Project Design Phase-I

Date	28 JULY 2022
Team ID	PNT2022TMID38822
Project Name	Emerging Methods for Early Detection Of Forest Fires

PROPOSED SOLUTION:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Forest fires pose a serious threat to the environment because they harm the economy, the ecosystem, and put people in danger. In a sparsely populated forest area, it is difficult to predict and detect forest fires, and it is even more challenging if the prediction is done using groundbased technologies such as camera or videobased approaches.

2.	Idea / Solution description	When there are any signs of a forest fire or other suspicious activity, the video of fire is streamed on the console, an alerting sound is produced, and an alert message is sent to the respective forest authorities.

3.	Novelty / Uniqueness	Due to their dependability and effectiveness, satellites can be a valuable source of data both before and during the Fire since groundbased techniques makes the prediction more challenging. Applying convolutional neural network (CNN) technology to image recognition can theoretically extract deeper features and minimize blindness and unpredictability to a substantial extent in the feature extraction process, which can significantly increase the accuracy of flame image recognition.

4.	Social Impact / Customer Satisfaction	A fire-detection system can limit the emission of harmful byproducts of combustion as well as globalwarming gases produced by the fire by delivering early warning notification. Early fire detection helps to rescue countless acres of forest land, limits environmental damage caused by wildlife, and saves the loss of plants and animals.
5.	Business Model (Revenue Model)	This device can only be utilized by a large firm or by the government to monitor vast forest reserves.
6.	Scalability of the Solution	While controlling wildfires has advanced over the past few decades, there is still a need to increase disaster risk reduction capabilities, including early detection systems and real-time data transmission at all phases and stages of a forest surveillance system. Monitoring the
		possible danger areas and early fire detection can considerably minimize the response time, potential damage, and firefighting expenses. Regardless of the geographical distance between resources and users, the system is regionally expandable and maintains its usability and usefulness.