

"The Project is co-funded by the European Regional Development Fund (ERDF) and by national funds of the countries participating in the Interreg V-A "Greece-Bulgaria 2014-2020" Cooperation Programme under grant agreement PREVEN-T – CN2 – SO2.4 – SC049

# Interreg - IPA CBC

## Greece - Republic of North Macedonia

### Preven-T



#### PREVEN-T DELIVERABLE 1.Del.3.2.1\_Developing of Capacity with Forest Fires

<b>Authors:</b>	Military Academy General Mihailo Apostolski [MAGMA]
<b>Status:</b>	Final
<b>Due Date:</b>	30/11/2022
<b>Version:</b>	1.0
<b>Dissemination Level:</b>	PU

#### Disclaimer:

The contents of this document are sole responsibility of the PREVEN-T Project Consortium and can in no way be taken to reflect the views of the European Union, the participating countries the Managing Authority and the Joint Secretariat. The project has received funding from the Interreg IPA Cross-border Cooperation Programme: PREVEN-T – CN2 – SO2.4 – SC049. This document and its content are the property of the PREVEN-T Consortium. All rights relevant to this document are determined by the applicable laws. Access to this document does not grant any right or license on the document or its contents. This document or its contents are not to be used or treated in any manner inconsistent with the rights or interests of the PREVEN-T Consortium or the Partners detriment and are not to be disclosed externally without prior written consent from the PREVEN-T Partners. Each PREVEN-T Partner may use this document in conformity with the PREVEN-T Consortium Grant Agreement provisions.

(\*). Dissemination level. -PU: Public, fully open, e.g. web; CO: Confidential, restricted under conditions set out in Model Grant Agreement; CI: Classified, Int = Internal Working Document, information as referred to in Commission Decision 2001/844/EC.

# Interreg - IPA CBC



EUROPEAN UNION






CCI 2014 TC 16 I5CB 009

## PREVEN-T Project Profile

**Grant Agreement No.:** PREVEN-T – CN2 – SO2.4 – SC049

<b>Acronym:</b>	PREVEN-T
<b>Title:</b>	PREVEN-T – Modern Tools for wildfires’ and Floods’ Risk punctual forecast and monitoring and innovative techniques for citizens’ safeguard awareness and preparedness
<b>URL:</b>	<a href="http://www.preven-t.eu/">http://www.preven-t.eu/</a> - <a href="http://prevent.the.ihu.gr/">http://prevent.the.ihu.gr/</a> (NOT OFFICIAL - temporal)
<b>Start Date:</b>	03/03/2022
<b>Duration:</b>	18 months

### Partners

 INTERNATIONAL HELLENIC UNIVERSITY	International Hellenic University (IHU)	Greece
	Military Academy "General Mihailo Apostolski" (MAGMA)	RNM
	National Park Pelister	RNM

## Document History

Version	Date	Author (Partner)	Remarks/Changes
0.1	20/07/2022	Mitko Bogdanoski (MAGMA)	Table of Contents
0.2	20/11/2022	Elena Trajanovska (MAGMA)	1 <sup>st</sup> Draft ready for internal review
0.3	29/11/2022	Mitko Bogdanoski (MAGMA)	2 <sup>nd</sup> Draft ready for quality control
1.0	30/11/2022	Elena Trajanovska (MAGMA)	FINAL VERSION TO BE SUBMITTED

**Abbreviations and acronyms**

Deliverable	D
Expected Outcomes	EO
International Hellenic University	IHU
Non-governmental organization	NGO
Military Academy General Mihailo Apostolski	MAGMA

---

## Executive Summary

PREVEN-T is a 18 month duration project funding from the Interreg IPA Cross-border Cooperation Programme: PREVEN-T – CN2 – SO2.4 – SC049.

The overarching objective of the PREVEN-T project is to improve the operational efficiency and the administrative capacity of relevant services in natural disasters management. At the same time project's goal is to enable education, awareness, and sensitization of the local population, so that in cooperation with the competent authorities to have a coordinated action to deal with Natural and Technological Disasters and Risks. In particular, the project focuses on using innovative ICT tools and models aims at developing actions at four levels of natural disasters management: 1. Planning level: Development of rapid-response forecasting models (Information System for monitoring of fire detection and early warning, surface water and fragile vegetation pollution model, high-resolution weather model, hydrological model) 2. Prevention level: Organizing Educational and Training Seminars (e-learning platform) for students, Citizens and Civil Protection Authorities staff.

