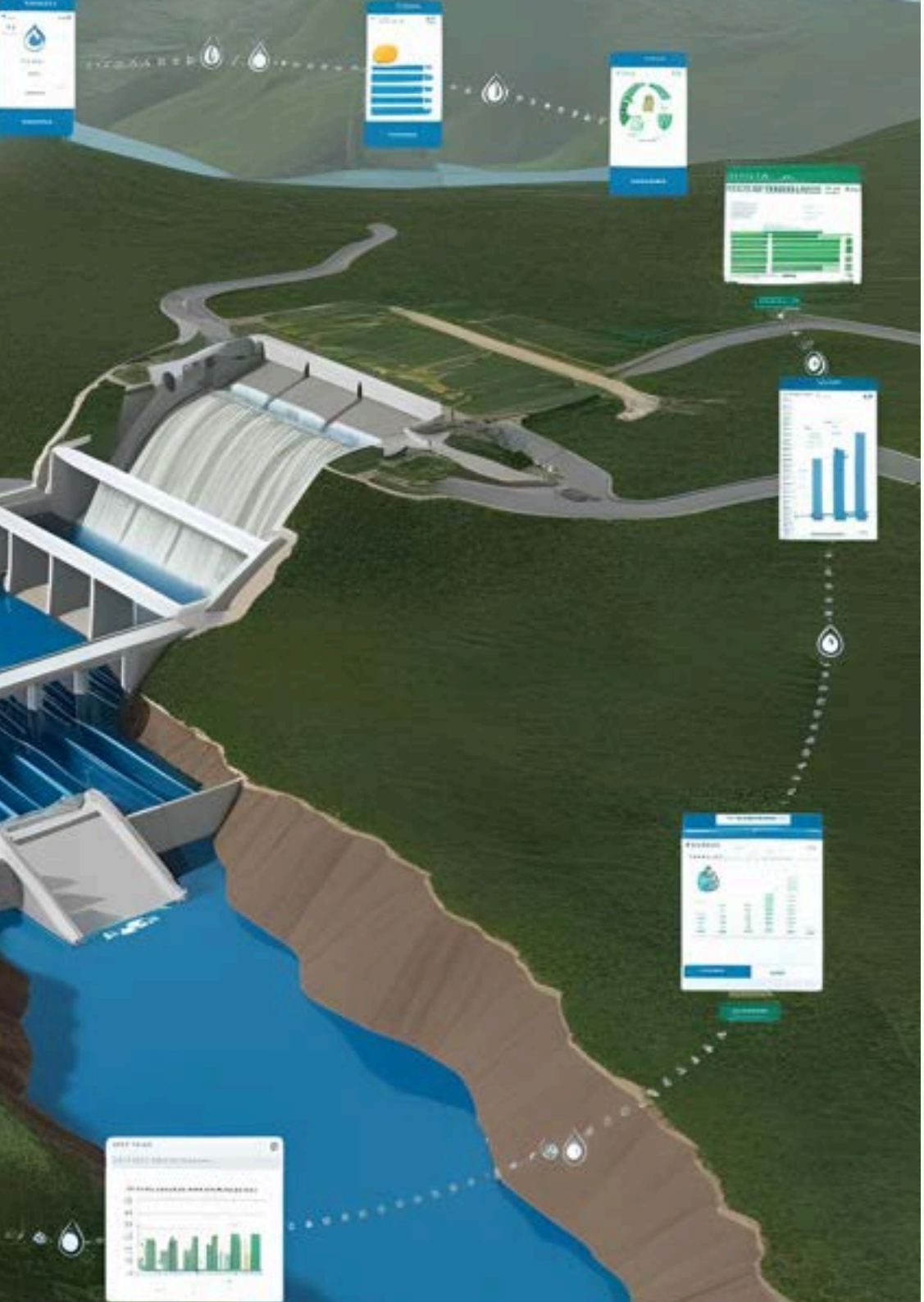


Tigernix
We are users too

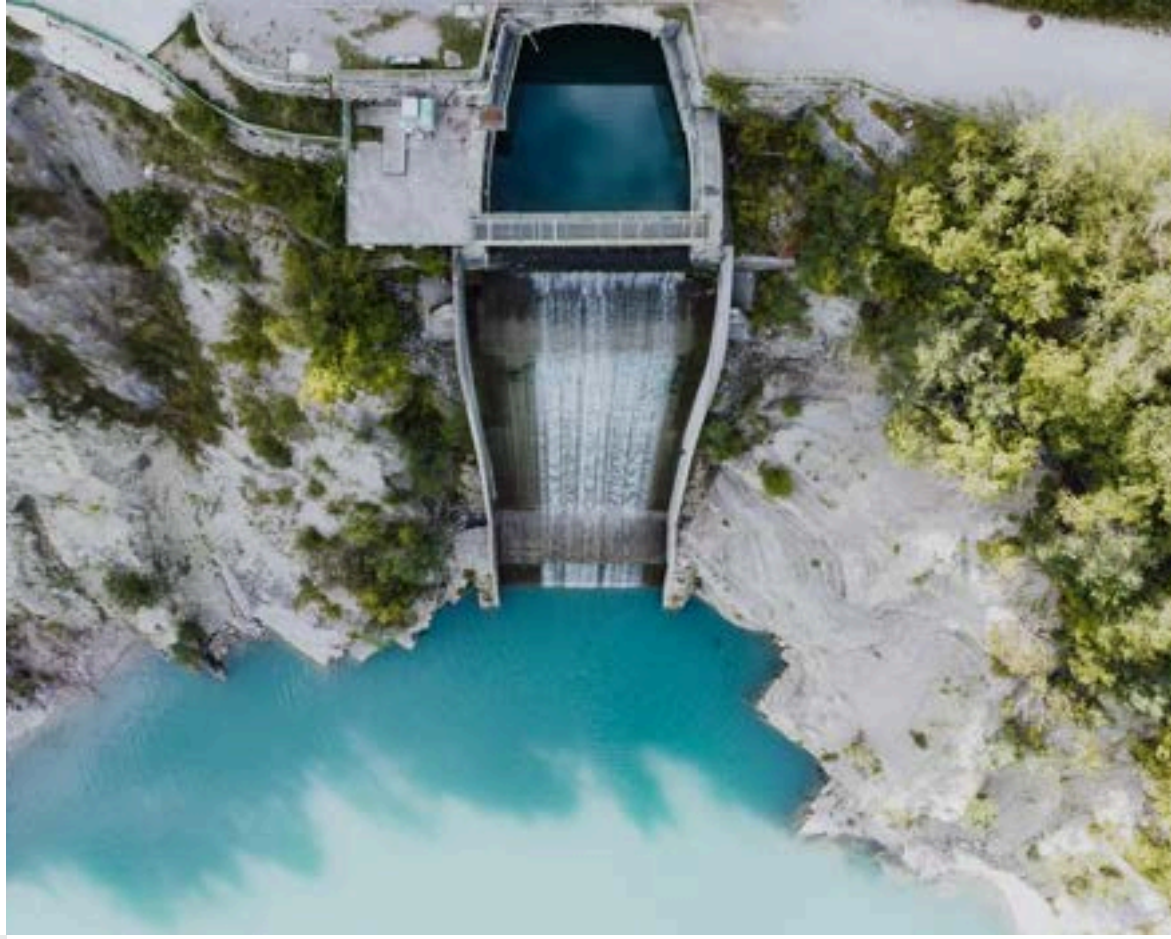
Tigernix Water Catchment Solution

'Industry 4.0 Integrated Intelligence'
for water collection network

Introduction

Super-Intelligent Cross-Catchment Collaboration Platform

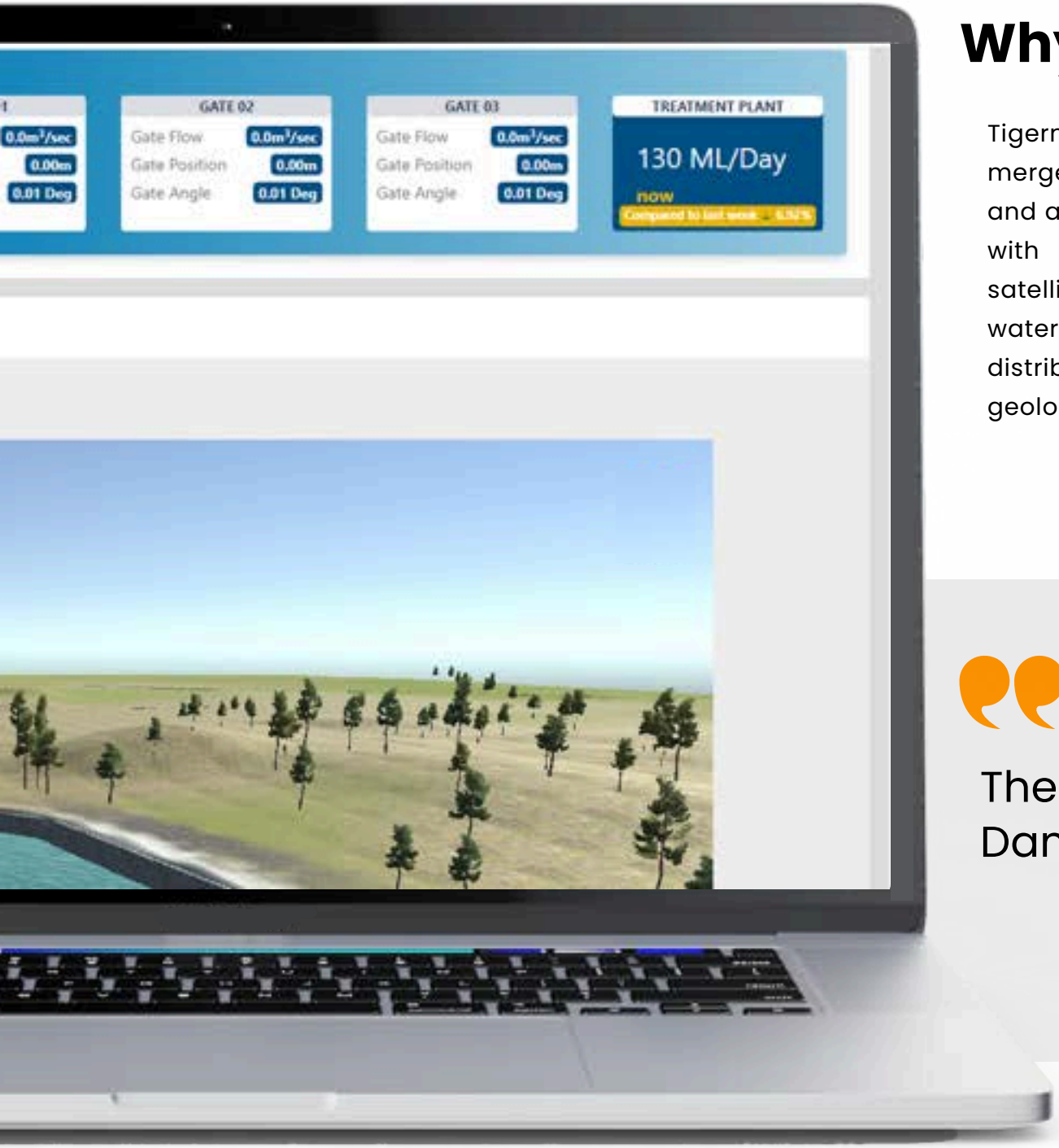
Tigernix Water Catchment Solution, designed with cutting-edge Industry 4.0 principles, provides a singular digital platform for integrating physical water assets, sensor-enabled machines, and hydrological event simulations. Its central dashboard employs data fusion, system interconnectivity, and AI algorithms to enable intelligent forecasting, system resilience analysis, and strategic infrastructure planning across the entire water catchment network, supporting proactive resource optimisation and sustainability objectives all under one dashboard.



