



SERENADE - Sensors and Eco-fRiendly food-grade matErials for a sustaiNable and smArt fooD storagE and quality monitoring

Promoting circular economy approaches is critical to decrease the environmental footprint of food production activities. However, there are still inefficiencies at all stages of the food supply chain hindering sustainable food production. In this line, to contribute to sustainability in the last part of the food supply chain, SERENADE proposes a multidisciplinary approach combining three pillars: food, sensors, and materials technologies with the objective of building smart sustainable solutions targeting the reduction of food waste at the end of the food supply chain (households, supermarkets, and food retailers).

Thus, SERENADE's main goal is to develop sustainable innovations for food quality tracking, while training at the same time a new generation of 7 multidisciplinary Doctoral Candidates (DCs) in the fields of food technology, sensor technology, artificial intelligence (AI), and eco-friendly materials (circular economy) and allowing them to work in team with experts in other disciplines.

These innovations will result in the development of i) a smart and sustainable food container for monitoring food freshness at households and markets, using sensor technology and made of novel food-grade materials (biobased or recycled) and ii) a handheld food spoilage analyzer combining sensor technology, and artificial intelligence (AI) software to determine food freshness in unpackaged food at markets.

To achieve the development of said monitoring solutions, the close collaboration of experts in the three research pillars of the SERENADE project and the training of multidisciplinary researchers in the three fields at the same time, will be needed and will be possible thanks to the international and intersectoral cooperation of the SERENADE partners distributed among 4 EU countries (Spain, Germany, Belgium, and Italy), and to the strong involvement of the industry, with the participation and leadership of industrial partners (SMEs and large industries).

Coordinator: Bsh Electrodomesticos Espana SA

Beneficiary: Università degli Studi d Padova

UNIPD Supervisor: Giovanni Lucchetta



Università degli Studi di Padova

Department: Department of Industrial Engineering

Total Contribution: € 129 718,80

Project Duration in months: 48

Find out more: https://cordis.europa.eu/projects/en