

# Smart City Water Management System

## Abstract:

Common water supply problems around the globe are related to interrupted supply and the quality of water at the consumer's end. Major challenge in the problem is due to the fact that a considerable amount of water is lost in the flow from its source to the tap. This loss can be either due to leakage or due to thefts in between the distribution network. If a considerable amount of water that is supplied is lost/wasted, then it would be difficult to meet the consumer's demand. This waste/lost water leads to loss of revenue which in turn leads to an increase in prices. So, the need to monitor the waste water effectively brings into picture the concept of *Internet of things* to build a smarter system.

## Problem Statement:

Use sensors (so called human persona) to create a smart city water management system to address water sustainability and protect the water system from threats like water theft/unauthorized use & water leakage. High leakages in one area can lead to significant water supply interruption in other areas during peak demand hours which may dissatisfy the customer.

Every year millions of gallons of water are lost through leaks in aged water pipes which is never billed. Unaccounted for water is as high as 40% in cities around the world. In water systems, unsatisfied demand and limited coverage is often the main reason why the system should be improved.

## Social Impact on society:

Finding the threats and establishing better predictive major water repair scheduling system at the correct time would benefit the society or so called city from saving millions of dollars in terms of revenue which would otherwise have gone unmeasurable. This would also mean a continuous water supply.

Also the main objective of this water system is to satisfy customer demand. Waste water losses often lead to intermittent supply due to limited water availability which may lead to significant health risk.

## Project Scope:

- The Application can be accessed by different users: System Admin, Enterprise Admins, Admin Department i.e. location admins, Water Security Department, Repair Department, Complaints Department, Accounts Department & Customer.
- System Admin : Manage networks, Enterprise and Manage enterprise admins
- Enterprise Admins : Manage Organizations , Manage Employees , Manage User Accounts
- Location Admins: Direct the complaint requests from consumers to the concerned department and check the status.
- Water Security Department: Checking of the leaks, faults and thefts of water and notify the said department and request the Repair Department for appropriate scheduling of repair works.

- Repair Department: Carry out the repair works forwarded by the Security department
- Complaints Department: Will pick up the complaints and interact with the customer for more details and frequently send the status of the complaints to the location admins.
- Accounts Department: Account for the total loss after the detection of leakage and before the repair is done in terms of revenue.
- Customer: Log a complaint for an issues and provide the feedback after its resolution.