

# PROJECT DESIGN PHASE-1

## Solution Architecture

<b>Date</b>	<b>01 october 2022</b>
<b>Team ID</b>	<b>PNT2022TMID46768</b>
<b>Project Name</b>	<b>Gas Monitoring and Alerting System for Industries</b>
<b>Maximum marks</b>	<b>4 Marks</b>

### Gas industry :

Gas industries and the industries that use gas and gas pipe lines have to monitor the gas pipes, gas containers, gas leaks. To avoid fire accidents, massive loss of the industry and to prevent the workers and the neighbouring people from death the gas industry have to monitor the gas leaks. Some gases are toxic, easily flammable and freezable. Industries like chemical and fuel industries. They have to monitor every gas pipes and gas containers. If the gas leaks they can cause fire accident and causes cancer

For example : Radon gas (a natural radioactive gas that causes lungs cancer)

### Gas detectors :

Many gas hazards cannot be detected by human senses. Toxic gases, oxygen deficiency, combustible gases and vapours. All these hazardous gases pose a serious threat to humans and a threat to industries. Which led to a heavy economic loss for the industry so the gas detectors detect the gas when the gas leaks occur and alert the industrial people. Some gases are visible to thermal camera. And some gases are detected by gas sensors. The gas detector is a device that detects the presence of gases in an area. Often as part of a safety system. The gas detector can sound the alarm to operate in the area where the gas leak occurs. That leads the workers to prevent them from gas explosion (fire combustion).

### Advantages of gas sensors :

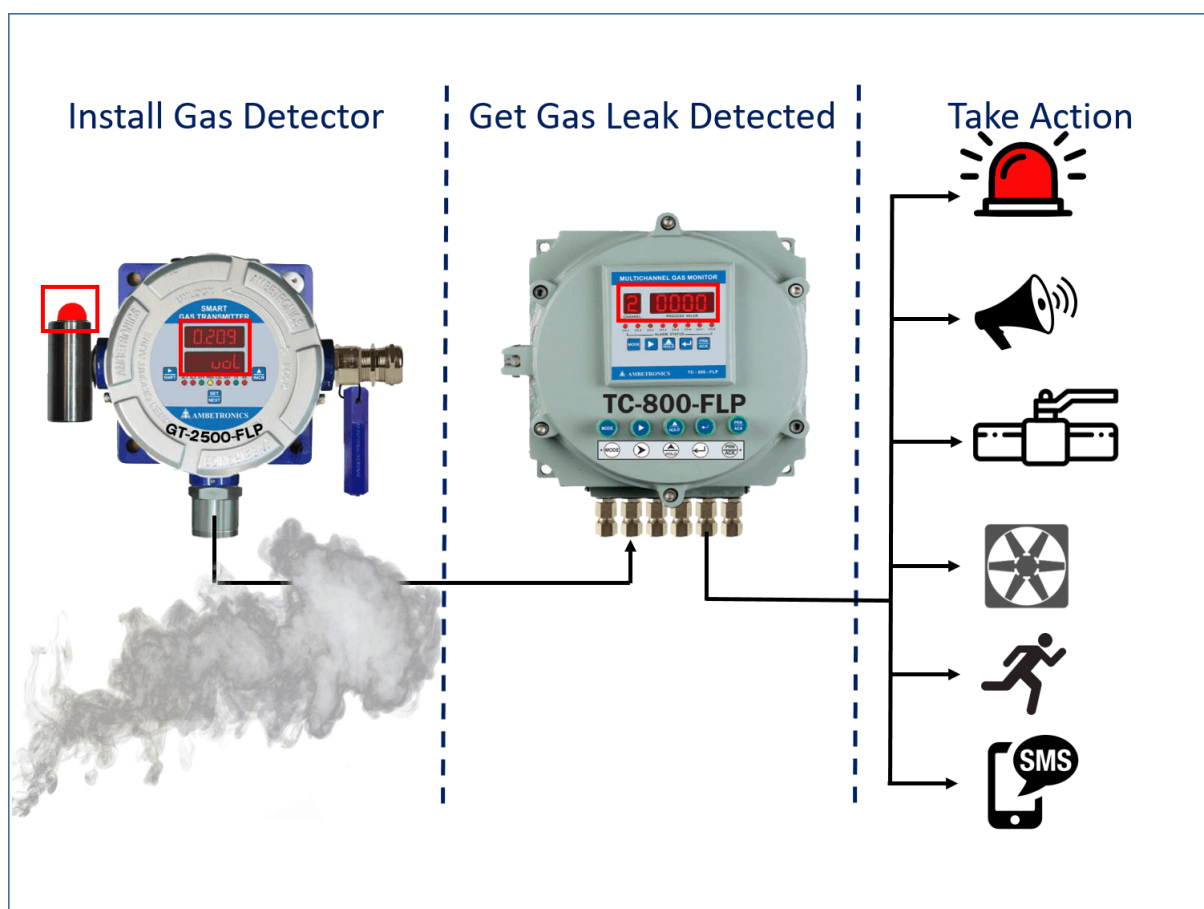
The gas sensor measures the toxic gases in very low concentration. It has the ability to detect a wide range of gases. That helps the workers to close the gas pipes to avoid from the wide spread. The gas sensor should be placed in every industry so the gas industry can escape from fire explosion. The gas detection system should be fixed in every gas and gas based industries.

GAS SENSOR : MQ-4 and ENS160



### Alerting system:

The alerting system will alert the whole gas / gas based / chemical industry when gas leaks occurs. The sensor detect the gas and alerts the gas industry with red flash , siren, alert messages and displays the amount of gas spreaded and shows the seriousness of the gas spreads.



### Minimum value product :

### DESIGN :

The gas leakage and monitoring system is designed for detecting gas leaks and to alert the workers of the industry. It is designed with aurdino

processor. It sends messages to everyone and turn on the siren, red flash automatically. The alerting system needs to be serviced for good performance

### **USABLE :**

The gas leakage and alerting system can be used in every industries where gas takes place.

The industries like :

- Gas industries
- Soda industries
- Chemical industries
- Food industries
- Fuel industries

They can fixed in the places where the gas pipes , gas containers placed.

### **RELIABLE :**

All the products coming through the company are of great quality.

### **FUNCTIONAL :**

Through our product the industries can feel safe and the alerting system works for 24/7. It alerts the people in the industries and alerts the neighbouring people living near the industries through siren and alert messages. So they can take close the gas pipes to avoid the disaster or they can evacuate to a safe place when situation got worse.