**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 30 September 2022 |
| Project Name | Emerging Methods for Early Detection of Forest Fires using Artificial Intelligence |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

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

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | * Forest fires have been and still are serious problem for the European Union and for all other countries in Europe. * The most important factors in the fight against the forest fires include the earliest possible detection. * Over the years the detection of forest fires has been conducted in different ways. * The platform is completely automated since both drones have on-board computers and processing capabilities. |
|  | Idea / Solution description | * In the last decade many improvements in the forest fire detection technologies have been made. * The modern IR cameras provide steady and reliable detection of the fires, but the real focus is set on the possibilities to detect the fires. * Analysing wider areas for smoke or by sensing the environmental parameters before the actual spread of the fire. * To provide an overall overview of the park and to observe the difficult terrain we have decided to use a fixed-wing. |
|  | Novelty / Uniqueness | * Artificial intelligence has become extremely popular in the recent years as it has the ability to perform tasks. * The neural networks are specialized computer models, which can be trained to perform different tasks. * the most widely used for image detection and computer vision are the convolutional neural networks. * Input is an image the input neurons might represents the values for each pixel. |
|  | Social Impact / Customer Satisfaction | * Forest fires are occurring throughout the year with an increasing intensity in the summer and autumn periods. * These solutions have greatly decreased the direct involvement of humans in the forest fire detection process. * Our preliminary considerations for social impact from wildfire are drawn from the synthesis of the literature on wildfire and other hazards. |
|  | Business Model (Revenue Model) | * We discuss multiple methodological strategies for collecting and analysing data. * Establish plantations only in accessible sites by using fast-growing species in order to speed up carbon sequestration. * Concentrate and prioritize planning and implementation of forest cultures in protection forests |
|  | Scalability of the Solution | * Overall biodiversity status in all three sites of burnt areas was significantly less than unburnt sites. * Livestock grazing breaks up potential fuel and establishes trails through the forest that can be used as fire breaks. |