# Project Design Phase-I
## Proposed Solution Template

| Date | 19 September 2022 |
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| Team ID | PNT2022TMID11546 |
| Project Name | Hazardous area monitoring |
| 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) | Hazardous Area Monitoring for Industrial Plant powered by IoT |
| 2. | Idea / Solution description | Hazardous Area Monitoring for Industrial Plant powered by IoT 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. |
| 3. | Novelty / Uniqueness | • A hazardous area is any area with an atmosphere containing, or potentially containing, gases, vapor or dust which are flammable or explosive. These areas are rigorously analyzed 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.<br>• Condition monitoring is integral in industrial operations to avoid 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. |
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| 4. | Social Impact / Customer Satisfaction | 1) To prevent pollution<br>2) Real-time plant monitoring<br>3) Automated detection<br>4) Excellent customer experience<br>5) Reduced risks of disasters |
| 5. | Business Model (Revenue Model) | Raspberry -Pi 3 Temperature Sensor - DS18B20 Gas Sensor - MQ 5/9 Breadboard Raspbian OS (Running on Rpi-3) Simple push API Thing speak Cloud Platform |
| 6. | Scalability of the Solution | 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 wich aroos, while also opening new paths to improve the safety parameters of these places |