The main purpose of this document is to a report the progress of the PREVEN-T project during the deliverable D 3.2.1

---

## Table of Contents

<b>1</b>	<b>Introduction</b>	<b>9</b>
1.1	Purpose of the document.....	9
1.2	Intended audience .....	9
1.3	Work Package Objective.....	9
1.4	Structure of the document.....	9
<b>2</b>	<b>Research aims and methodology</b>	<b>10</b>
2.1	Research aims.....	10
2.2	Methodological framework.....	10
<b>3</b>	<b>Procurement of SUV Vehicle</b>	<b>11</b>
<b>4</b>	<b>Conclusions and recommendations</b>	<b>12</b>
•	<b>References</b>	<b>13</b>

---

## List of Figures & Tables



# **1 Introduction**

---

## **1.1 Purpose of the document**

The purpose of this document is to present the progress of the project during the first eight (8) months regarding the implemented research activities as they are reported in the grant agreement.

## **1.2 Intended audience**

The intended audience of this document consists of the following target groups:

- PREVEN-T project partners and the Project Officer at the Managing Authority

## **1.3 Work Package Objective**

The current deliverable D 3.1 refers to the procurement of an SUV vehicle meant to facilitate research activities in the project, allowing project members to reach inaccessible or mountainous areas. The work package also relates to activities regarding developing an Information System for monitoring of forest area, early forest fire detection, development of filters for better visibility of forest fires during the night (IoT Technology).

## **1.4 Structure of the document**

In chapter 2, this report presents the activities related to initial research conducted in terms of information system development in the reporting period.

In chapter 3, this report describes the actions taken to procure an SUV vehicle for the purposes of the project activities.

## **2 Research aims and methodology**

---

### **2.1 Research aims**

The findings presented in this report are based on an initial laboratory research by MAGMA made with regard to designing an effective information system meant to provide monitoring of a specifically targeted forest area, in order to ensure a mechanism for early forest fire detection.

Furthermore, one of the key aims of this system is to provide the opportunity to detect forest fires during the night by arriving at the most functional set of filters for better visibility and using IoT technology. The system is to be designed in such a manner that a larger percentage of forest fires detection is achieved in areas of immense importance.

### **2.2 Methodological framework**

For the purpose of designing and installing an effective information system for monitoring and early forest fire detection covering a larger percentage of forest fires detection, an initial laboratory research has been conducted by MAGMA team members.

The implementation of the results achieved via this initial research relies on procurement of the necessary equipment by Pelister National Park – Partner 3 in the PREVEN-T project, as well as the engagement of external expertise by both MAGMA and Pelister as partners in the project well-versed in designing and installation of the aforementioned information system. This entire process is envisaged to be made functional by also including scientific contribution by the leading partner, IHU.

Initial research has shown the effectiveness of using a photographic filter, which should provide the possibility of capturing periodical snapshots of the monitored forest area, comparing them with a data base of benchmark photographs indicating the possibility of forest fire. In this context the MAGMA team has reviewed existing experience with using such systems, their effectiveness and efficacy. Moreover, an adequate algorithm is to be developed to make for using of this filtering process operational. However, the final decision regarding the integral segments of the system and their function is to be made by the engaged external experts, who are to take into account these initial findings, but also further integrate scientific data from their own research and apply their experience and expertise to create the most appropriate information system, thus fulfilling the aims of this specific deliverable.

### **3 Procurement of SUV Vehicle**

---

The procurement of an SUV vehicle for the purpose of field research in line with the project goals, has been successfully completed in accordance with the PRAG rules, implemented for the procurement process envisaged within the project.

Having in mind the direct responsibility of MAGMA with regard to the Information System for monitoring of forest fires, forest fire detection and early warning, and the necessity of its installation and maintenance in terms of various equipment for measurement and monitoring, MAGMA is tasked with fulfilling the mentioned activities on inaccessible/difficult terrain in the area of NP Pelister.

Moreover, MAGMA contributes to the installation of the meteorological stations, including utilizing the vehicle for this purpose as well.

Thus, the purchased SUV plays a critical role in carrying out important tasks related to the Information System, its installation and maintenance, as well the installation of the meteorological stations in NP Pelister, all of which are to be conducted in inaccessible, mountainous areas.

Upon the procurement of the SUV, MAGMA has mobilized it and made primary terrain analysis, initially mapped the area and adapted the plans for implementing the said project goals accordingly.

## **4 Conclusions and recommendations**

---

In the reporting period, MAGMA has made all the necessary initial preparations for the successful implementation of D3.2.1, facilitating future actions to be taken jointly with project partners.

The findings of the initial research regarding the information system, envisaged within the project, are to be shared with the engaged external experts. Furthermore, in collaboration with the project team from NP Pelister, their external experts and utilizing the scientific data provided by IHU, this system is to be installed and maintained. In this context, the installation of the information system and its maintenance is to be done using the SUV, procured in the scope of the project.

Mapping of the terrain by MAGMA's team with the SUV has provided a better understanding of how to best access these tasks, as well as the task of installing the meteorological stations in cooperation the NP Pelister project members.

The main recommendations regarding this deliverable are to finish the pending procurement tenders for equipment and external expertise as soon as possible, so that all the remaining tasks MAGMA participates in could be completed on time with high quality.

---

- **References**

---