Project Design Phase-I
Proposed Solution

Date	06 May 2023
Team ID	NM2023TMID10876
Project Name	Industrial Workers Health and Safety System Based on Internet of Things

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	To improve the safety and well-being of workers who work in challenging environments, such as those involving high altitudes, by using sensor technology to monitor their working conditions.
2.	Idea / Solution description	Our Goal is to collect data on factors like temperature and distance walked, etc., transmit it to the cloud for storage, and visualize it in a mobile app and web application that can be accessed by authorities.
3.	Novelty / Uniqueness	Integrating sensors in the shoes is a unique way. Because carrying a external device for monitoring these parameters cause discomfort to the users. So, it is a unique and user-friendly way to monitor their Health
4.	Social Impact / Customer Satisfaction	1. Reduced Healthcare Costs: By monitoring workers' health, early intervention can prevent minor health issues from becoming major medical problems, reducing healthcare costs for workers and employers. 2. Enhanced Workplace Productivity: When workers' health is monitored, their well-being is maintained, and they are less likely to experience absenteeism, sick days, or work-related injuries, resulting in increased productivity. 3. 3.Increased Worker Morale: Workers feel valued when employers prioritize their health and safety. The integration of sensors in the shoes can demonstrate that employers care about their well-being, which can lead to increased job satisfaction and worker retention. 4. Positive Environmental Impact: Monitoring workers' health through sensors can lead to a more efficient use of resources and energy, reducing environmental impacts from workplace accidents or illnesses.
5.	Business Model (Revenue Model)	From a business perspective, this technology can provide several benefits. First, it can reduce the risk of workplace accidents, which can lead to lower costs associated with workers' compensation claims and lost productivity. Additionally, by improving the health and well-being of workers, companies may

		see higher levels of employee satisfaction and retention, which can lead to increased productivity and profitability. The business model for this technology could involve offering the hardware and software components of the system as a service to companies that want to improve the health and safety of their workers. The service could be offered on a subscription basis, with different tiers of service available depending on the size and needs of the company. Companies could also benefit from customized analytics and insights that can help them identify areas for improvement in their work processes.
6.	Scalability of the Solution	The solution has a high potential for scalability as it can be implemented across various industries where workers are exposed to physically demanding and hazardous environments, such as mining, construction, and manufacturing. With advances in sensor technology and cloud computing, the system can be easily scaled up to accommodate large numbers of workers and can be customized to fit specific industry needs. Furthermore, the data collected can be used to analyse trends and patterns across different industries, providing insights into best practices for workplace safety and health.