

HAZARDOUS AREA MONITORING FOR INDUSTRIAL PLANT POWERED BY IOT

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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, flame 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 efficiency 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 beneficial 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 significant role of IoT in monitoring industries.