

Project Design Phase-I
Proposed Solution Template

Date	24 September 2022
Team ID	PNT2022TMID27908
Project Name	Industry-specific intelligent fire management system
Maximum Marks	2 Marks

Proposed Solution Template:

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	This project deals with the problem of fire management in industries, where the fire prevention system is not optimized. This project enables the organizations to meet their needs of fire management systems. This system reduces the risk of fire by detecting and preventing it and also ensures the safety of buildings and workers.
2.	Idea / Solution description	The key research objectives are as follows: <ul style="list-style-type: none">• The proposed system detects gases and flames, automatically turns on sprinklers and exhaust fans, and notifies the authorities and fire station.• The Proposed system consists of gas and flame sensors, sprinklers, exhaust fans, and GSM (Global System for Mobile communication).• In the proposed system, environmental changes are acknowledged by placing the sensors at the required position, which automatically turns on sprinklers and exhaust fans and alerts the authorities and fire stations.
3.	Novelty / Uniqueness	The uniqueness of this system is that it opens sprinklers and exhaust fans automatically after the sensor's detection and also informs the authorities and fire station without any human intervention.
4.	Social Impact / Customer Satisfaction	Managers and employees aren't aware of the risks that surround them at work every day. Social impacts are fatal accidents that have snuffed out innocent lives, blocked roads and railway lines, electricity, mobile and land telephone lines cut, destruction of homes and industries.
5.	Business Model (Revenue Model)	The global fire protection systems market size is estimated to surpass USD 70 billion by 2027.

		<p>This growth is attributed to the rising product demand in light of the surging number of fire accidents due to the lack of fire protection systems at heritage sites. Therefore surging government standards and regulations for the improvement of the safety of individuals and industrial, commercial and residential property during fire outbreaks will augment fire protection systems market share over the assessment period.</p>
6.	Scalability of the Solution	<p>Fire management system is highly scalable in various aspects. Following this approach, this idea presented an efficient IoT-based and real-time fire management model for improving the safety of industries and workers. This system can be scaled by adding various technologies to it. More sensors can be used to detect flame and gas even in undesirable conditions. This can also be implemented in residential buildings, schools and colleges. Mobile apps and websites can also be used to monitor the areas frequently.</p>