SMART MOUNTAINS

XII European Mountain Convention

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How to make our territories attractive and future- oriented?

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Technology and environmental monitoring of the Arcadian mountains

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LET'S START !

- <u>Place of the initiative</u>: MENALON MOUNTAIN AREA/ ARCADIA/GREECE

- <u>Coordinator / leader of the initiative</u>: MENALON SOCIAL ENTEPRISE

- <u>Linked third parties</u>

- *ELKETHE - Hellenic Center for Marine Research*

- *PELOPAS - Secondary Union of Social Enterprises of Peloponnese*

- <u>Key facts or figures</u>: Gradual increase of visitors /actions to be taken in order to save the sensitive ecosystem

INTRODUCTION

The "Menalon Social Enterprise" is a social enterprise which had the idea of the creation of the Menalon Trail, the first certified trail by ERA (European Ramblers Association) in Greece, on May 2015.

It is a 75 km long mountain trail in Arcadia, in the center of Peloponnese (Greece) which is divided into 8 sections of pure nature and culture around 9 villages of Arcadia:
Stemnitsa, Dimitsana, Zygovisti, Elati,
Vytina, Nymfasia, Magouliana, Valtessiniko, Lagadia

SOME MORE INFORMATION…

Menalon Trail was awarded many times at Greek Tourism Awards in a really high standards competition.
Its unique geography, flora & fauna and the thesaurus of its gastronomy are always an extra reason for guests to visit the region of Arcadia and Peloponnese and hike around the well signed sections of the trail, either they are individuals or huge groups of friends.

THE PROJECT…

Since 2015 when Menalon trail has started, we identified that there was a lack of data regarding the number of visitors , the peak period of hiking, the peak hours during the day. National or local authorities couldn't feed us with data and this caused serious problems regarding the planning of our activities , the status of the trail, the impact of human activities along the trail etc. Therefore, we decided to establish a method of monitoring that will respond to our needs.

To deal with the problems, we decided to install automatic sensors to record the traffic on the Menalon trail.

SYNERGIES - FUNDING
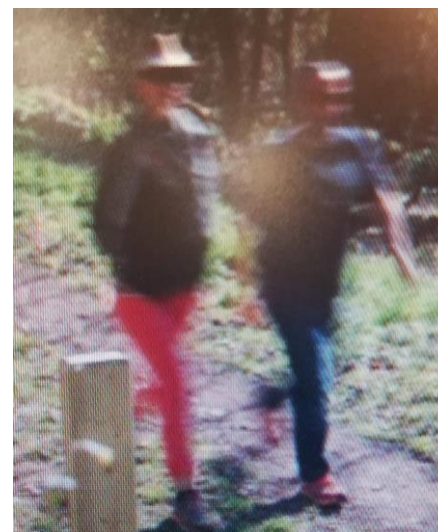
- *We collaborated with the Hellenic Center for Marine Research that installed water monitoring stations in the rivers of the area and jointly submitted a proposal to the Green Fund under the title* **" Environmental monitoring actions in water bodies and hiking trails of mountainous Arcadia using innovative technologies"**

- *The total budget was €50,000 and included also actions involving public events, display signs and posters mentioning the action that were implemented by PELOPAS (Secondary Union of Social Enterprises of Peloponnese), the third part of the initiative*

- *The duration of the program was 18 months and was completed last June.*

The project implementation area was the Western Menalon area in the central Peloponnese, which is crossed by the Menalon Trail hiking network.

Main economic activities are agriculture, livestock farming and tourism thanks to the special natural and cultural environment, the rivers and the traditional settlements (Stemnitsa, Dimitsana, Lagkadia).

