

Ideation Phase
Literature Survey

Date	1 September 2022
Team ID	40785-1660634822
Project Name	Gas Leakage monitoring & Alerting system for Industries
Maximum Marks	4 Marks

Bhagavath Kumar M , Jabilo Jose J , Gayathri S , Ajit Kumar M

Department of ECE, Easwari Engineering College

Si no.	Journal Details	Inference
1.	Makiko Kawada, Tadao Minagawa, Eiichi Nagao, Mitsuhiro Kamei, Chieko Nishida and Koji Ueda, "Advanced monitoring system for gas density of GIS," 2008 International Conference on Condition Monitoring and Diagnosis, 2008, pp. 363-368, doi: 10.1109/CMD.2008.4580302.	This paper describes a state-of-the-art gas leakage detection system, which consists of a high-performance gas pressure sensor and a new algorithm improving accuracy of the leakage rate calculation. The gas pressure sensor has enough properties, resolution of 20 Pa and the stability of 0.004 % per year. Furthermore, in order to achieve high accuracy of leakage detection in the actual field, the new algorithm of the leakage rate calculation has been developed to cancel the interference due to solar radiation and weather.
2.	A. Banik, B. Aich and S. Ghosh, "Microcontroller based low cost gas leakage detector with SMS alert," 2018 Emerging Trends in Electronic Devices and Computational Techniques (EDCT), 2018, pp. 1-3, doi: 10.1109/EDCT.2018.8405094.	The system detects the leakage of the LPG (Liquefied Petroleum Gas) using a gas sensor and uses the GSM to alert the person about the gas leakage via SMS. When the LPG concentration in the air exceeds a predetermined level, the gas sensor senses the gas leakage and the output of the sensor goes LOW. This is detected by the microcontroller and the LED and buzzer are turned ON simultaneously. The system then alerts the customer

		by sending an SMS to the specified mobile-phone.
3.	A. M. Anika, M. N. Akter, M. N. Hasan, J. F. Shoma and A. Sattar, "Gas Leakage with Auto Ventilation and Smart Management System Using IoT," 2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS), 2021, pp. 1411-1415, doi: 10.1109/ICAIS50930.2021.9395774.	In this paper, Arduino UNO microcontroller was utilized to build a smart gas detection system with many usable sensors (MQ2, IR Fire Sensor) and actuators (air fan, buzzer). When gas spillage is recognized, the client will be intimated through SMS and at the same time they will receive notification via blynk application. The proposed system can detect fire, gas leakage and it also has the ability to take further steps and decrease gas concentration via auto air ventilation and extinguish fire with water.
4.	S. Jamadagni, P. Sankpal, S. Patil, N. Chougule and S. Gurav, "Gas Leakage and Fire Detection using Raspberry Pi," 2019 3rd International Conference on Computing Methodologies and Communication (ICCMC), 2019, pp. 495-497, doi: 10.1109/ICCMC.2019.8819678.	This paper presents the growth in the industrial monitoring system's design using Internet of Things (IoT). The sensor used for the development of this system is MQ-2 which detects the leakage of gas at any atmospheric condition and fire sensor as a simple and compact device for protection against fire. In gas sensor system, Raspberry pi plays an important role such that all the components are interfaced to it. This avails the observer to notice the changes from anywhere in the world.