'Avocado Streaming' has just been launched, an artificial intelligence project to predict avocado maturity coordinated by onTech Innovation. It develops its own prediction system using machine learning techniques, based on data analysis, microclimate evolution, crop phenological responses, as well as observations of pests and possible diseases.

OnTech Innovation cluster coordinates this industrial research project, developed by the Granadian companies Grupo La Caña and Nazaríes, Fidesol as well as the University of Granada

Recently, the consumption of avocado, considered as a "superfood" for its nutritional value, its versatility and its great taste, has skyrocketed in Europe and the rest of the world. The exponential growth in demand has a direct impact on agricultural employment and the generation of wealth, but it also has negative environmental effects, derived from extensive production.

The 'Avocado Streaming' project responds to this goal, an industrial research initiative coordinated by the OnTech Innovation cluster that is developing predictive models to determine the degree of maturity of the avocado using tools based on artificial intelligence. In this context, ensuring the optimization of avocado harvests, guaranteeing harvesting at the optimum moment of fruit maturity, is essential to satisfy the demand of the agri-food industry and consumers, and at the same time minimizing the impact of this activity on environment.

The Granadian companies Grupo La Caña and Nazaríes, together with the University of Granada and the Free Software Foundation (Fidesol), are responsible to oversee this ambitious project, financed by the Spanish Ministry of Industry, Commerce and Tourism within the framework of the support for Spanish clusters.

This R&D initiative seeks to develop its own prediction system using artificial intelligence techniques, including machine learning, based on the analysis of various data sources, such as the evolution of the microclimate of evaluated farms, the phenological responses of the crop, as well as the different observations of pests and possible diseases. In order to collect this data, the project will develop a non-invasive sensor prototype to estimate the degree of ripeness of this subtropical fruit.

'Avocado Streaming' will have a great impact on the value chain involved in the production, handling, logistics and sale of avocados, since decision-making will be improved based on objective criteria regarding the ripening of the fruit. This smart agriculture project will have a great economic and business impact, since it will eliminate the costs associated with current techniques for determining the maturity of the fruit; it will improve the qualities of the avocado that the final consumer receives; and will enhance the competitiveness of companies and the agri-food industry.

Entities participating in 'Avocado Streaming'

The project, officially named as 'Research and development of a non-invasive sensor prototype and predictive models for determining the degree of maturity of avocado: Avocado Streaming', is an industrial research initiative coordinated by OnTech Innovation, the largest

business organization in the digital economy and the largest technological and biotechnological cluster in the region of Andalusia.

The initiative is being developed by the following top-level companies and research organizations: Grupo La Caña, a company from Granada with more than 40 years of business experience dedicated to the production and marketing of fruit and vegetable products; Nazaríes, a company dedicated to the development of software solutions and the development of IoT solutions applied to the agricultural sector; the Free Software R&D Foundation, Fidesol, a support center for technological innovation that works on research and development of emerging technologies; and the University of Granada, through the EcSens research group (Electronic and Chemical Sensing Solutions Group).