

**Project Design Phase-I**  
**Proposed Solution**

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<b>Team ID</b>	PNT2022TMID44793
<b>Project Name</b>	<b>Gas leakage monitoring and alerting system</b>

**Proposed Solution:**

<b>S.No.</b>	<b>Parameter</b>	<b>Description</b>
1.	<b>Problem Statement (Problem to be solved)</b>	Leaks are considered very dangerous since they can build into an explosive concentration So the proposed solution is used for the development for an efficient system & an application that can monitor and alert the workers
2.	<b>Idea / Solution description</b>	<p>In several areas, the gas sensors will be integrated to monitor the gas leakage</p> <p>The proposed system takes an automatic control action after the detection of 0.001% of LPG leakage. This automatic control action provides a mechanical handle driven by stepper motor for closing the valve</p> <p>We are increasing the security for human by using the combination of a relay and the stepper motor which will shutdown the electric power of the house .Also by using a GSM module, we are sending an alert message by SMS (Short messaging services) to warn the</p>

		<p>users about the LPG leakage and a buzzer is provided for alerting the neighbors in case of the absence of the users about the LPG leakage</p> <p>The main advantage of this system over the manual method is that, it does all the process automatically and has a quick response time.</p>
3.	<b>Novelty / Uniqueness</b>	<p>User friendly</p> <p>Pioneering study of natural gas detection with CCD in visible range</p>
4.	<b>Social Impact / Customer Satisfaction</b>	<p>Cost efficient</p> <p>Easy installation and provide efficient results.</p>
5.	<b>Business Model (Revenue Model)</b>	<p>With widespread deployment of the urban natural gas industry, the energy security is now becoming one of the priorities in practice. The gas leakage model was applied to analyse the pressure, temperature and flow rate of gas leakage over time under both the steady-state and dynamic conditions.</p> <p>As the product usage can be understood by everyone, it is easy for them to use it properly for their safest organization.</p>
6.	<b>Scalability of the Solution</b>	<p>Establishing fast communication equipment with the nearest fire station and other relief station to have the fastest response in case of an accident.</p> <p>Even when the gas leakage is more, the product sense the accurate values and alerts the workers effectively</p>