Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	16 October 2022
Team ID	PNT2022TMID39426
Project Name	Project - Hazardous Area Monitoring For Industrial Plant Powered By IoT
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Detection of Hazard	Reporting the hazard to control node. Control the humidity and temperature instantaneously in order to have stable environment.
FR-2	Air monitoring	Identifying harmful gas leakages by Air monitoring sensors and transmitting message to user (industrial workers).
FR-3	Emergency Shutdown system	Shut downing the entire system in case of peak situations for example: Machine over heating with colling compressor.
FR-4	Fire and smoke detection	Fire detection using temperature, gas and flame sensors with automatic water sprinkler.
FR-5	End Users (Industrial workers)	Using cloud Service (Audio and visual notifications).

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Huge cost savings, Greater job satisfaction and higher motivation can be obtained by the workers if their expectations of safety from hazards are fulfilled by the industrial working environment.
NFR-2	**Security**	By using continuous monitoring and detecting of hazardous signs, major problems will be prevented at the initial stages.
NFR-3	**Reliability**	High speed, not cost effective and controlling the hazard at minimal level.

NFR-4	**Performance**	When problem occurs, the investigations based on the problems found there will be more possibilities to make the ideas in to applicable.
NFR-5	**Availability**	This mechanism is feasible and it is easy to set up. Trust worthy and easy to access in many fields.
NFR-6	**Scalability**	This mechanism is feasible because it is easy to setup, user friendly, wireless detector, predicts the risk, in beforehand, affordable