

Providing Innovative Solutions to Improve the Efficiency of the Agriculture Sector



VISCA
VINEYARDS INTEGRATED
SMART CLIMATE APPLICATION

Innovation of the Agriculture Sector in Europe

Agriculture, including food-related industries and services, is one of the main economic sectors in the EU which provides over 44 million jobs (EC, 2019). The diverse climate, fertile soil, quality standards and technical expertise of the European farmers have made the EU a leading actor in this sector globally.

However, agriculture is currently facing deep economic, technological and regulatory changes where the impacts of climate change and resulting natural disasters exacerbate the challenges. That's why the EU has been investing in diverse projects and initiatives to foster innovation and improve the efficiency of this sector.

A cluster of 4 innovative EU-funded projects are presented here: **VISCA, WEAM4i, OpIRIS & IRRIMAN.**

Issues and challenges

- Improving the adaptation of crops to climate change while minimizing costs and risks.
- Efficiency of irrigation and minimizing the operational cost of water supply infrastructures (e.g. energy).
- Monitoring and implementation of EU policies and regulations in relation to agriculture.

New results and services for Europe and beyond

This unique cluster of 4 agro-food projects aims to present the innovative solutions of the use of several techniques and actions to respond to the abovementioned challenges. The results and services of these projects are summarized below:

- **Precision irrigation system** that uses sensor information to decide how much, how often and in what pattern to apply water.
- **Water-energy smart grid** to improve irrigation efficiency and minimize energy costs.
- **DSS applications for farmers** which provide recommendations on irrigation, treatment, harvesting based on in-situ sensor data, crops models and short-medium and long term climate forecasts.
- **Policy recommendations** for energy efficiency in irrigation, integrated management of Water-Energy-Food (WEF) nexus and the need for standardization of data exchange formats.

Who benefits?



Agriculture Industry



Farmers and Farming associations



Industry and technology providers



Scientific Community



Policy Makers



Consumers

The impact on the future of agro-food innovation

- Innovations in the production methods, sparked among other things, will contribute in **achieving sustainable agriculture** as well as the **decline of operational costs**.
- Innovations in the agro-food sector will contribute in **facilitating the access of technologies** by the end-users which leads to better efficiency and competitiveness of agriculture.
- Using new technologies such as **DSS**, which includes the forecast of **climate change** impacts, will help farmers take **adaptive measures** to develop new strategies making the agriculture sector **more resilient** to climate variability.

Find more about our projects and community

These four research projects are collaborating closely to tackle the challenges facing farmers



VISCA is making European wine industries resilient to climate change by providing a Climate Service (CS) and Decision Support System (DSS) that integrate climate, agricultural and end-users specifications in order to design medium- and long-term adaptation strategies.

www.visca.eu



IRRIMAN aims to implement, demonstrate and disseminate a sustainable irrigation strategy based on deficit irrigation to promote its large scale acceptance and use in woody crops in Mediterranean agroecosystems, characterized by water scarcity, without affecting the quality standards demanded by exportation markets.

www.irrimanlife.eu



OpIRIS aims to build a knowledge-based system for online precise irrigation scheduling using advanced results from previous EU-projects on water and fertilizers productivity in fruit trees orchards and hydroponic productions in greenhouses.

www.opiris.eu



WEAM4i aims to improve the efficiency of water use and reduce the costs of power irrigation systems. A smart network for the management of irrigation, WEAM4i ICT platform was developed to achieve this goal.

www.weam4i.eu



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Common **D**issemination **B**ooster