# IoT-Based Smart Water Purifier


## Abstract:

Water is vital resource for life. Drinking safe water is important aspect for a healthy life. In modern world water pollution is one of the major cause for various types of water-borne diseases, 40% of the deaths worldwide are caused by water pollution. The clean and safe drinking water is getting depleted every second hence water purification is todays need. World bank estimates that 21% of communicable diseases in India are related to unsafe water, contamination has been a long standing problem in our country. The older methods are unable to monitor the water quality in real time and notify the user about the contamination. So, it is necessary to develop a real time water quality monitoring and notification system. Smart solutions for water quality monitoring are gaining importance with advancement in communication technology. Water quality depends on pH, turbidity, temperature along with some other factors are significant, and will be monitored by the system using sensors, through wifi system the sensor output data is sent to concern authority for further steps to improve water quality. The proposed system is portable, automatic water quality monitoring and notification system saves time and human resources. The notification will be sent to authorized person when sensors will detect bad water quality. It is low cost system for real time water quality monitoring.

The water bodies are polluted by human activities. The solution for contamination of water is to purify the water and monitoring the purity of the water. Total dissolved solids sensor(TDS) is used in the water purifier to measure the TDS value of the water, to reflect the purity of the water. TDS value continuously measured if the value goes below the predefined value, then the message will be sent to the user to alert him about the less purity in the water using the Internet of things (IOT)technology. Temperature sensor is used in this purifier to measure the temperature of purified water. The parts per million (ppm) value obtained from TDS sensor will change if there is huge change in temperature and water flow sensor which will sense the rate of flow of water and quantity of the water purified. The information regarding temperature ppm value and rate and flow of the water purified will be shown on the Liquid crystal display (LCD) display and the information is also sent to the user through mobile applications.