**WATER LEAK/THEFT DETECTION SYSTEM**

**FEATURES -**

1. Live Water Flow Monitoring.
2. Water Leak/Theft Detection (with Location).

**OBJECTIVES -**

1. Live Water Flow Monitoring:

* The water flow will be monitored live, and updates of amount of water (liters per second) can be obtained.
* This allows the user to monitor and verify the amount of water flowing through the route between two points.

1. Water Leak/Theft Detection (with Location):

* The flow monitoring will allow us to know whether a route needs repair (i.e. pipeline is damaged) or an unknown, unwanted acquisition of water is taking place (theft of water using illegal routing methods).
* If the amount of water flowing from point A (per second) is equal to the amount of water flowing from point B (per second) then there is no leak/theft in between points A and B.
* If that is not the case the GSM module will send an alert from point B to point A regarding the loss in water quantity. Point A will then act upon the alert and shut its valve preventing any more water to flow further, thus preventing any more loss/theft of water until the problem has been taken care of.
* The GPS module in the unit will let the user know exactly where the leak may have occurred in a system of more than two or three nodes.