CircInWater

Sens SOlutions

Project Partner: SENSING SOLUTIONS S.L.
Country: Spain
Industrial ecosystem: Agrifood
Date of the award: 29/09/2023
Duration: 01/12/2023 – 30/11/2024

~ Real-time bacterial monitoring of re-used water in agriculture to reduce water scarcity ~

With Spain and Italy already experiencing severe droughts in May 2023, and water reserves at 50% of capacity nationally, the autonomy and competitiveness of the entire agri-food sector in Europe are jeopardized as together they represent 57.6% and 35.1% of the total fruit and vegetables production, respectively, in Europe.

With the agricultural sector accounting for around one-fourth of the total water extraction in Europe, AGRI-S3DP project aims to reduce its water stress by promoting the use of treated waste. Up to now, the bacterial detection is performed through in situ sampling and analysis in Microbiology Laboratories with sterile conditions and specific protocols and methods based on bacterial cultivation by specialized personnel, delaying by 2-3 days the prevention or detection of bacterial outbreaks that would require the burning of contaminated crops.

Based on its patented optical biofilm sensors systems combined with their recently developed machine algorithms for specific bacterial detection, AGRI-S3DP will bring to the market the first continuous real-time bacterial monitoring of E. Coli and Legionella spp to comply at any moment with the newly implemented REGULATION (EU) 2020/741 that requires solutions to monitor reused water quality against such bacteria.

AGRI-S3DP will directly impact on EU agricultural businesses in serious difficulties due to water emergency, particularly in Spain and Italy. In Veneto alone, it is estimated that there will be production losses in 2023 to the value of over 1B€ and associated 7.7B€ direct revenue on the following up agri-food value chain, and a similar number could be expected in the south of Spain with across 5 million hectares losses of rain-fed.