Hazardous Area Monitoring in Industrial Plant Powered by IOT

LIST OF PROBLEM STATEMENTS:

- The main limitation of the current industry standard sensors is they are fixed in a single position. Thus the plant management does not have access to the working personnel's immediate surroundings. Hence the first problem we encounter is selecting sensors suitable for the working personnel to wear around the plant, so that the device doesn't cause a hindrance to the job carried by the personnel.

- The main objective mentioned is to detect the temperature using a wearable sensor and the information be relayed back to a central command station. An immediate obstacle we encounter is the distance. We have to choose a communication device that can transmit for sufficiently long distances around the plant and at the same time it must be able to penetrate through the industrial structures like Boilers in the plant.

- Apart from the temperature sensing, Hazardous gases from the industrial plants is also a major threat. This can be achieved by including a Gas sensor. The inclusion of this sensor might help in improving the scope of possible deployment to areas including construction sites. Hence we need to study the possibility of expanding the current scope to include a Gas Sensor.

- Apart from the sensor side, we need to manage a large flow of data collected from the working personnel. So an appropriate industry standard microcontroller must be used as the arduino boards can only be used till prototyping. So We must choose an suitable microcontroller to be connected to the IOT Gateway.