

Project designation	AI4RealAg – Artificial Intelligence and Data Science solutions for the implementation and democratization of digital agriculture
Project code	LISBOA-01-0247-FEDER-069670 POCI-01-0247-FEDER-069670
Main goal	Reinforce research, technological development and innovation
Region of intervention	Lisboa, Center, Alentejo
Beneficiary entity	SISCOG - Sistemas Cognitivos, S.A. Beyond Vision - Sistemas Móveis Autónomos de Realidade Aumentada, Lda Instituto Nacional de Investigação Agrária e Veterinária, I.P.
Approval date	24-05-2021
Starting date	01-09-2020
Completion date	30-06-2023
Total eligible cost	2.661.843,68 Euros
European Union financial support	1.562.945,17, through the European Regional Development Fund

### Goals, activities and expected results

AI4RealAg is a research project, developed by the consortium composed of SISCOG, INIAV and BEYOND VISION, that aims to increase agricultural production and quality, ensuring a positive impact on agricultural and environmental sustainability.

The project aims to:

- Develop **Artificial Intelligence (AI) and Data Science models** that, through the analysis of large volumes of data, enable to uncover hidden knowledge from data, such as patterns, trends and correlations, which support smarter decision-making, as well as preparation of forecasts;
- Develop a **combined remote multispectral, thermal, 4K 360° and LiDAR sensing**, through the exploration of increasingly larger drone payloads, in order to increase the quality of the data that feed AI and Data Science models, consequently, improving the quality of results produced by them.

The project addresses six topics:

- Characterization of the phenological states of cultures;
- Determination of cultural coefficients;
- Estimation of the intensity of water stress;
- Diagnosis of nutritional status;
- Health diagnosis for early detection of diseases; and
- Development of an advanced phenotyping platform.

It will be tested and validated in three agricultural sectors:

- Vineyard;
- Olive groves; and
- Fruit trees orchards.