

LITERATURE SURVEY

Project	Hazardous Area Monitoring for Industrial Plant for Industrial Plant powered by IoT
Team Members	1. SWETHA S (19TUCS243) 2. VAISHNAVI K R (19TUCS246) 3. VENGATALAKSHMI B (19TUCS250) 4. VISHALINI V (19TUCS255) 5. VISHWA PRIYA R V (19TUCS258)
College	SRI KRISHNA COLLEGE OF TECHNOLOGY

ABSTRACT:

Internet of Things (IoT) represents a general concept for the ability of network devices to sense and collect data from the world around us, and then share that data across the Internet where it can be processed and utilized for various practical purposes in different aspects of life. The reach of IoT based systems in industrial areas is still limited, but it has huge potential. In this project, we create an IoT based hazard monitoring system specifically suited to requirements of mining, refining and manufacturing industries. The system actively records, processes and analyzes the temperature of surroundings, which is a prime safety parameter in areas where molten metal is processed, manufacturing is done or welds are made. Also, it keeps track of high levels of dangerous gases present in the environment (LPG/Natural Gas). If a parameter is violated, the system sends an immediate notification to a set of preset list of users on their smartphones, and continues logging and monitoring data for further analysis to suggest improvements in the safety regulations of the industry. The sensors used in this prototype model can be modified with industry requirements (for example more robust temperature sensor may be required in very harsh conditions) whenever the need arises.

LITERATURE SURVEY:

1 . A Hazardous Area Personal Monitoring System for Operators in Gas Depots and Storage Tanks

Elia Landi, Lorenzo Parri*, Ada Fort, Marco Mugnaini, Valerio Vignoli, Dinesh Tamang, Marco Tani VOL. 91, 2022

The proposed system aims at reducing the risk of fires and explosions, thus increasing the safety of workers engaged in maintenance or inspection of gas storages. The designed system can also increase plants safety by incorporating an intrusion detection system, which prevents unauthorized access to safety-critical areas to prevent accidents. The sensor nodes transmit data through a LoRa low power radio channel to a remote server whereas they allow for the identification of the operators for the access to restricted areas exploiting a Bluetooth Low Energy (BLE) proximity technique.

2. Hazardous Gas Monitoring System In Industries And Washrooms

Divya.R, Latchaprabhu.P, Nishashree.R, Nivetha N.J, R. Kavitha , International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8, Issue-2S, December 2018

A gas detector is a vital device in industries that detects the presence of hazardous gases often as part of a safety system. This type of equipment is used to detect a gas leak or other emissions and provide signal and alarm giving the employees the opportunity to evacuate. The main gases in the washroom are hydrogen sulfide, methane, ammonia, carbon monoxide and nitrogen oxides. This project is proposed to initiate the use of public washrooms in India without any hesitation. The gases are detected using sensors MQ-4, TGS-2602 and MQ-136 respectively and GSM will send a message to the server GSM, which will indicate washroom should be cleaned.

3. Environmental Surveillance Monitoring System In Industries Using Industrial Internet Of Things

Ajay Sudhir, Bale Subhashish Tiwari K, Lova Raju Pravesh P, Kishore P, Vinayak N

This proposed system is not only a reliable solution for environment surveillance but also an inexpensive and efficient one with effective visualization, which can be implemented in industries for real-time analysis. The Industrial Internet of Things (IIoT) is one best technology for this kind of application where there is a need for monitoring and alerting mechanisms with the communication between devices using unique identifiers (UID's) over a network

4. IoT- Based Air Pollution Monitoring and Forecasting System

Chen Xiaojun published a paper "IoT- Based Air Pollution Monitoring and Forecasting System" in the year 2015

An IoT-based system for tracking and predicting air pollution In their article titled "UrbanAir Pollution Monitoring System With Forecasting Models," Khaled Bashir Shaban et al. made a recommendation for a low-cost air pollution monitoring system. The data could be received, stored, and preprocessed by the system. It has the ability to transform the data into insightful knowledge.

5. IoT Based industrial Monitoring system

Hemlata Yadav, Naomi oyiza, sarfaraz hassan, Dr.sumam lata, K. Jaya chitra

This proposes the idea to reduce industrial risks in prominent factories, monitor powerplant yield, guarantee security in quickly developing industries, and access nuclear safety levels.