

Project Design Phase-I
Proposed Solution Template

Team ID	PNT2022TMID37599
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT.
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Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	To monitor and alert the industrial workers the risk of toxic or hazardous gases presents within the area of an industry, ensuring the safety of the workers
2.	Idea / Solution description	By installing modern-day temperature sensors like thermocouples, RTD 's (Resistance temperature detector) thermistors to detect change in temperature, if any. An alarm goes off and lights start blinking to show the change in temperature. By constructing big and long pipes on the ceiling which spray water or sand (According to the cause of fire)
3.	Novelty / Uniqueness	<p>In hazardous area, it is mandatory to have prior notification Hence, we implement the prewarning system and integrate various technologies such as multi sensor data fusion, communication science, safety management science</p> <p>Provides different solution to ensure the safety of the workers.</p> <ul style="list-style-type: none"> Wearable devices display the current temperature present in the area all the time. Alerts via SMS to mobiles of the workers when high temperature is detected. Alerts on both the wearable device and mobile application occurs simultaneously to prevent the worker from entering into hazardous areas.

4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> • Ensures safety. • Saves lives of workers. • Comfortable & User-friendly. • Simple and reliable.
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		<input type="checkbox"/> Helps in taking necessary precautions to avoid the risk of endangering human lives.
5.	Business Model (Revenue Model)	<input type="checkbox"/> Through our mobile application the revenue can be made in the form of pop-up advertisements, overlay ads from third party services. <input type="checkbox"/> Wearable devices can be priced and sold by the industry to the workers.
6.	Scalability of the Solution	<input type="checkbox"/> Water and sand are always kept handy in large amounts to stop the fire from spreading <input type="checkbox"/> Every user is immediately alerted and comes to know of the difference in temperature through the chip that is present in his safety jacket <input type="checkbox"/> Good quality sensors detect the temperature very accurately before the fire explosion <input type="checkbox"/> Each user has individual wearable device and mobile devices which provide information accordingly. <input type="checkbox"/> It ensures the safety of each and every worker working in harmful gases and high temperature environment.