Project Design Phase-I
Proposed Solution

Date	10 November 2022
Project Name	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)	This project deals with the problem of The best way out is early detection of forest fire and prevention, To reduce the risk and prevent the forest fire they are big offerings to fight it like planes, fire brigade trucks, also extinguishers to small areas which depends upon the severity of the fire and leads to large investment by concerned agencies.Forest fires are highly destructive and are uncontrollable when it starts spreading over the area. Fire causes respiratory problems for living beings even they are living several kilometers away. The 2019, Australia wildfires almost 15 million acres have been burned and the fire also killed about one billion animals
2.	Idea / Solution description	The key research objectives are as follows: > Forest fires as of late have been annihilating both for normal biological system, biodiversity and woodland economy. >there is an expansion in level of fires that are a significant reason for declining Indian woodlands. >It is about the sensors and dynamic checking framework to dodge a significant fire and genuine harm to woods.
3.	Novelty / Uniqueness	Studies carried out in the present area of investigation depicts that fires help in maintaining the open nature of the barrens by retarding woody plant growth. Fire frequencies determine the overstorey of coniferous composition, besides developing a natural space among the stands. Fire may also play a role in recycling nutrients from the ground-layer vegetation and litter to the overstorey trees, thereby counteracting the infertile substrates and arrested decay . Areas under larger burned patches have higher cover of tree seedlings and shrubs, greater densities of

		opportunistic species, and lower species richness than smaller patches . The size and shape of a burned area determine in part the number of new habitats that can be used by animals. Animals can invade new habitats and proliferate because they have relatively few contacts with other animals belonging to their own species or other species.
4.	Social Impact / Customer Satisfaction	The results obtained for the NPV, IRR and PP demonstrate that it is possible to think of the forest's sector in a profitable and sustainable way. However, forestry investors must be aware of the difficulties they will encounter, due the lack of forest investments.
5.	Business Model (Revenue Model)	Forestry economic sector is characterized by small companies, mainly micro-companies, with, on average, 4.1 people per company. Small size of Portuguese private property and the lack of information about its ownership make it difficult to increase the forest sustainability and profitability. In fact, 61% of forest owners have less than 5 ha, corresponding to 26% of the forest area.
6.	Scalability of the Solution	Forest fires lead to destruction of forest wealth and not only that it also destroys the flora and fauna which causes harm to biodiversity. Forest are great resources and to preserve them is a major challenge. As, they are irreparable damage to the ecosystem, so forest fire detection and prevention is utmost important and best way to tackle this problem. But the forest fire early detection and prevention is another major challenge faced all over the world. Several methods for controlling and monitoring of fires have been proposed. In earlier days, manned observation towers were used but this technique was inefficient and failed. After that satellite and camera imaging technologies were tried but this also proved inefficient and ineffective. For example, cameras were installed at different sites in forest but these provide only line of sight pictures. For a very large areas alert system is required as it is really tedious task to monitor all the images.