

# Intelligent Urban Exchange for Water: Advanced IoT Analytics Helps Reduce Non-Revenue Water

Digital Software & Solutions



Water is one of our most precious resources—essential for the good health and well-being of all people. With ever-increasing urban populations, however, water utilities worldwide are struggling to provide clean water and sanitation to their consumers. High levels of water loss in distribution networks known as Non-Revenue Water (NRW) is a large part of the problem. Yet, reducing NRW can be challenging. Often, utility leaders do not have access to information about the causes and cost of NRW and the pre-emptive steps that can be taken to reduce it.

Tata Consultancy Services' (TCS') Intelligent Water Management Application—part of our Intelligent Urban Exchange (IUX) suite—helps utilities and water networks proactively manage water loss and ensure safe, reliable water delivery. Its modular, cloud-based architecture and pre-built use cases help utilities launch smart water initiatives quickly and cost effectively.

## Overview

As the world population continues to grow at an unprecedented rate, providing consumers improved water supply and sanitation is becoming increasingly difficult. High levels of NRW prevent utilities from delivering reliable service to their consumers. When a large proportion of the water supply is lost due to poorly managed systems, it is difficult to meet consumer demands for clean water. And, because NRW does not yield revenue, it is difficult to keep water tariffs at affordable levels.

TCS' IUX Intelligent Water Management application helps governments, utilities, and water technology partners adopt a proactive approach to water loss management. Our pre-built Intelligent Water Management application includes out-of-the-box use cases designed to solve real water conservation challenges such as reducing NRW and optimizing capital allocation, while delivering Opex and Capex savings. TCS' robust IUX platform, built for Big Data, collects and analyzes data from multiple sources—flow, pressure, and level sensors and SCADA, meter data management systems, water management systems, Geographic Information Systems (GIS), enterprise systems, and Leak Detection systems (LDS)—to generate real-time insights and next step recommendations. In addition, our rich APIs enable partners and utilities to develop custom applications on top of the IUX platform services and resources.

## Solution

TCS' IUX Intelligent Water Management application provides:

- **Real-time Network Awareness:** Alerts, reports, and real-time insights about water distribution network events for the whole network or selected District Metering Area (DMA). Alerts inform utility managers of sudden breaches in KPIs so they can take direct action and publish early warnings to enterprise systems.
- **Deeper Insights:** Proactive water loss management based on predictive 'what if' analysis that helps evaluate beforehand the impact of NRW reduction initiatives and plan optimal strategies to reach set goals and objectives.
- **Recommended Actions:** Ability to set and track goals, import and view water balance data and compare against thresholds to drilldown to problem areas, compare DMAs with peers, analyze 12-month trends, and obtain 90 day forecasts to recommended actions for network teams.



## Benefits

With comprehensive analysis, advanced situational awareness, and goal-based performance monitoring, our Intelligent Water Management application helps:



### Reduce NRW levels

- Predict and mitigate NRW losses
- Enhance decision making with simulation, 'what if' analysis and performance tracking
- Maximize the effectiveness of planned initiatives
- Reduce leakage impacts



### Improve Operational Efficiency and Reduce Costs

- Support offline and real-time integration across fragmented systems
- Predict failures and improve maintenance operations
- Optimize repair Opex and network rehabilitation Capex
- Reduce capital expenses with As-a-Service subscription pricing
- Reduce IT infrastructure overhead with cloud-based applications accessible online or on mobile devices



### Accelerate Monetization

- Integrate partner data through standard or user defined data interfaces
- Connect to the IUX Platform using a wide range of devices, sensors, APIs and applications
- Launch partner urban cloud
- Develop custom applications accessing data and alerts from IUX Platform

## The TCS Advantage

TCS' unique value differentiators include:

- **Industry Solutions:** Our software has been created by experts with proven experience in water conservation. Our Intelligent Water Management solution with domain-specific data models incorporates the latest technology innovations and expertise from TCS' R&D.
- **Faster Deployment:** IUX's open standards platform enables faster solution implementation and integration with your enterprise's existing systems. The out-of-the-box Intelligent Utilities Application with pre-built domain-specific use cases for NRW reduction accelerates smart water deployments. APIs help you rapidly build and integrate custom applications.
- **Lower Cost of Ownership:** IUX's modular architecture lets you buy only what you need now with the option to add capabilities later, making it the perfect fit for any budget. The common, scalable IUX Platform extends economically across multiple domains such as water and transportation for collaborative city initiatives.
- **Simplified Business and Engagement Models:** We offer As-a-Service subscription pricing that does not require capital outlay. Our cloud-based offering includes applications that are accessible online or on mobile devices.
- **Experience Certainty Commitment:** Our corporate culture is one of superior delivery and customer certainty. Our consulting clients know the quality of our work, and now, companies can get that same level of quality, speed, and certainty with our preconfigured software and solutions.

## Awards & Recognition

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### About TCS Digital Software & Solutions Group

TCS Digital Software & Solutions Group delivers on the promise of Connected Consumer Intelligence™. Our experience working with the world's most successful enterprises drives the development of integrated software that helps them meet the higher expectations of today's wired consumers and citizens. With TCS DS&S Group software, organizations can design experiences that logically connect every touch point of the consumer's digital and physical journey.

### To know more

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Blog: [Catering to the Connected Consumer](#)

### About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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