TOOLS
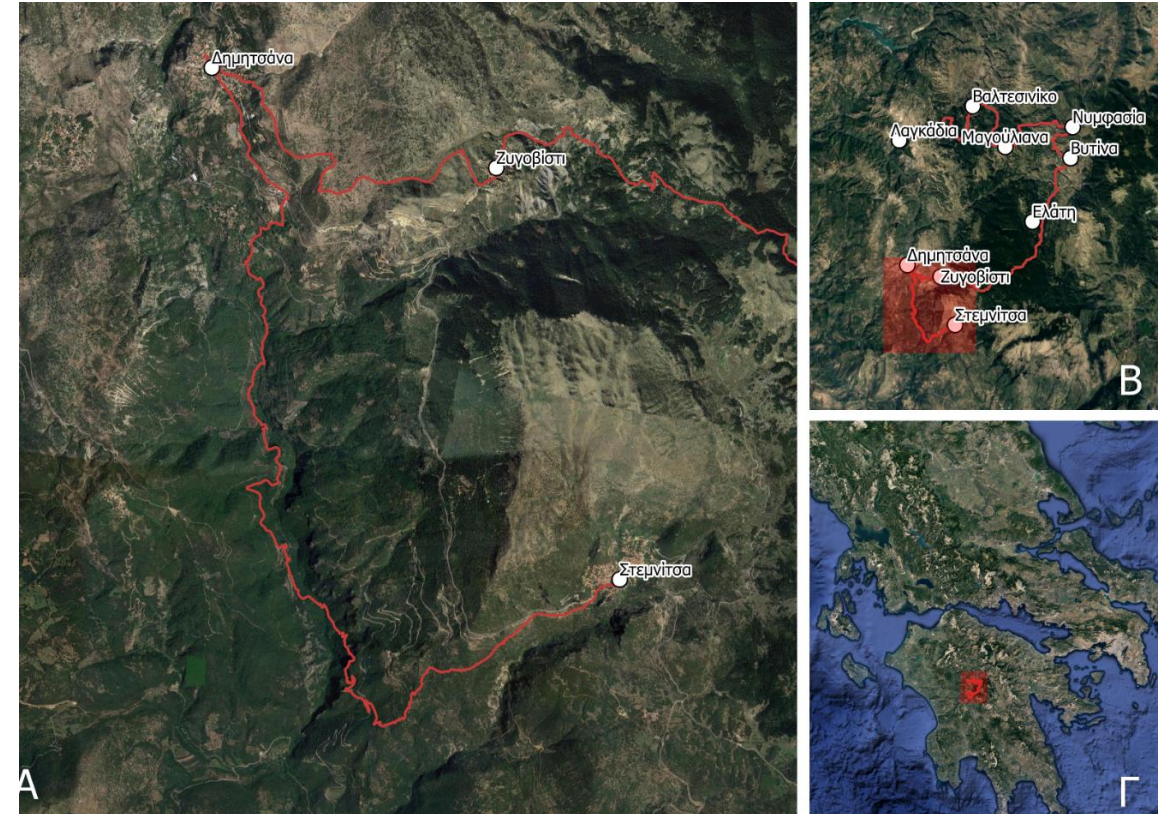
After the approval of our proposal by the Green Fund we started the implementation of the project. Initially, market research was carried out in order to fix the optimal specifications of automatic sensors, using IoT (Internet of Things) technologies. Subsequently, we carried out the installation of three automatic sensors . There have been no construction interventions or technical projects in order to avoid any damage to the landscape.

TOOLS

Meanwhile, Hellenic Center for Marine Research (ELKETHE) proceeded to the installation of 4 water monitoring stations in the river Lousios.
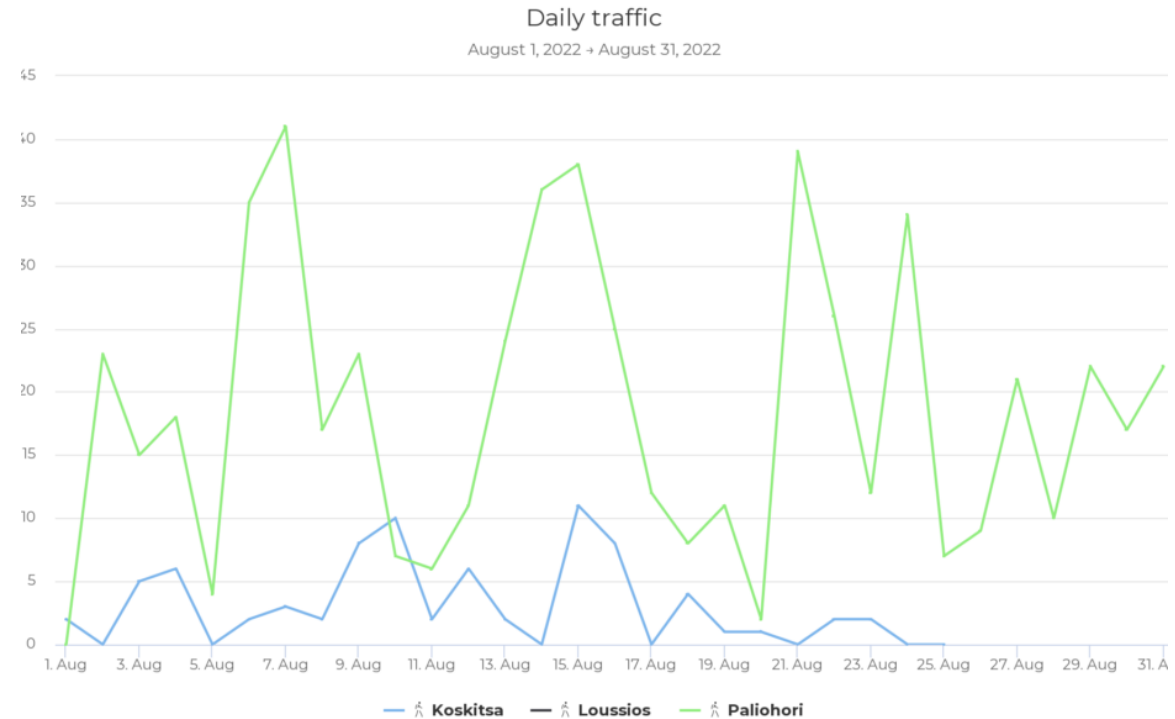
The parameters of dissolved oxygen (mg/L), conductivity (μS/cm), temperature (ºC) and pH are recorded for water quality monitoring. The level (m) of the rivers is recorded for the quantitative monitoring of the waters.
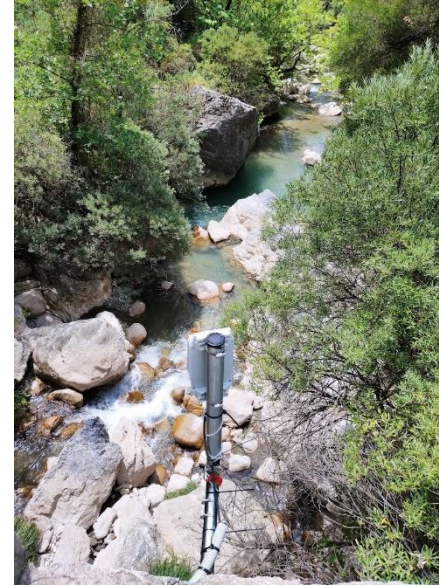
An online platform with an integrated database has been developed for the storage, processing and visualization of the data of the automatic stations and traffic recording sensors in order to make the above recordings public.