> Full-Spectrum Control Over Entire Catchment Architecture
>
> @ 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's intelligent water asset management solution merges smart infrastructure control, hydrological data, and asset tracking into a centralised platform. Equipped with robust tools like Digital Twin, IoT sensors, and satellite integration, our software solution empowers water plant authorities to gain total visibility over distributed catchment networks, walking beyond geological barriers.

> The Fastest Step Towards Smart Dam Infrastructure 4.0

Robust Features of Tigernix Catchment Solution

Centralising all Decentralised Catchment Data

- Real-Time Hydrological Data Collection Module
- Cloud-Based Catchment Data Integration and Sync
- IoT-driven Data Visualisation and Reporting Engine

Industry 4.0 Powered Management Support System

- Autonomous System Optimisation and Resource Allocation
- AI-Driven Predictive Asset Health Monitoring
- Dynamic Climate Impact Assessment Tool

Smart Dashboard Visualisation

- IoT Data Aggregation and Filtering Module
- Customisable Report Generators
- Big Data-Driven Analytics and Forecasting

AI-Driven Maintenance Scheduling

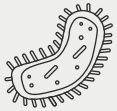
- Dynamic Maintenance Window Optimisation Algorithms
- IoT Sensor-Based Condition Monitoring Integration
- Predictive Analytics for Failure Projections

Climate Adaptation Simulation Engine

- Real-Time Climate Data Ingestion System
- AI-Powered Climate Scenario Forecasting Models
- Integrated Flood and Drought Prediction Tools

AI-Powered Smart Investment Module

- Real Time Asset Valuation and Optimisation
- Predictive ROI Forecasting with Deep Learning
- Smart Budgeting via Data-Driven Insights



