**Gas Leakage monitoring & Alerting system for Industries**

**DOMAIN: IoT**

**TEAM ID:** PNT2022TMID12766

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**LITERATURE SURVEY**

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| **S.No.** | **Paper Title** | **Author name** | **Journal Name and year** | **Description** |
| 1. | Gas leakage detection and smart alerting and prediction using IoT | Asmita Varma, Prabhakar S, Kayalvizhi Jayavel | IEEE-2017  International Conference on Computing and Communications Technologies | IoT technology is being used to create a Gas Leakage Detector with Smart Alerting techniques that call, text, and email the relevant authority and have the potential to foresee hazardous situations so that people can be made aware in advance by performing data analytics on sensor readings. |
| 2. | Gas Leakage Detection Based on IOT | Suma V, Ramya R Shekar, Akshay Kumar A | IEEE-2019  International Conference on Electronics, Communication and Aerospace Technology | This paper's goal is to introduce a novel system that automatically reserves a cylinder when the gas is about to run out by sending a notification to the gas company through wifi using an Internet of Things approach. Additionally, sensors are utilised to find gas leaks in residential buildings. The user will receive an SMS if a gas leak is automatically detected. One of the most widely utilised networks in the world is Wi-Fi. Consequently, a load cell has been utilised to continuously check the weight of the LPG gas. |
| 3. | Design and Development of Gas Leakage Monitoring System using Arduino and ZigBee | Huan Hui Yan,  Yusnita Rahayu | Proceeding of International Conference on Electrical Engineering, Computer Science and Informatics (EECSI 2014), Yogyakarta, Indonesia | There are numerous health problems brought on by industrial gas leaks. Therefore, it is necessary to create a monitoring system for gas leak detection. To construct this system, the presence of methane and carbon monoxide gas was detected using the combustible gas sensor (MQ9). By using an Arduino Uno as the system's main microcontroller and Zigbee to transmit data from the gas sensor to the monitoring system, which displays the results on LabVIEW's graphical user interface, this sensor will be able to determine the gas concentration and operate in alarm, autonomous control, and monitoring systems. |
| 4. | LPG Monitoring and Leakage Detection System | Shruthi Unnikrishnan, Mohammed Razil, Joshua Benny, Shelvin Varghese and C.V. Hari | IEEE- 2017  International Conference on Wireless communications, Signal processing and Networking | This system would be useful to regularly monitor LPG usage and to alert about any dangers that may arise as a result of LPG leakage given the high demand for and use of LPG. This method informs the user how much LPG is still available, allowing them to take the necessary action. Since LPG is a very dangerous and combustible gas, this system will sound an alarm when there is a leak so that action can be done to prevent an explosion. |

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| 5. | Implementation of Automated Gas Leakage Monitoring System Using Zigbee | Md Danish Akhter  S K Indumathi,  J S Prasath3 | International Journal of Advances in Engineering, 2015 | The Zigbee Network and a sensor are used in this automated gas leakage monitoring system to transmit data. The data is acquired by a sensor, and it is continuously monitored. Through a Zigbee device, the data is transferred. There are several security threats and attacks on the data transmission infrastructure in modern planet. This study will provide a better method for protecting data sent over a specific distance against unauthorised access. It also focuses on the wireless connection that can be used to leverage Zigbee technology to identify gas leakage in a plant or industry. |
| 6. | Gas Leakage Monitoring and HVAC Automation System | Nikhil Binoy C,  Abhinand G K,  Syamdas A,  Treesa Saji | International Journal of Engineering Research & Technology (IJERT) December-2021 | Gas leakage hazards are a common occurrence in companies. These include the oil and gas sector, the petrochemical sector, and even factories that produce combustible and poisonous waste. These leaks may result in severe losses to the life of all living beings. In this study, a rover that goes outside the pipeline to measure gas leaks and continually transmit the observed data to a local server utilising an IoT platform is used to monitor gas leaks. |
| 7. | GAS LEAKAGE DETECTION AND SMART ALERTING SYSTEM USING IOT | Shital Imade, Priyanka Rajmanes , Aishwarya Gavali , Prof. V. N. Nayakwadi | International Journal of Innovative Research & Studies –  Feb 2018 | In this study, IOT technology is used to upgrade the existing safety standards. The creation of this prototype was intended to completely eradicate any major or minor risks resulting from the emission of harmful and dangerous gases into the environment, revolutionising environmental safety. With the use of IOT technology, we developed a Gas Leakage Detector for society that can analyse sensor data and use Smart Alerting to text the appropriate authorities when a leak is detected. This system will be able to recognise any gases present in the immediate vicinity using gas sensors. This will prevent the primary dangerous problem from developing. |
| 8. | Detection of Gas Leakage and Automatic Alert System using Arduino | Juhi Chaudhary and Anurag Mishra | 2nd INTERNATIONAL CONFERENCE ON ADVANCED COMPUTING AND SOFTWARE ENGINEERING (ICACSE-2019) | We created a Gas Leakage Detector for society using IOT technology that can look at sensor data and use Smart Alerting to SMS the proper authorities when a leak is discovered. Using gas sensors, this system will be able to identify any gases that are present nearby. By doing this, the main dangerous issue will not arise. |
| 9. | A wireless home safety gas leakage detection system | Luay Fraiwan; Khaldon Lweesy; Aya Bani-Salma; Nour Mani | 1st Middle East Conference on Biomedical Engineering –  2011 | This device is intended for use in households where using heaters and appliances that use natural gas and liquefied petroleum gas (LPG) may be risky. The technique can also be used for other LPG and natural gas-dependent industrial or plant activities. The two primary parts that make up the system design are the receiving module and the detection and transmission module. The detection and transmission module searches for the change in gas concentration using a specialised sensor circuit created for this purpose. |
| 10. | Gas Leakage Detection System using IoT with integrated notifications using Pushbullet-A Review | M Athish Subramanian; Naveen Selvam; S. Rajkumar; R Mahalakshmi; J Ramprabhakar | Fourth International Conference on Inventive Systems and Control (ICISC)  2020 | The main objective of this work is to examine the literature on IoT-based gas detection technologies in order to safeguard people and their surroundings. A simple yet reliable solution is provided by a gas leakage detection system that uses an Arduino Uno controller and MQ5 gas sensor. The system is also coupled with cloud storage for data collecting, storage, and analysis. When the threshold limit is reached, the user is informed. The amount of gas released is converted from parts per million (PPM) to volts through the Arduino IDE. The user is alerted using both a buzzer or LED for physical notification and an application for quick notification over the internet. |