https://menalon.hcmr.gr/

Daily traffic
August 1, 2022 → August 31, 2022

Koskitsa — Loussios — Paliohori

DISSEMINATION MATERIAL

1) [Conferences in order to involve other stakeholders and local communities actors](#)

2) [Leaflets](#)

3) [Website https://menalon.hcmr.gr](https://menalon.hcmr.gr)

EXPECTED IMPACTS

The system can automatically send informative messages when critical limits are exceeded in the parameters recorded, contributing to the safety of visitors active in hiking, river trekking, rafting in order to avoid accidents due to natural disasters (eg floods). Also, obtaining data on the traffic of hiking routes will help to highlight the contribution of Menalon trail to the sustainable development of the area, the increase of local income and the improvement of services.
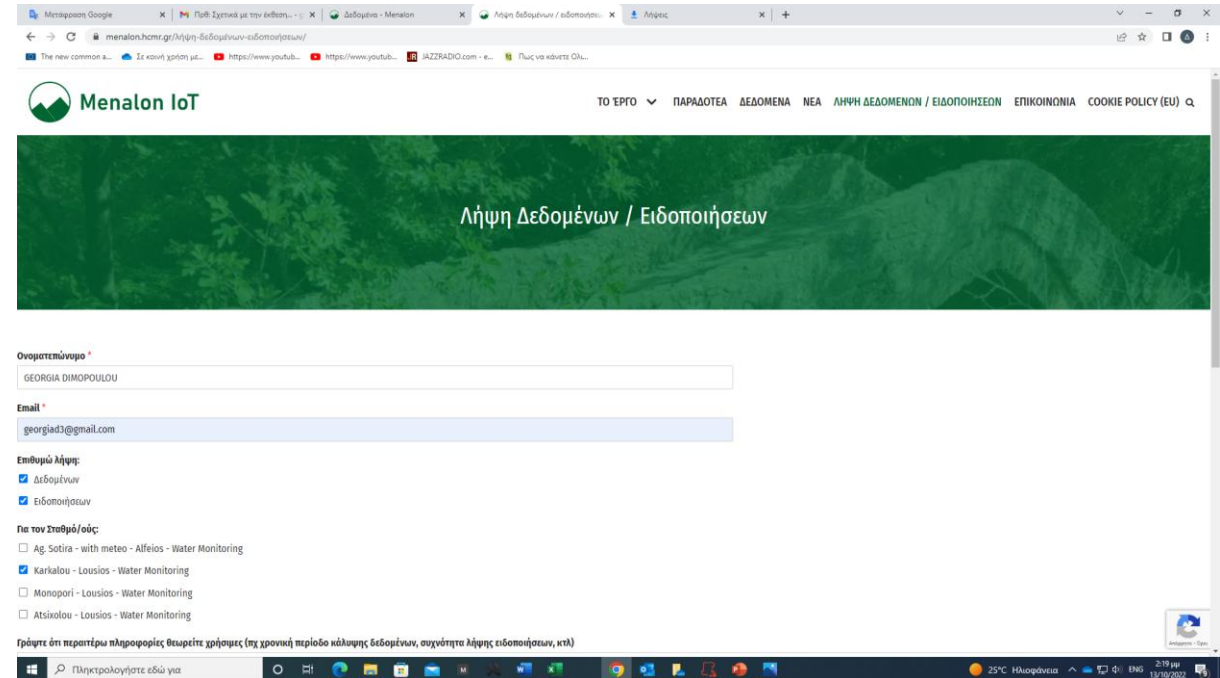
MAKING MOUNTAIN AREA OF MENALON TRAIL MORE RESILIENT AND FUTURE ORIENTED

The measurement of the visitors of the hiking routes with innovative, cheap and reliable method is expected to be a useful tool for the management of the visitors of the Menalon trail e.g improvement of public and private infrastructure, impact of activities to the fragile ecosystem of the area, development of emergency response infrastructure.

Meanwhile we expect that it will be a useful toolkit for destination management organizations, academic and research institutions.

THANK YOU / MERCI / GRAZIE !