Smart Algal Bloom Detection

Risk Mitigation Protocols

Natural Disaster Resilience Strategies

3D/4D Digital Simulation Platforms

System Capabilities

Centralised Catchment Data Integration

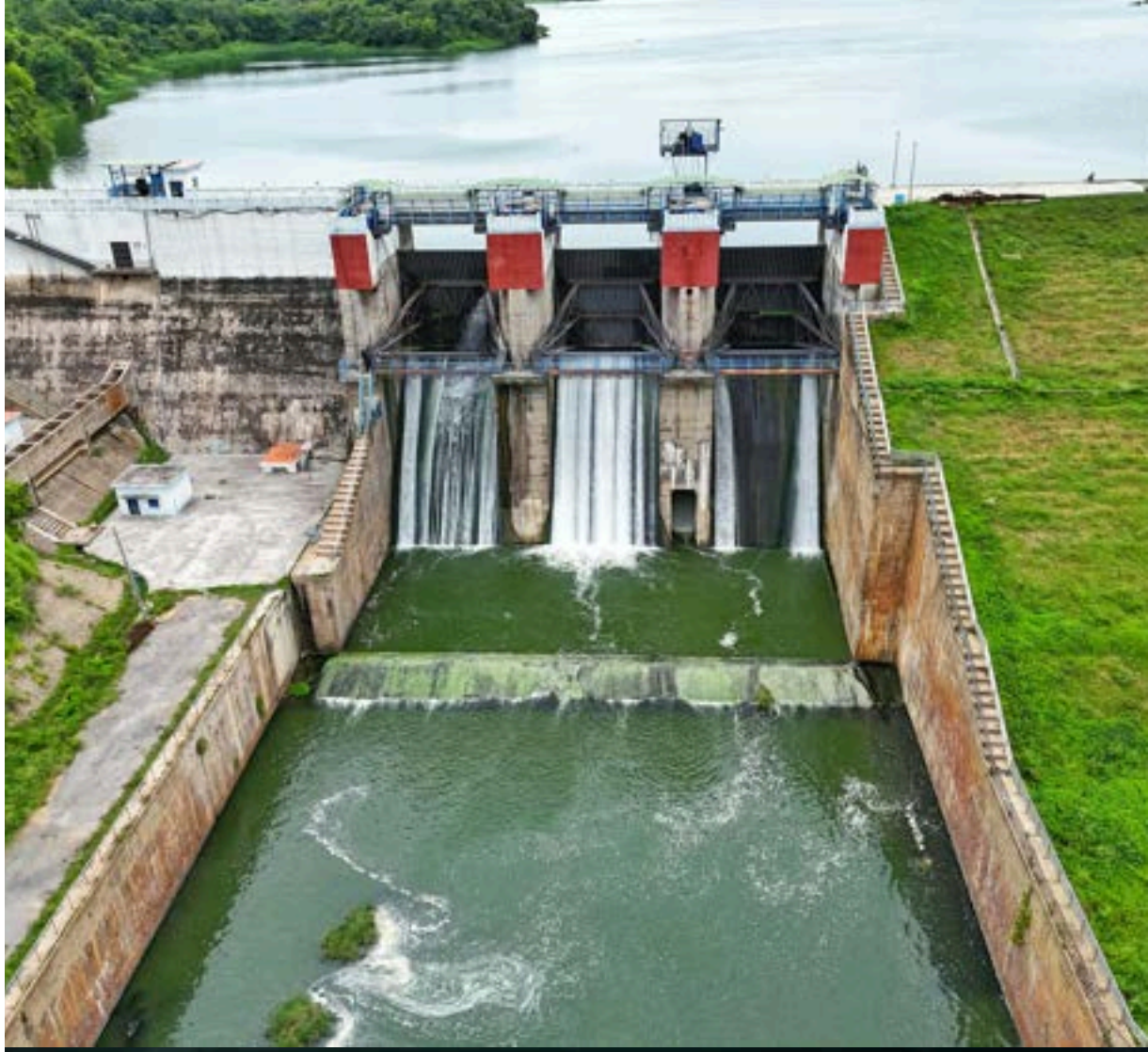
Tigernix Industry 4.0 high-tech software enables seamless unification of fragmented hydrological datasets through AI, IoT, satellite telemetry, and edge-cloud synergy, ensuring holistic, real-time catchment intelligence delivery.

