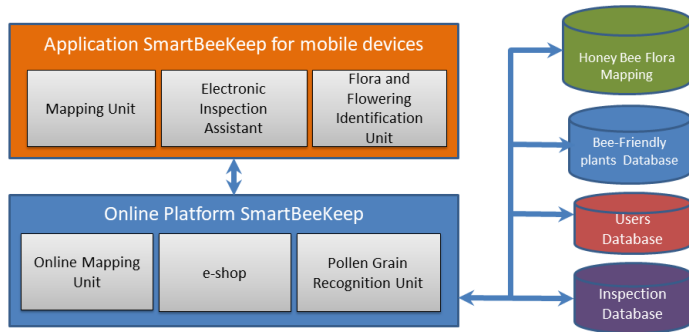


SMARTBEEKEEP

The project SmartBeeKeep (“Development of a smart tool for the viable management of beekeeping activities”) is implemented under the Funding Programme “Competitiveness, Entrepreneurship & Innovation”. It aspires to take advantage of modern developments in Information and Communication technologies in the fields of beekeeping and biodiversity by proposing an innovative platform that will serve and facilitate beekeeping activities and research, in Greece and internationally. The project started in June 2020 and will last 36 months.



Basic Architecture of SmartBeeKeep

Methodology

The implementation of the proposed applications includes three distinct levels:

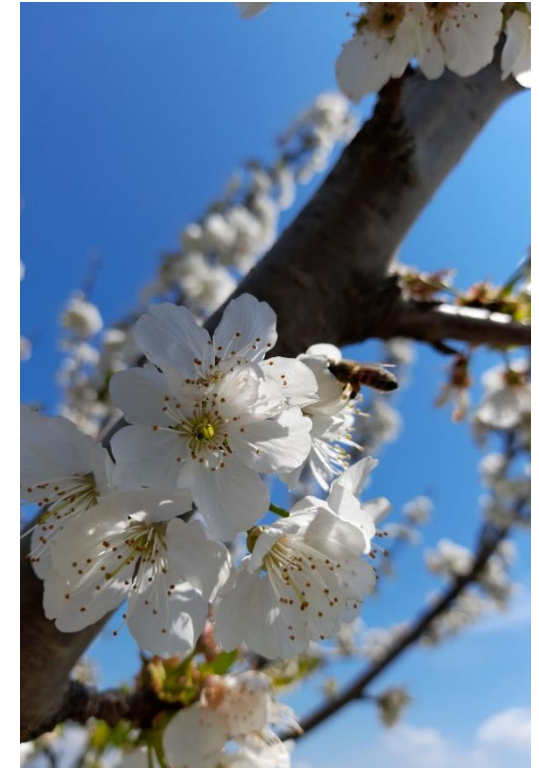
- (A) **Environment and biodiversity:** new GIS and machine learning technologies will be used, based on research data that will emerge during the implementation of the project, for the participatory mapping and study of biodiversity of areas, aiming at the optimization of beekeeping practices.
- (B) The **beekeeping activities:** the application will support: i) the organization of data collection and recording in inspections, ii) the planning of hive inspections, iii) provision of automated advice to the beekeeper and iv) drawing of statistical conclusions.
- (C) **Beekeeping products:** application development, using machine learning algorithms, for the automated identification and counting of pollen grains, from microscope images for the rendering of the botanical and geographical origin of honey and pollen samples

Consortium



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SmartBeeKeep

Development of a smart tool for the viable management of beekeeping activities



“Applications of Information and Communication Technologies for Smart Beekeeping”

Applications

- **SmartBeeKeep Web / Mobile App**

The Smartbeekeep Web / Mobile App (Progressive Web App) will provide the following services:

- (a) public access to the platform's free data.
- (b) Possibility of mapping vegetation by specialized users (e.g beekeepers registered on the platform)
- (c) electronic assistant for recording - scheduling inspections, exporting statistics and providing automated consulting support to the beekeeper.

- **SmartBeeKeep E-shop**

The e-shop will utilize the project database, for the automatic provision of information (botanical and geographical origin, beekeeping flora, biodiversity, production processes, etc.) of beekeeping products produced using SmartBeeKeep.

In addition, it will support crowdfunding with the aim of producing products with specific origins and production, certification and packaging processes.

Objectives

The main objectives of the project are:

- (a) the provision of tools for the participatory mapping of beekeeping flora and the study of local biodiversity, while for selected plant species the approximate estimate of flowering time will be investigated at an early stage.
- (b) the provision of innovative tools and services to the beekeeping community (beekeepers, analysis laboratories, researchers).
- (c) evaluation of applications, in order to highlight that local biodiversity in combination with "smart" beekeeping leads to high value-added products, while reducing management and production costs.

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