**IDEATION PHASE**

**HAZARDOUS AREA MONITORING FOR INDUSTRIAL PLANT**

**POWERED BY IOT**

**TEAM ID : PNT2022TMID41953**

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1. **IDEA 1:**

Here, we create an IoT based hazard monitoring system specifically

suited to requirements of mining, refining and manufacturing

industries. The system actively records, processes and analyzes the

temperature of surroundings, which is a prime safety parameter in

areas where molten metal is processed, manufacturing is done or

welds are made. Also, it keeps track of high levels of dangerous

gasses present in the environment. If a parameter is violated, the

system sends an immediate notification to a set of preset list of users

on their smartphones, and continues logging and monitoring data

for further analysis to suggest improvements in the safety

regulations of the industry. The sensors used in this prototype

model can be modified with industry requirements (for example

more robust temperature sensor may be required in very harsh

conditions) whenever the need arises.

**2. IDEA 2:**

The operations of various industrial equipment are affected by the

change in temperature and a physical characteristic of the

surroundings hence monitoring the changes in temperature is very

crucial. The computer consists of an embedded microcontroller chip

for different parameters; The Arduino has a collection of all the code

burned into it. Each code represents its own parameter i.e. air, temp,

pressure, humidity. The power system, intelligent industrial remote

monitoring, intelligent warehouse monitoring etc.., can be

implemented with the systems platform. Integration of IOT with

voice module and monitoring system can be done. It senses changes

in temperature, senses smoke, \_lame etc.., and sends it to the control

station by android app.

**3. IDEA 3**:

The Internet of Things (IoT) is a new sector that aims to connect

"things," "people," and "machines" to the internet. Modernization

and automation are sweeping the globe, with IoT-based industrial

monitoring solutions at the forefront. The importance of assessing

the state of the industry is vital to the safety and ef\_iciency of the

products.In this system, we plan to create an IoT-based industrial

monitoring system with intelligent sensors. Because of the

integration of big data, the Blynk app can be used to monitor status

from anywhere on the planet. Data analysis has been streamlined,

allowing for easier IoT monitoring. The proposed technology could

be bene\_icial to manufacturing industries. Adding technology to any

kind of manufacturing industry will assure the safety and well-being

of the people as well as prevent accidents. Using automation

technology reduces the chances of loss and accidents in the

machinery world.

**4. IDEA 4:**

In this model an Arduino Mega which is the main microcontroller is

connected with a Wi-Fi module for internet connectivity, a

barometer sensor for temperature and pressure, a humidity sensor

for sensing the humidity and a gas sensor which detects the smoke

and harmful gasses. These components are utilized to build a

monitoring system. Apart from these components several other

sensors are used to keep a check on the temperature, gas leakage,

pressure, humidity, etc. in the work environment to ensure the

workers safety. In case of any incident this monitoring system warns

the workers by an alarm and sends information to the registered

user via Blynk App. The chief purpose of this research is to sum up

the signficant role of IoT in monitoring industries.