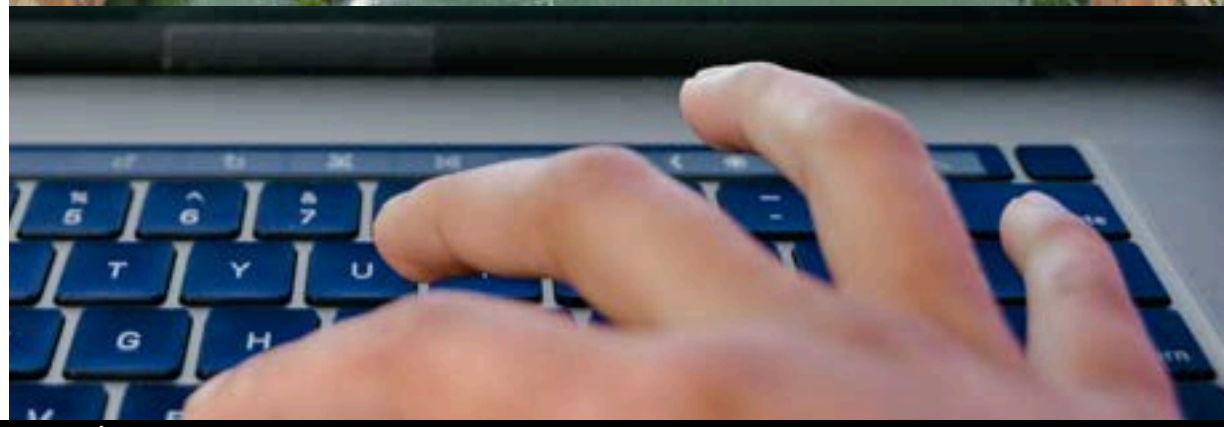
IoT-Based Real-Time Monitoring Interface

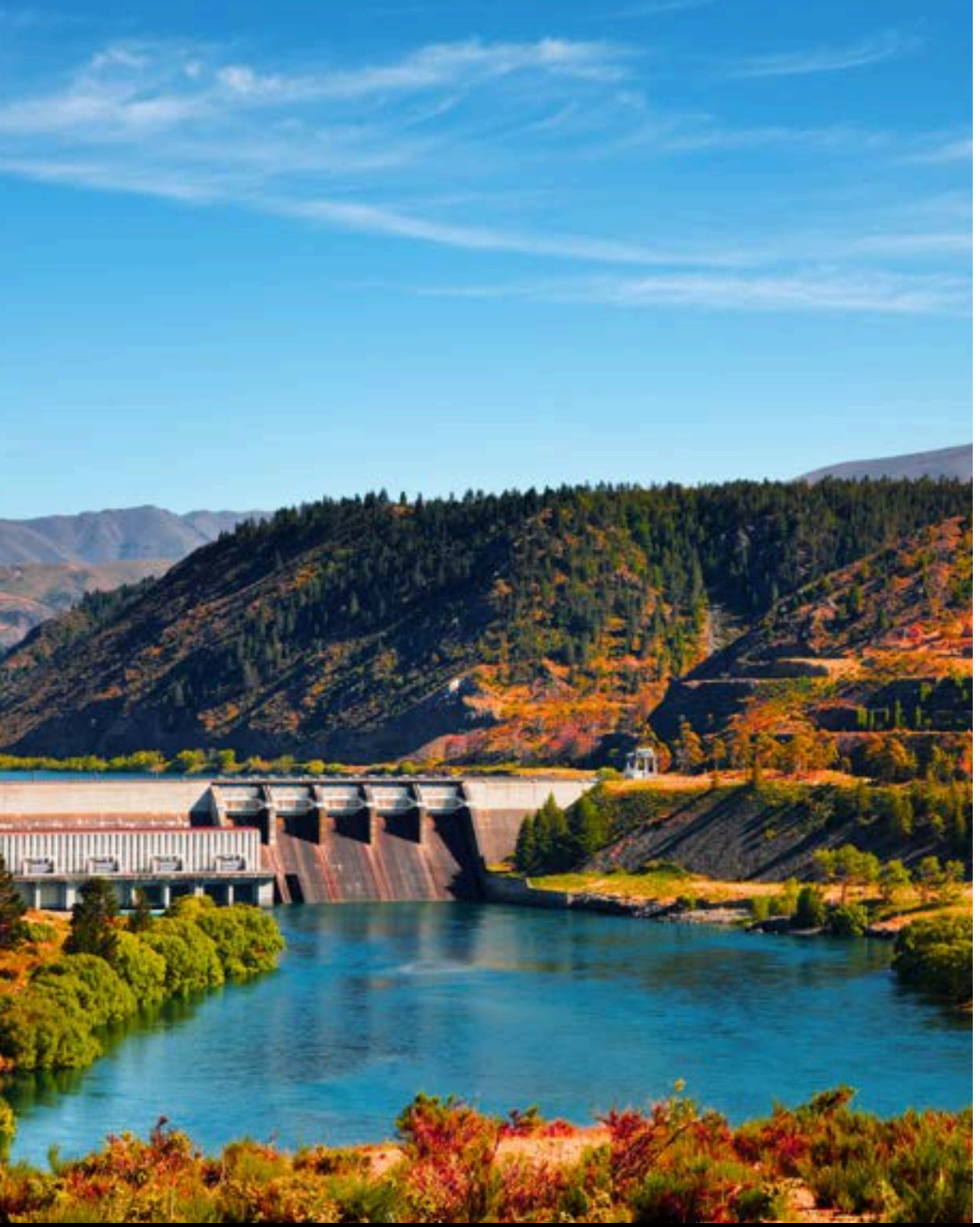
Deploying IoT-enabled sensor arrays, our platform ensures uninterrupted data acquisition on aquifer recharge, reservoir levels, rainfall distribution, and asset wear, supporting data-driven catchment management for each aspect.

