifying high-value investments that ensure efficient, resilient water management infrastructure.

Water Equity & Access Heatmaps

TigernixWCT includes geospatial tools to highlight underserved zones, allowing decision-makers to develop localised water distribution strategies, optimising social, environmental, and governance outcomes through precise resource deployment.

Boardroom Simulation Toolkit

We have included immersive 3D simulations to model complex scenarios, giving decision-makers the ability to analyse policy effects on water networks, ensuring robust decisions that mitigate risks and maximise benefits.

5-Phase Framework



Data Flow

- Integrates data via APIs and cloud platforms (RESTful APIs, IBM Integration Bus, MuleSoft, AWS IoT Core, Azure IoT Hub, ESRI ArcGIS, weather APIs).
- Centralises data from multiple sources for unified processing.



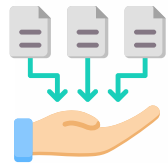
Data Process

- Aggregates and processes data using IoT, 5G, edge devices, and Industry 4.0 tools.
- Utilises AI, machine learning, big data (Hadoop, Spark), blockchain, digital twins, and stream processing (Kafka, Flink).



Data Visualisation

- Displays data on live dashboards, thematic maps, graphs, and automated reports.
- Offers 3D mapping, simulations, geospatial heat maps, satellite overlays, and collaborative dashboards.



Data Capture

- Connects to diverse sources: hydrological models, meteorological services, SCADA, sensors, satellite data, GIS, gauges, and monitoring stations.
- Collects comprehensive water, weather, and environmental data.



Data-Driven Decision-Making

- Centralises all data for quick analysis and response.
- Supports decisions in water distribution, sustainability, flood forecasting, climate adaptation, public safety, and financial planning.

Key Challenges & Solutions

Tigernix Water Control Tower will simultaneously visualise multiple KPIs and insight trends using multiple windows to enable comprehensive views of the top management and other water decision makers like regulatory bodies, policymakers, local government, international organisations, NGOs, etc. These comprehensive screens give a straightforward picture of the water parameters and asset conditions, performances, and cost sensitivities to make sure the final decision-makers understand the end-to-end story of your water systems before making a decision.



Accountability & Transparency in Asset Investment

TigernixWCT enters the accountable asset investment picture with Digital Twin and capital optimisation tools that can simulate future scenarios, enabling proactive, efficient investments. This approach ensures accountability, transparency, and data-backed decision-making for water infrastructure.



Transforming Technical Data into Non-Technical Reports

We see that policymakers lack access to digestible, non-technical summaries of technical water operations, where the TigernixWCT comes with NLP capability and AI-generated executive reports that translate technical data into plain language, offering clear insights for governance and public communication.



Key Challenges & Solutions

Tigernix Water Control Tower is an all-in-one system that discerns the fate of all water under one user-centric system by giving insightful information in plain, easy-to-understand dashboards. This solution can help your water control towers skip decades ahead in making the final water decisions, for it consolidates manipulated information that shows the whole picture and answers the conclusive questions asked by your main decision-makers.



Enhancing Decision-Making through Data Centralisation

It is a challenge that the lack of centralised information makes decision-making slow and fragmented across water agencies. Tigernix water control room unifies data across departments, from policy and infrastructure to public feedback, into one single command centre for fast, evidence-based decisions.



Risk Resilience via Integrating Climate Intelligence

It is challenging for water leaders as they cannot easily assess the long-term risk of water stress from climate change. Since TigernixWCT has climate resilience engines, it can forecast water-related risks (drought, flooding, scarcity) under different climate models, empowering climate-adaptive decisions.

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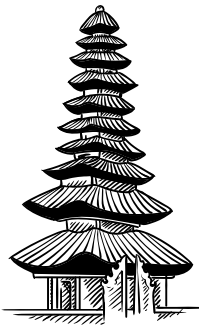
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