Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID44045
Project Name	Project – Emerging Methods for Early Detection of Forest Fires
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Forest fires are a major environmental issue, creating economic and ecological damage while endangering human lives. There are typically about 100,000 wildfires in the United States every year. Over 9 million acres of land have been destroyed due to treacherous wildfires. It is difficult to predict and detect Forest Fire in a sparsely populated forest area and it is more difficult if the prediction is done using ground-based methods like Camera or Video-Based approach. Satellites can be an important source of data prior to and also during the Fire due to its reliability and efficiency. The various real-time forest fire detection and prediction approaches, with the goal of informing the local fire authorities.
2.	Idea / Solution description	Any threat posed to this critical component of the environment should be identified and attacked through the use of the most efficient available technological means. Early warning and immediate response to a fire event are critical in avoiding great environmental damages. Fire risk assessment, reliable detection and localization of fire as well as motion planning, constitute the most vital ingredients of a fire protection system. Through our prior knowledge Supervised and unsupervised learning, Regression Classification and Clustering Artificial Neural Networks and Convolution Neural Networks our team has an overall idea about Emerging Methods for Early Detection of Forest Fires.
3.	Novelty / Uniqueness	By detecting a fire quickly and accurately (i.e., by not sacrificing speed or causing false alarms) and providing early warning notification, a fire-detection system can limit the emission of toxic products created by

		combustion, as well as global-warming gases produced by the fire itself.
4.	Social Impact / Customer Satisfaction	Early detection of forest fire can minimizes the costs of fire extinguishing and the damage caused in the woods.
5.	Business Model (Revenue Model)	1. To produce and commercialize bio foams at a national level, decreasing the cost of companies for purchases abroad of this equipment for fire control. 2. Retail sale of bio foam to the general public 3. Wholesale to distributors and manufacturers 4. Licenses for the use of the modified bacteria.
6.	Scalability of the Solution	96% scalability is possible in our solution.