

AquaSense

Water Supply Network Monitoring System



Water Supply Challenges

1. Insufficient raw water
2. Poor quality surface water
3. Inequitable distribution



Wastage and Economic Impact

1. 3% safe water
2. 40% estimated loss in distribution
3. 66% people may face shortage in near future



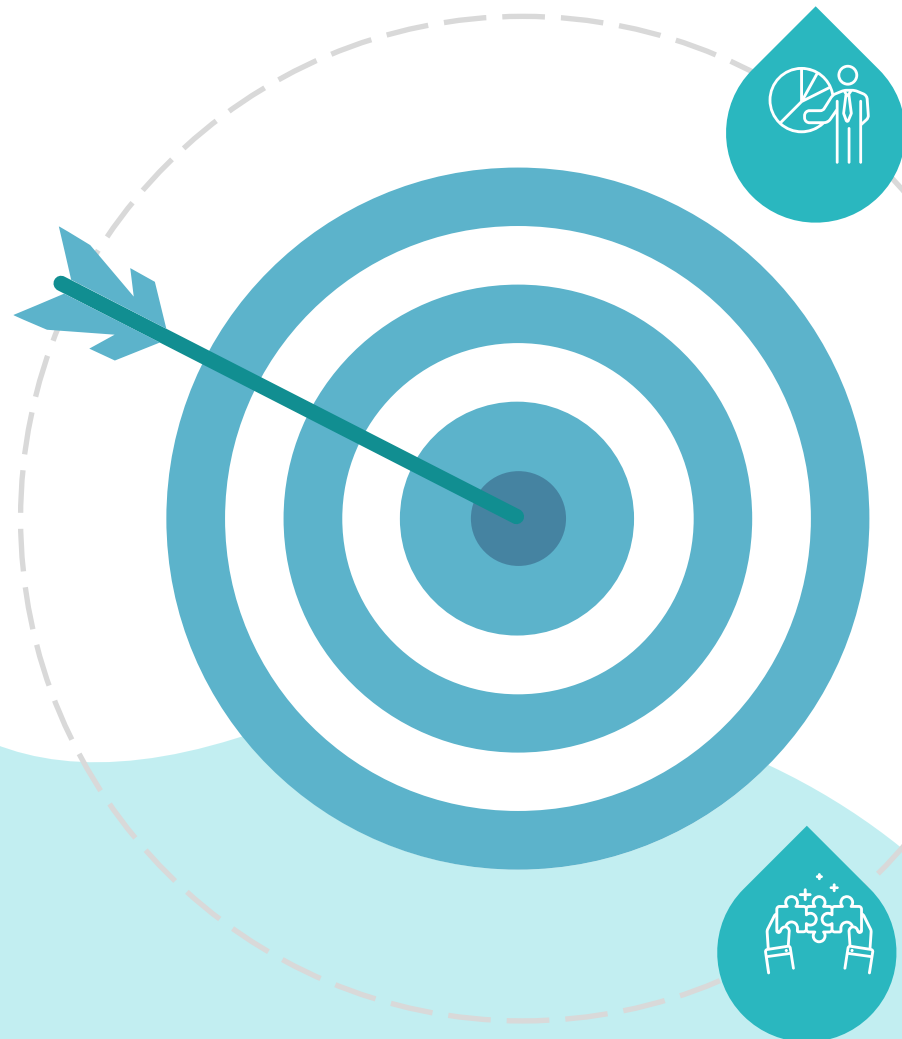
Smart Water Management Solutions

1. Real time monitoring
2. Consumption measurement
3. Dynamic regulation
4. Leakage control

INTRODUCTION



OBJECTIVES



Transparency

Improve the transparency of all the processes in the water supply chain.

Immediate response

Identify or even predict issues and respond to minimize the damage.

Automation & optimized use of human resources

Partially or fully automate life cycle of providing water to consumers.

Sustainability

Technologies are no longer a source of savings and higher efficiency only, but the means to reach different environmental goals.

Methodology

Conceptualization and Planning ●

Hardware and Software Setup ●

Data Collection and Processing ●

Model Development and Integration ●

User Interface Design ●

Integration of Features ●

Testing and Debugging ●

User Feedback and Iteration ●

Finalization and Documentation ●



Technology Stack



FastAPI

A modern Python web framework, renowned for its high performance, simplicity, and automatic interactive API documentation, to streamline development and enhance the scalability

React

A popular JavaScript library for building dynamic user interfaces, offering a component-based architecture and efficient rendering.

PostgreSQL

A powerful open-source relational database management system, recognized for its scalability, reliability, and advanced features.

Features

1

Real-time Monitoring

2

GIS Integration

3

Analytical Insights

4

**Grievance Redressal
Community Engagement**

5

**Alerts
Notifications**

6

**Usage Tracking
Automatic Billing**

7

**Accessibility
Scalability
Compatibility
Security
Privacy**

and much more

Benefits

- **Efficient Usage**
- **Improved Quality**
- **Enhanced Efficiency**
- **Leakage Control**
- **Consumption Monitoring**
- **Transparency**
- **Immediate Response**
- **Automation & Optimization**
- **Cost Savings**
- **Sustainability Goals**

FUTURE SCOPE

01



Data Expansion

02



**Integration
of AI & ML**

03



**IoT
Integration**

04



**Cloud
Scalability**

**THANK
YOU**