



## LOCATION



Portugal

## PARTNERS

INESCTEC

 National Institute for  
Agronomy and Veterinary  
Research


 ubiwhere  
Sustaining the Future


 FENADEGAS  
Associação dos Produtores  
de Portugal  
Grande vinho português


## 3.2

# Precision Farming for Mediterranean Woody Crops

## CHALLENGE

Mediterranean Woody Crops have been severely affected by several challenges such as climate change (water scarcity), pests and diseases. Most of the farms specialising in these crops are small, low on profit and technology, and face high labour costs. Furthermore, Mediterranean Woody Crops owned by medium/small farmers have limited access to technology, due to the associated costs, and the low levels of systems interoperability. These farmers need simple, intuitive, and cost-effective technologies to help them overcome the challenges outlined and become more profitable by maximising the use of smart and precision agriculture.



## AIM

This pilot aims at promoting technology, methods and IoT solutions to optimise precision farming practices of Mediterranean Woody Crops (Apple, Olive and Grape), considering the small farmers' economic constraints. The proposed solutions (IoT and Ground Robots) will enable a more efficient usage of inputs such as water, energy, macro-nutrients, and pesticides, thus increasing the profits of small farmers and reducing their environmental impact.

## HOW

This pilot will promote the use of open-source, plug-and-play, cost-effective and modular technology that can be considered by small holder farmers. The pilot will demonstrate real-time monitoring and control of plants, water supply and nutrients, using IoT sensors and Agricultural Robots on the field for phenotyping. This will also enable precision-spraying and use satellite/aerial imagery for yield potential estimation.

## BENEFIT

The implementation of standards-based and interoperable elements will facilitate the exploitation and maintenance of irrigation systems achieving greater efficiencies in water, nutrients and energy savings, with cost effective solutions that can be acquired by small holder farmers.

