Project Title: HAZARDOUS AREA MONITORING FOR INDUSTRIAL PLANT POWERED BY IOT

Project Design Phase-I - Solution Fit Template **Team ID: PNT2022TMID44638**

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)

Hazardous Area Monitoring for Industrial Plants is a project report that focuses on the necessity of the monitoring of hazardous areas in industrial plants.

6. CUSTOMER CONSTRAINTS

CC

Available Devices:

Pc or smart phone

Raspberry Pi

Beacon Scanner

Wi-Fi or Ethernet Gateway

Network connections:

MQTT

SMS using AP

Beacons use Bluetooth Low Energy (LE)

5. AVAILABLE SOLUTIONS

AS

It is start from RFID technology, it consist of microchips to transmit information to a reader through wireless communication by using this RFID readers. There is another technology is the wireless sensor networks (WSNs).

PRONS&CONS:

Cost – RFID readers can be 10x more expensive than barcode readers.

Implementation can be difficult & time consuming.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS

J&P

A system is developed which will automatically monitor the industrial parameter such as temperature, gas, fire, humidity and generates alerts and alarms and take intelligent decisions with the help of IIOT concept.

Here automaton system will be used in industry for monitoring various parameters such as temperature, humidity, gas and fire.

9. PROBLEM ROOT CAUSE

RC

1. What Happened?

Parameters like Temperature, gas, humidity levels are high

2. How did happen?

Due to environment changes, machine parameters changes, breakdowns and leakages etc.,

3. Why it happened?

Low maintenance, insufficient technology used

4. What needs to be corrected?

Does proper industry maintenance, follow safety precautions, maintain upgrade technology.

7. BEHAVIOUR

BE

Customer should identify previously the correct machinery or environment which one is harmful and which one gives hazard for people who all are working in plant.

As an industrialist, he should know the knowledge about his plant actions.

Focus on J&P, tap into BE, understand RC

Identify strong TR& EM	**3. TRIGGERS** We have designed low cost, low power Wi-Fi based industrial monitoring system that controls and monitors the remote manufacturing plants and industries using a web applications.	**10. YOUR SOLUTION** The area is integrated with smart beacon devices which will be broadcasting the temperature of that particular area. Every person working in those areas will be given smart wearable devices which will be acting as beacon scanners. Whenever the person goes near the beacon scanners he can view the temperature on his wearable device and if the temperature is high, he will receive the alerts to the mobile through SMS using API. Through this wearable device, the data is sent to the cloud and through the dashboard; the admins of that particular plant can view the data and take necessary precautions.	**8.CHANNELS OF BEHAVIOUR** **ONLINE:** In online the admins of the plant should take necessary actions for continuous data supply. And also monitor the cloud database for frequent data supply chain from and to the devices. **OFFLINE:** In offline the admins of the plant can order the supervisor to monitor the hazard area manually. And also follow some safety precautions and rules and regulations. Refer the datasheet which is downloaded from the cloud database.	Identify strong TR& EM
Identify strong TR& EM	**4. EMOTIONS: BEFORE & AFTER** **BEFORE:** In RFID technology it is very difficult to do job on fraction of seconds, if reader gets engaged the total industry will be collapsed. **AFTER:** Now we are using beacon technology to transmit and receive data through cloud based IOT platform. It will never fail because of it consuming low power energy.			Identify strong TR& EM