Co-funded by the European Union

ΕΣΠΑ 2021-2027
Βιώσιμη Ανάπτυξη για Όλους
Partnership Agreement 2021-2027

Program: «CENTRAL MACEDONIA» 2021-2027
Action: Innovation Investment Plans»

Project title:
«Integrated System for Automated Mapping of Soil Parameters».

Brief Description:
The Centre for Research and Technology Hellas participates in the Program «Central Macedonia» ΕΣΠΑ 2021-2027 through Action «**Innovation Investment Plans**» which is co-financed by the European Union and National Resources.

The project titled «Integrated System for Automated Mapping of Soil Parameters» aims to develop a system for mapping and processing soil parameters and supporting decision-making to optimize soil and crop management (fertilization, irrigation, etc.).

Indicative expected benefits of this project, through the interventions it includes, are:
• Development of an autonomous system for soil parameter mapping and management decision-making, suitable for future integration into robotic vehicles. This will provide an essential tool for producers, offering significant economic and environmental benefits.
• Familiarizing producers with agricultural sensors and cutting-edge technologies, thereby modernizing agricultural production methods and paving the way towards future agriculture.
• Optimization of agricultural practices and inputs, expected to increase producers' income by reducing agricultural chemicals and enhancing productivity across various sections of agricultural land.
• Environmental protection through: a) reducing the amount of agricultural chemicals applied, and b) minimizing fertilizer and pesticide runoff into catchment basins and groundwater by optimizing application efficiency. These factors will collectively reduce the environmental footprint of agricultural activities.
• ERGOPARTNERS S.A. will directly benefit from implementing the project by gaining expertise in advanced agricultural technologies. Additionally, the final product is anticipated to achieve broad recognition and acceptance among the targeted group, namely producers, agricultural consultants, and companies operating in the agricultural sector.

The project's objective is the development of an integrated soil management information system that utilizes precision agriculture methods and sensors to optimize soil sampling processes and automate soil parameter mapping, simultaneously providing recommendations for optimal field management. Alongside the technical development of the system and immediate benefits offered by its use, the project also contributes to the adoption of innovative agricultural sensor methods and advanced technologies by producers. The system represents an automated solution, minimizing human effort and maximizing efficiency in soil and crop management. Furthermore, it serves as a precursor to developing fully automated robotic solutions applicable in agricultural production. The robotic platform utilized for mapping fundamental soil parameters, such as topography and soil compaction, provides the foundation for further advancement of robotic applications in agricultural settings applicable across multiple crop types.

Total Project Budget: 399.607,67€
CERTH's Budget: 195.003,04€