Digital Twin Asset Replication Suite

This system creates real-time digital replicas of catchment assets, from pipes and pumps to reservoirs, integrating structural analytics, flow dynamics, and operational telemetry for precision management and foresight simulation.







System Capabilities

AI-Powered Predictive Maintenance

Our solution's neural network-powered diagnostics capabilities assess lifecycle trends, moisture exposure, and pressure thresholds, supporting intelligent maintenance decisions for long-term sustainability in catchment infrastructure.

Hydrological Process Simulation Module

Since it has real-time scenario modelling engines, it predicts hydro-event outcomes across terrain, structures, and reservoirs, using ML-enhanced flow equations and spatial-temporal catchment datasets for resilience planning.

Dynamic Asset Lifecycle Management

Our solution couples with digital-first lifecycle systems and analyses hydrodynamic stress, component fatigue, and repair histories, enhancing asset management for strategic upgrades and future-proofed catchment operations.

System Capabilities

Water Quality Intelligence Dashboard

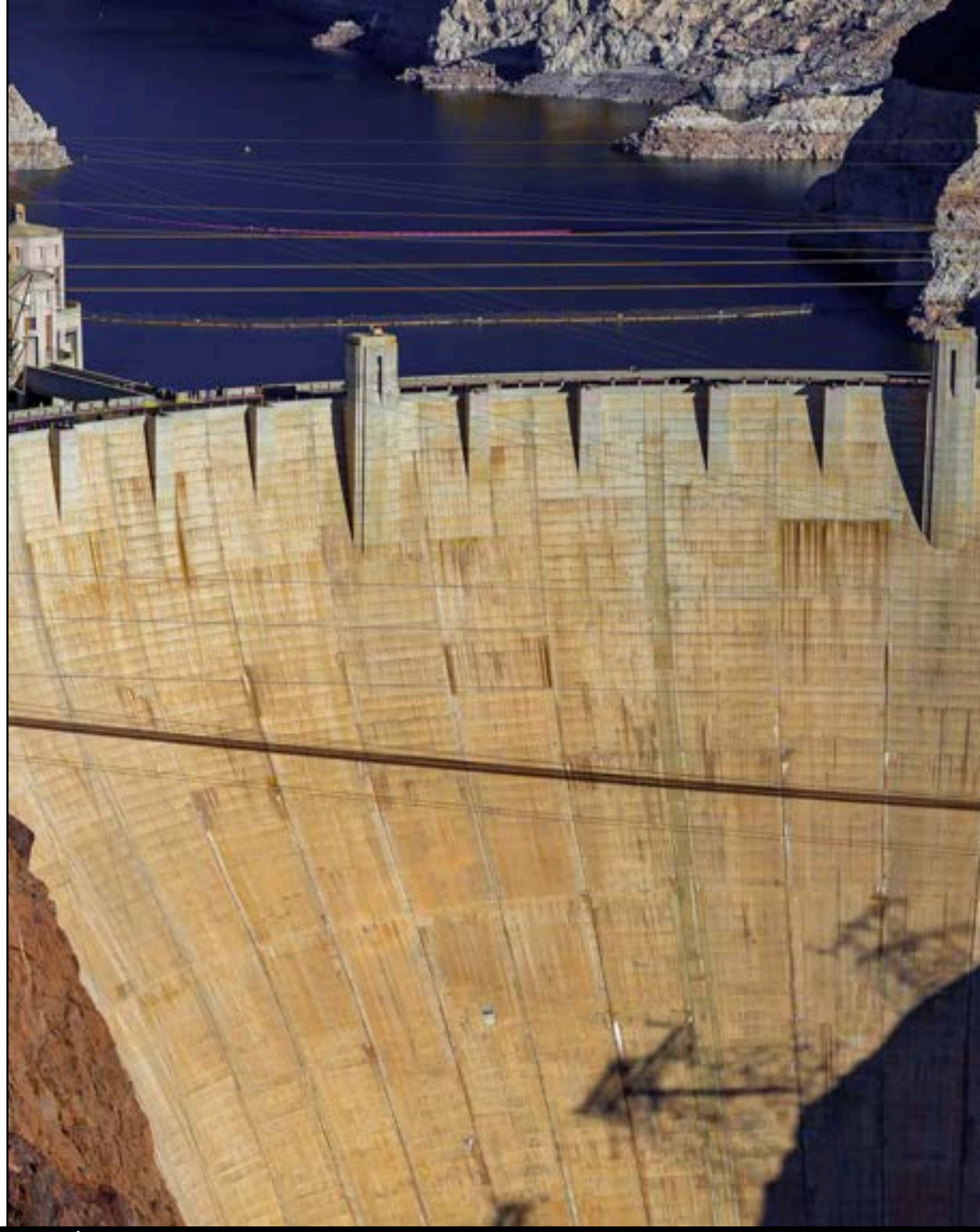
Tigernix system's scalable dashboard couples with AI and IoT to monitor pH, turbidity, nutrient load, and contaminant spikes, empowering real-time water quality management across all catchment networks.

