Project Design Phase-I
Proposed Solution Template

Date	20 October 2023
Team ID	Team-592381
Project Name	Project - Detect smoke with the help of IOT data and trigger a fire alarm
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)	Safety is a crucial consideration in the design of industrial buildings to safeguard against the loss of life,property damage,and environmental impact.
2.	Idea / Solution description	Using temperature and humidity to detect smoke. Develop an automated smoke detection system and trigger a fire alarm using KNN. it will facilitate the prompt and accurate identification of smoke incidents, thereby enhancing safety measures in industrial environments. Implementing smoke detection systems in industries can effectively prevent fire hazards, leading to a safer work environment and protection of assets. In case of a fire incident, early detection through smoke sensors can enable timely response and minimize damage. Additionally, the recovered waste from the smoke can be converted into energy and fuel, contributing to economic growth and sustainability while reducing environmental impact.
3.	Novelty / Uniqueness	Use of KNN (k-nearest neighbours) for smoke detection ensures precision and efficiency, reducing life risks for workers. It reduces the damage to the property and saves many lives ,making it an innovative approach to Smoke detection. The efficiency of the KNN algorithm enables rapid decision-making, reducing the risk of accidents and mitigating damage to property.
4.	Social Impact / Customer Satisfaction	A smoke detection project can have a significant social impact by improving fire safety, reducing health risks, and supporting environmental conservation efforts. Early detection of smoke can prevent fires from

		escalating, leading to improved evacuation time, reduced property damage, and potential life-saving measures. The project can also contribute to increased awareness and education about fire safety, promoting safer communities and protecting human lives and property.
5.	Business Model (Revenue Model)	Generate revenue in industrial settings by selling robust IoT hardware designed for harsh environments. Offer subscription and maintenance contracts for continuous monitoring and compliance with industry standards. Provide specialized data analytics and reporting services to drive safety and compliance decisions in the industrial sector. Charge for system integration and customization to meet unique industrial requirements. Explore licensing, certification, and government contract.
6.	Scalability of the Solution	Detecting smoke and triggering a fire alarm this technology can be used to detect smoke and immediately detect a fire alarm which allow it to save the property as well as the lives of the people with effective functioning. scalability in the context of IoT smoke detection is fundamental for adapting to the evolving nature of industrial operations and to remain responsive in emergency situations, making it a cornerstone of a reliable and effective safety solution.