



# AIR QUALITY MONITORING USING IOT

## PHASE 1: PROBLEM DEFINITION AND DESIGN THINKING

# 1. PROBLEM DEFINITION:

Air pollution is one of the biggest threats to the present-day environment. Everyone is being affected by air pollution day by day including humans, animals, crops, cities, forests and aquatic ecosystems.

Besides that, it should be controlled at a certain level to prevent the increasing rate of global warming.

Over the last quarter century companies have increased rapidly, such activities have created severe and complicated environmental issues.

World Health Organization has established limits to the amounts of different air contaminants.

Occurrences of cancer, measles, asthma, respiratory problems, cardiovascular heart & chronic cardiovascular problem have been recorded for raising such pollutants.

Therefore, it is necessary to periodically monitor air quality conditions.



## 2. DESIGN THINKING:

The process aims to develop a user-friendly system that monitors air quality, measures particulates matter (PPM), and alerts users through a buzzer, LED, or mobile notification when the air quality becomes harmful.

We need to identify the parameters need to be measured such as CO<sub>2</sub>, NO, temperature etc. and need to identify the sensors for measuring the air quality.

We can use sensors like PM sensors, gas sensors and environmental sensors such as (temperature and humidity) as they are also the factors that need to be monitored while monitoring the air quality to identify the harmfulness of the surrounding air.

Connect the device to the cloud platform for the continuous monitoring of the indexes.

Implementing a mechanism to notify the users about the air quality when reaches harmful level such as invoking buzzer or leds or sending notifications to mobile devices.