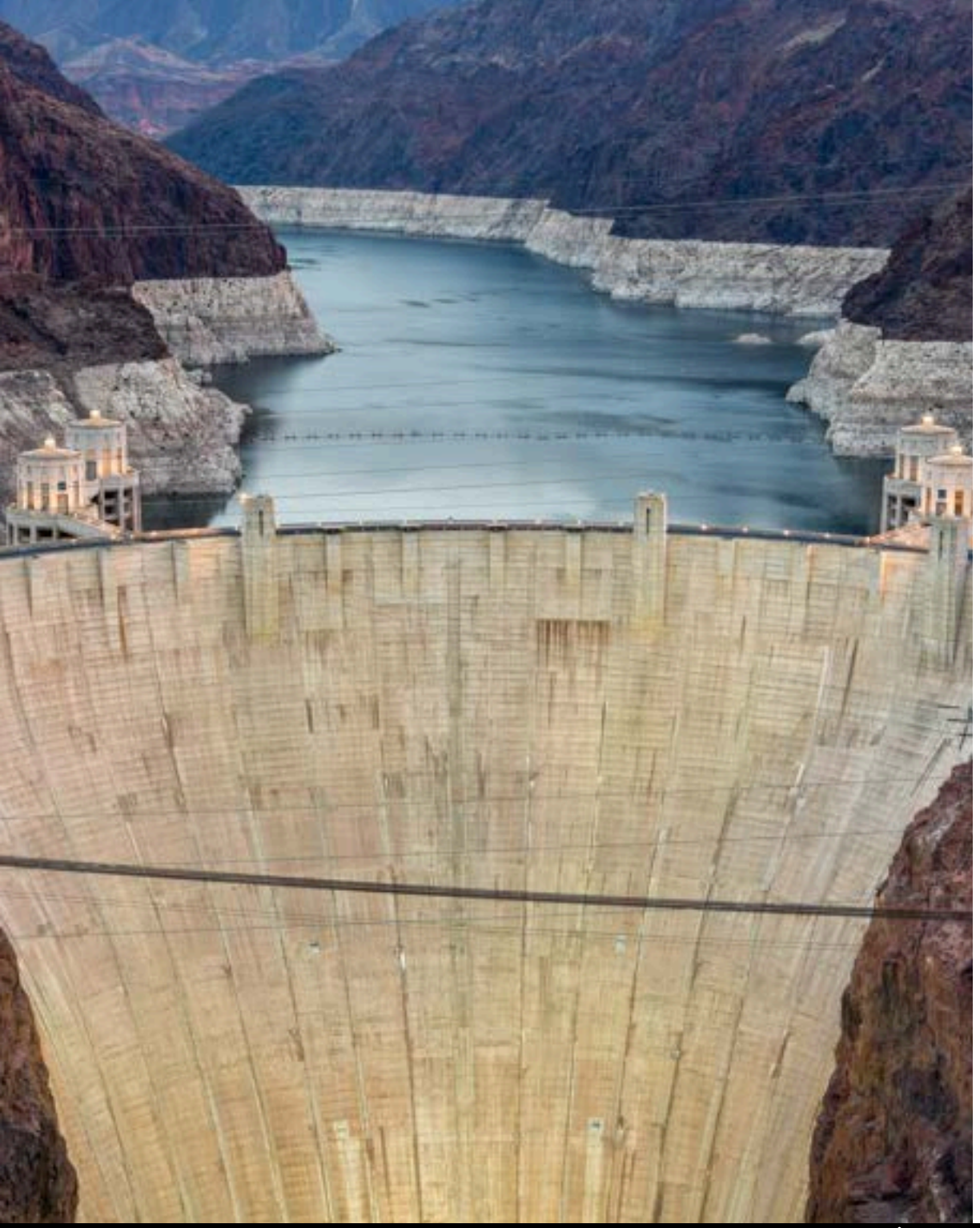
Satellite Imaging and Geo-Mapping

This module uses satellite, CCTV, Radar data and geo-mapping to monitor catchment ecosystem changes, infrastructure health and stormwater patterns to optimise catchment process management for sustainability and resilience.

AI-Based Capacity Planning and Forecasting

Tigernix's AI-driven system integrates data from catchment assets, climate models, and real-time analytics to forecast demand, streamline capacity planning, and optimise resource allocation, all under one smart screen.





System Capabilities

Autonomous Work Order Generator

Our platform's work order automation module integrates asset condition monitoring, predictive analytics, and environmental data, autonomously generating tasks to maintain catchment infrastructure and optimise process management.

Integrated Ecosystem Health Monitoring

Tigernix solution combines IoT sensors, satellite imaging, and AI to monitor catchment ecosystems' health, focusing on biodiversity, water quality, and environmental parameters, all while ensuring sustainability and balance.

Digital Compliance Risk Scoring Engine

We have added smart compliance risk modules that use machine learning to assess the adherence of catchment infrastructure, environmental practices, and asset conditions, ensuring regulatory compliance and reducing operational risks.

Key Challenges & Solutions

Keep your catchment operating team updated and well-trained to face any flood impact or dam overtopping events with forward-looking predictive and prescriptive tools, simulation technologies, IIoT sensor networks and more out-of-the-box technological tools. We ensure that your catchment infrastructure is resilient to any flood impact and the aptest flood control strategies are always close at your hand.

Unifying Fragmented and Decentralised Data into One Place

