

Case Study

MOBILE APPLICATION FOR SMART WATER MANAGEMENT

Executive Summary

The client is a UK-based water utility company that offers connected solutions for smart water meters. They develop off-the-shelf custom-build IoT solutions for various business use cases including asset condition monitoring, predictive maintenance, and power management to achieve desired outcomes in industrial, construction, transportation, and retail space.

In many established cities where ageing infrastructure is struggling to keep pace with change, effective water management is critical. Improvements of 30%+ are needed on current PR19 levels to reach the UK Government's long term reduction targets. eInfochips, along with the customer, developed a smart water management solution to help consumers and water companies save water to meet the PR19 reduction targets and manage supply stress areas. The customer was looking to develop a mobile app connected to a smart water meter. This app aimed to empower consumers with insights into their water usage, enhance leak detection, and support compliance with the government mandates, ultimately driving smarter and more sustainable water management practices.

eInfochips' team developed native Android and iOS apps for real-time water management, featuring dashboards, charts, push notifications, and analytics. This solution significantly enhanced operational efficiency and customer satisfaction while achieving a 25% reduction in Per Capita Consumption (PCC) of water. Additionally, it reduced water leaks by 7% and introduced real-time alerts and the capability for remote shutdown of the water supply.



**React Native
Mobile App
Development**



**Advanced data analytics
and machine learning
for detecting leaks
and usage patterns**



**Dashboards
and charts for
visual data
representation**



**Real-time push
notifications and
configurable alerts
for water events**



Client

The client is a UK-based leader in IoT and digital solutions, specializing in delivering end-to-end, ready-to-deploy connected solutions for asset monitoring, predictive maintenance, and power management. Known for simplifying IoT and smart services, the company offers comprehensive solutions, encompassing design, implementation, and management, tailored to diverse industries.



Challenge

The client faced multiple challenges in developing a mobile app to modernize water management. Key issues included integrating real-time data from various smart water meters, creating a secure and adaptable user management system, and establishing effective reporting for issues like leaks. The app was required to be scalable, reliable, and secure to handle growing meter numbers and protect sensitive data.



Solution

eInfochips developed a comprehensive mobile application for both Android and iOS platforms. The app featured intuitive dashboards and charts to provide clear visual data representation. It included push notifications for real-time alerts about water events and advanced data analytics to detect water leaks, usage patterns, and other critical metrics. The application also incorporated robust user and access management functionalities to ensure secure operation.



- React Native based mobile application developments
- Dashboards and charts for visual data representation
- Real-time push notifications and configurable alerts for water events
- Advanced data analytics and machine learning for detecting leaks and usage patterns
- Secure login and user management, including role-based access control
- Device registration, Bluetooth/Wi-Fi connectivity, and OTA firmware upgrades
- User onboarding and intuitive setup
- Monthly and annual usage comparisons, with usage goals and leak reports
- Family member list and top 10 consumption events for detailed tracking
- Configurable alerts and notifications for critical events
- Device configuration settings, including event triggers and quiet times
- Comprehensive UI/UX development to create an intuitive, user-friendly interface
- Quality assurance through various testing frameworks and tools



Tools & Technologies



Benefits

- The mobile app enhances awareness of usage patterns and encourages behavioral change leading to a 25% reduction in Per Capita Consumption (PCC) of water
- Immediate data transmission on water pressure, temperature, and flow through the app allows for quick identification and repair of in-home leaks. It helped achieve a 7% reduction in water leaks through enhanced leak detection capabilities

About eInfochips

eInfochips is a Product and Semiconductor Engineering Solutions company recognized for technology leadership by Gartner, Frost & Sullivan, NASSCOM and Zinnov. eInfochips has contributed to 500+ products for top global companies, with more than 10 million deployments across the world.

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