PROPOSED SOLUTION

Date	06 May 2023
Team ID	NM2023TMID10372
Project Name	Remote gas pipeline tunnel temperature monitoring system

Proposed Solution:

S. No	Parameter	Description
1.	Problem Statement	Pipelines are prone to danger. When the temperature of the gas inside the pipeline increases, there could happen many consequences like pipeline explosion, leakage of gases, etc. It happens because of the expansion of gases inside the pipeline due to increase in temperature. So there is a need for a system to monitor the temperature of the gases inside the pipeline and leakage of the gases
2.	Idea / Solution Description	The temperature can be sensed by DHT22. The sensed temperature can be given as an output by ESP32. Thus connecting the ESP32, DHT22 with a potentiometer can monitor the temperature, humidity and leakage of gases.
3.	Novelty / Uniqueness	The uniqueness of the project is the temperature, humididty and leakage threshold can be seen through application developed by Node-Red
4.	Social Impact / Customer Satisfaction	When this project is implemented, huge amount of pipeline explosions and gas leakage can be reduced.
5.	Business Model (Revenue Model)	The business model is the outcome based model. This is because the revenue is earned from the outcome if there is no loss due to gas leakage and pipeline damage.
6.	Scalability of the solution	The project can be operated upto +125 degree Celsius. Hence the scalability of the project is very high.