This catchment software integrates data from disparate sources, including IoT-enabled sensors, satellite imagery, and remote sensing technologies, into a unified, AI-driven platform. This enables seamless data flow, providing real-time insights and simplifying the process for plant operators to facilitate proactive catchment network operations all under one screen.

Making Complex Asset Lifecycle Management Smooth

Catchment operators tend to face fragmented asset data management. A robust software platform like ours can consolidate asset performance, condition, and environmental data, automating lifecycle processes from acquisition to decommissioning, ensuring seamless tracking and optimised performance management across the entire asset lifespan.

Key Challenges & Solutions

Ensuring a high-quality catchment is one of the main responsibilities of water utility service enablers. Tigernix enables customisable and robust solutions that ensure the quality and desired quantity levels of water trapped in the catchment area. It allows the user to study detrimental impacts like toxic algae levels, sediment levels and other noteworthy determinants to ensure that your water catchment infrastructure is at its best quality.

Improving Forecast Accuracy up to 30%-40%

With its embedded AI-based predictive analytics, your forecast accuracy can be improved by 30-40%, allowing catchment plants' operators to predict water demand shifts, evaluate infrastructure capacity, and adjust strategies, ultimately minimising inefficiencies and ensuring a more sustainable, cost-effective management of water resources.

Instant Responses to Emergency Situations

With integrated sensors, satellite feeds, and AI, our full-scale catchment asset software offers real-time monitoring and automated diagnostics without any delay. This facilitates instant identification of emergencies, enabling rapid deployment of resources and proactive management, significantly reducing response times.

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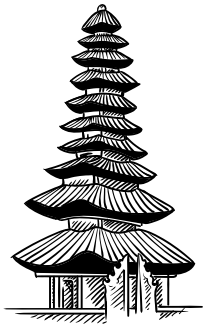

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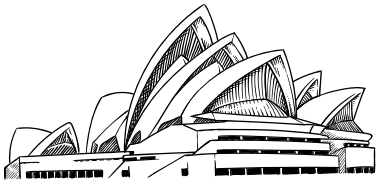

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