Expected Results

The Mars proposal, fully geared to the needs of the agricultural sector, aims to integrate Information & Communication Technologies into the agricultural production process, so that their positive effect are visible in:

1. Crops included in this action
2. Those crops that the results of MARS may be extended
3. The implementation of Precision Agriculture, as described in the Common Agricultural Policy by the European Union
4. The competitiveness of Greek agricultural products

Funding Agency

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MARS

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@MarsSmartFarmingWithDrones

https://cutt.ly/3h5SWNg

MARS Smart Farming with Drones

European Union
European Regional Development Fund

EPAnEK 2014-2020
OPERATIONAL PROGRAMME
COMPETITIVENESS
ENTREPRENEURSHIP
INNOVATION

ΕΣΠΑ 2014-2020
ανάπτυξη - εργασία - αλληλεγγύη
Partnership Agreement 2014 - 2020

Co-financed by Greece and the European Union

Precision Agriculture

Precision Agriculture is an application of modern Information and Communication Technologies in agriculture using effective approaches for recording and processing information on a set of agricultural land, aiming at a more productive and sustainable agricultural production and in particular:

- Detection of Abnormalities
- Input Management
- 24/7 Telematics Monitoring
- Minimizing Environmental Impacts

Program Objectives

The pilot demonstrations of the MARS protection system will take place in the crops of the Agricultural Cooperative of Velvento Kozani and the Agricultural Cooperative of Grevena.

Telematics Monitoring

Development of real-time telematics monitoring applications for agricultural crops using unmanned aircrafts

Data Visualization

Interconnection of data collected by unmanned aircraft and wireless sensor networks in geographic information systems

Disease Diagnosis

Early detection and diagnosis of diseases in trees and plants using Machine Learning methods

Cost Reduction

Reduction of production costs and supervision of agricultural assets

Environmental Protection

Thanks to the judicious and targeted use of plant protection products

Strengthening Local Community

Strengthening the region of Western Macedonia as a model for the implementation of smart and precision agriculture

Internet of Things (IoT)

IoT provides effective mechanisms for collecting and processing information in real-time, while also provides mechanisms that allow direct access to data, and enabling decision-making in cloud infrastructure. The project uses the following data sources:

Unmanned Aerial Vehicles (UAVs)

UAVs can be equipped with modern sensors which allow them to collect various information regarding soil, water, microclimate parameters.

Wireless Sensor Networks (WSNs)

WSN will carry special sensors for measuring water, oxygen and temperature, as well as acidity and humidity level in the root of the plant.