

Project Design Phase-I
Proposed Solution Template

Date	1 st October 2022
Team ID	IBM-Project-21805-1659791852
Project Name	Gas Leakage Monitoring & Alerting System for Industries
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Continuous industrial development gives rise to harmful gas releases. Often these emissions are controlled. Lapses in preventive maintenance lead to faulty pipelines & equipment. Such operational negligence to detect gas leaks is damaging the environment. Apart from polluting the atmospheric air, such leaks create potential hazards for the workers in the industry. Consequently, breathing even with low concentration can lead to many diseases and increase fatality. This project presents a gas leakage alerting and monitoring system to detect leakage in industries and to alarm the people onboard.
2.	Idea / Solution description	<p>The key research objectives are as follows:</p> <ul style="list-style-type: none">• This project helps the industries in monitoring the emission of harmful gases• In several areas, the gas sensors will be integrated to monitor the gas leakage• If in any area gas leakage is detected the admins will be notified along with the location• In the web application, admins can view the sensor parameters.
3.	Novelty / Uniqueness	In the instance of a gas leak inside a secluded area, the workers must be evacuated immediately. Just in case there are people unable to get out, a night vision camera could be installed to monitor their presence and help them. Once gas is detected, the main power supply will be cut off to prevent fires. Also, DC - operated alarming and exit mechanisms will be installed since the power supply is cut off.

4.	Social Impact / Customer Satisfaction	From the public perception as worst impacts of present the uneconomical cost, the system failure, the employee's negligence, the structure mismanagement.
5.	Business Model (Revenue Model)	<p>Gas leakage monitoring and Alerting System organises its operations into two reportable business segments:</p> <p>The petroleum industry is just one of the numerous industries that make up a company's strategy. Other components include the detection of the gas kind and leaking quantity, the primary switching off mechanism, and the battery operated night vision camera that records, and adding on to it a sensor can be installed to detect motion. The method to lead out while in dark and an alerting sound.</p>
6.	Scalability of the Solution	<p>It can be monitored, and preventive measures can be taken to avoid any disaster. The suggested system makes use of sensor and communication technologies, which enable quick detection of the gas type.</p> <p>Suppose corrective steps are taken promptly after it is reported over the IoT devices. In that case, that can help save the loss of lives, alleviate any mishaps from happening, and cut down on business expenses.</p> <p>The gas leakage detection system can be optimized for detecting toxic gasses along with upgrading them with smoke and fire detectors to identify the presence of smoke and fire. Ensuring worker safety is important but making using of the right technology is even more vital.</p>