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

Date	08-10-2022
Team ID	PNT2022TMID18424
Project Name	Gas Leakage Monitoring And Alerting System For Industries
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	Gas detection design coverage T	The gas detection function shall provide reliable and fast detection of flammable and toxic leaks before a gas cloud reaches a concentration and size which could cause risk to personnel and installation
FR-2	Leak detection	Flammable gas detection shall be provided in all areas where flammable gas leakages could occur. In these areas the smallest gas cloud that has the potential to cause unacceptable damage shall be specified as the minimum cloud size for confirmed gas detection.
FR-3	Gas detection location	Detectors should be positioned in different levels in an area or module .
FR-4	Gas detection actions	The alarm starts ringing when the gas gets leaked , Doors will be opened automatically and the data's will be stored in cloud and alert message will be displayed on the LCD display .
FR-5	Gas detection calibration	Gas detectors shall be individually identifiable with a self test function. It shall ensure the presence of gas concentration and amount of gas leakage
FR-6	Gas detection level	• Low alarm limit for IR open path detector is maximum 1 LELm . • High alarm limit for IR open path detector is maximum 2 LELm .

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Used to avoid accidents in industries and save life .
NFR-2	**Security**	To Protect Sensitive Data which is being monitored and stored in cloud for future needs.
NFR-3	**Reliability**	This system can perform consistently well in all circumstances .

NFR-4	**Performance**	it performs Speedy operation and it send response faster
NFR-5	**Availability**	This device detects sensitive gases even to minor gas leaks
NFR-6	**Scalability**	Any Sensors can be added depending upon the geographical region