

Project Design Phase-I
Proposed Solution Template

Date	04 NOVEMBER 2022
Team ID	PNT2022TMID52413
Project Name	Project – Hazardous Area Monitoring
Maximum Marks	2 Marks

Proposed Solution Template :

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Hazardous Area Monitoring for Industrial Plant powered by lot
2.	Idea / Solution description	<p>Hazardous Area Monitoring for industrial Plant powered by lot is a project report that focuses on the necessity of the monitoring of hazardous areas in industrial plants. Industrial plants are the ones that contain both hazardous and non hazardous areas. The monitoring of the hazardous areas in industrial plants is important from time to time. If the damage that occurs in hazardous areas can result in the loss of property or lives. So monitoring of such areas can help in easy monitoring of the hazardous areas. There can be smart devices integrated at the hazardous areas that can help in detecting any fishy things that can occur in the particular area.</p>
3.	Novelty / Uniqueness	<ul style="list-style-type: none">• A hazardous area is any area with an atmosphere containing, or potentially containing gases, vapour or dust which are flammable or explosive. These areas are rigorously analysed with condition monitoring when installing equipment to minimize the risk to individuals and assets it is crucial that equipment operating in these conditions are effectively monitored to pre-empt any issues before they occur. Unlike most industries, these issues not only result in downtime, but present a significant safety risk• Condition monitoring is integral in industrial operations to avoid

		<p>downtime, to implement maintenance and to reduce the risk of failure. Remote condition monitoring has previously been limited in hazardous areas due to the lack of cost effective and easy to install solutions and the often-challenging environments in which this equipment exists. For example, equipment used in subsea applications or on offshore operations cannot be monitored as frequently or easily.</p>
4.	Social Impact / Customer Satisfaction	<p>1) To prevent pollution 2) Real time plant monitoring 3) Reduced risks of disasters 4) Automated detection 5) Excellent customer experience</p>
5.	Business Model (Revenue Model)	<p>Raspberry – Pi 3</p> <p>Temperature Sensor - DS18B20</p> <p>Gas Sensor – MQ 5/9</p> <p>Breadboard</p> <p>Raspbian OS (Running on Rpi - 3)</p> <p>Simple push API</p> <p>Thing speak Cloud Platform</p>
6.	Scalability of the Solution	<p>This system can be deployed in many industrial areas like mining, underground factories, metal refineries, automatic welding factories and even heavy parts production lines it will help to provide a safe and efficient working environment in which arose, while also opening new paths to improve the safety parameters of these places</p>