Project Title: Hazardous Area Monitoring for Industrial Plants Powered by IoT **Project Design Phase-I - Solution Fit Template** **Team ID: PNT2022TMID00340**

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

Safety departments in large-scale and small-scale Industrial plants will have to acquire this product for the personnel working in the industrial plants which enclose hazardous areas.

6. CUSTOMER CONSTRAINTS CC

- *Collection of data for Industrial plant monitoring is a costly affair.*
- *Deployment of huge number of sensors is difficult.*
- *Range of sensors may not cover all necessary areas.*

5. AVAILABLE SOLUTIONS AS

- *Dangerous-to-access locations are monitored remotely to avoid risk of human life using remote sensors.*
- *Cloud connectivity enables real-time monitoring of equipment in hazardous areas.*
- *Pros: No risk of human life.*
  Real-time monitoring is made feasible.
- *Cons: Maintenance of remote sensors may be difficult.*
  Storage of large amounts of data in cloud is a costly affair

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE/PROBLEMS J&P

- *Main objective: To continuously monitor the critical parameters to prevent any mishaps.*
- *To alert the user when exposure to hazardous substances exceed critical limit.*
- *Dangerous-to-access locations are monitored remotely to avoid risk of human life.*

9. PROBLEM ROOT CAUSE RC

- *Exposure to hazardous substances leads to adverse health effects in the personnel working in industrial plants.*
- *Other cause would be lack of knowledge of personnel on how to handle elements in a hazardous area.*

7. BEHAVIOUR BE

- *Find the best hazardous area monitoring system which would monitor all the necessary parameters as per their requirement.*
- *Maintains the database in cloud of all measured values to locate points of weakness inside the plants.*
- *Use proper communication channels to send alerts to the*

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

Identify strong TR & EM

3. TRIGGERS TR

The burden of having to work in a hazardous area without proper safety measures while having to be productive

4. EMOTIONS: BEFORE / AFTER EM

BEFORE: *Lack of knowledge about hazard prone areas →Lack of knowledge about hazardous substance exposure → Improper decisions → low safety → Insecurity → Uncertainty.*

AFTER: *Confident → Safer → Right decisions → Motivated → Productive.*

10. YOUR SOLUTION SL

Our solution is to continuously monitor the critical parameters as required by the type of industrial plant like temperature, gas, air quality, etc. and to send alerts to the personnel in conditions of hazards taking place using appropriate communication channels.

8.CHANNELS OF BEHAVIOUR CH

ONLINE: *Maintains the database in cloud of all measured values to locate points of weakness inside the plants.*

Using mobile applications to track their vitals which may deviate when exposed.

OFFLINE: *Educate all personnel on how to handle the hazardous substances without risking exposure and the safety measures to take after exposure to hazardous substances.*

Extract online & offline CH of BE