

# IDEATION PHASE

## LITERATURE SURVEY

Date: 05 November 2022  
Team ID: PNT2022TMID42599  
Project Name: Real time water quality monitoring and control system

### TEAM MEMBERS:

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### REVIEW-1:

**Title of the Paper:** Water Quality Monitoring for Rural Areas-A Sensor Cloud Based Economical Project

**Name of the Author:** Nikhil Kedia

Published on 2015 1st International Conference on Next Generation Computing Technologies (NGCT-2015) Dehradun, India.

**Problem Description:** This paper highlights the entire water quality monitoring methods, sensors, embedded design, and information dissipation procedure, role of government, network operator and villagers in ensuring proper information dissipation. It also explores the Sensor Cloud domain. While automatically improving the water quality is not feasible at this point, efficient use of technology and economic practices can help improve water quality and awareness among people.

### REVIEW-2:

**Title of the Paper:** Real Time Water Quality Monitoring System

**Name of the Author:** Jayti Bhatt, Jignesh Patoliya

**Problem Description:** This paper describes to ensure the safe supply of drinking water the quality should be monitored in real time for that purpose new approach IOT (Internet of Things) based water quality monitoring has been proposed. In this paper, we present the design of IOT based water quality monitoring system that monitor the quality of water in real time. This system consists some sensors which measure the water quality parameter such as pH, turbidity, conductivity, dissolved oxygen, temperature. The measured values from the sensors are processed by microcontroller and this processed values are transmitted remotely to the core controller that is raspberry pi using Zigbee protocol. Finally, sensors data can view on internet browser application using cloud computing.

### **REVIEW-3:**

**Title of the Paper:** Industry 4.0 as a Part of Smart Cities

**Name of the Author:** Michal Lom, Ondrej Pribyl, Miroslav Svitek

**Problem Description:** This paper describes the conjunction of the Smart City Initiative and the concept of Industry 4.0. The term smart city has been a phenomenon of the last years, which is very inflected especially since 2008 when the world was hit by the financial crisis. The main reasons for the emergence of the Smart City Initiative are to create a sustainable model for cities and preserve quality of life of their citizens. The topic of the smart city cannot be seen only as a technical discipline, but different economic, humanitarian or legal aspects must be involved as well. In the concept of Industry 4.0, the Internet of Things (IoT) shall be used for the development of so-called smart products. Subcomponents of the product are equipped with their own intelligence. Added intelligence is used both during the manufacturing of a product as well as during subsequent handling, up to continuous monitoring of the product lifecycle (smart processes). Other important aspects of the Industry 4.0 are Internet of Services (IoS), which includes especially intelligent transport and logistics (smart mobility, smart logistics), as well as Internet of Energy (IoE), which determines how the natural resources are used in proper way (electricity, water, oil, etc.). IoT, IoS, IoP and IoE can be considered as an element that can create a connection of the Smart City Initiative and Industry 4.0 – Industry 4.0 can be seen as a part of smart cities.

### **REVIEW-4:**

**Title of the Project:** Smart Sensors for Real-Time Water Quality Monitoring using ZigBee

**Project Description:** The system is skilled to measure the physiochemical parameters of water quality, such as flow, temperature, pH, conduction, red ox potential. These physiochemical parameters are used to identify water pollutants in rivers, lakes etc. The sensors are allied to a microcontroller-based assessing node, which processes and evaluates the data. In this scheme, ZigBee receiver and transmitter modules are used for interconnecting among the measuring and notification node. In this system, ZigBee receiver and transmitter modules are used for communicating among the measuring and notification node. The warning hub displays the

perusing of the sensors and yields a sound ready when the parameters achieve risky levels. Numerous qualification tests are been conducted to confirm each part of the monitoring system. The sensors drive within their given precision ranges. The menstruation node transmits information using ZigBee towards the notification node for displaying the audio and visual information. The result shows that the approaches the ability to read physiochemical parameters, and is capable of processing, transmission, and exhibiting the readings.