h-ALO

The h-ALO project is contributing to the European digital transformation prompted by photonics in the Agriculture & Food sector helping local food producers and farmers to monitor the microbiological and chemical contaminations of their products in real-time.

In the European food system, small and medium-sized enterprises are responsible for nearly 50 % of turnover. The European agriculture landscape is mainly characterized by small and medium farms accounting for 97% of the total farms, 67,6% of which are very small or small farms, generally family-run businesses. For a small/medium size producer, the economic burden of chemical and microbiological contamination can be significantly higher compared to a large enterprise.

The project *h-ALO - photonic system for Adaptable muLtiple-analyte monitoring of fOod-quality* provides an innovative tool to the agri-food system to keep the European small and medium-sized farming/production systems competitive and strengthen novel ways of food production and processing while minimizing the use of resource and keeping the costs competitive.

The h-ALO project started in January 2021, and under the coordination of the National Research Council of Italy (CNR), it has the ambition to empower new farming approaches and strengthen the competitiveness of local food production and retail chains through a new affordable, portable, and broadly adaptable photonic-based analytic tool that allows controlling the quality and safety of products in real-time.

In these first 18 months of the project, a large number of activities have been carried out. On the one hand, the h-ALO partners strived to build up a solid network of engaged end-users with whom they co-designed crucial steps of the project. On the other hand, project partners worked intensively to design, fabricate, and optimize all the single technological components that will be then assembled to obtain the final h-ALO sensor.

In March 2022, the h-ALO project organized an international workshop in the framework of the LOPEC fair to promote an exchange of information on ongoing European trends in the applications of advanced photonics and electronics in smart systems for bio diagnostics, environmental monitoring, and food safety/quality.

Furthermore, the h-ALO project contributed to the establishment of the European Cluster of Research projects for Environmental and Agri-food Monitoring - ECREAM. The ECREAM cluster is an informal cluster comprised of H2020-funded projects dealing with environmental and food safety and quality sensing and monitoring systems. So far, the ECREAM Cluster gathered 14 H2020-funded projects which together can leverage the network of more than 150 organizations from 28 different countries.

Exciting challenges are at the horizon for the h-ALO project. In the upcoming months, the h-ALO partners will work to make sure that all developed technological components will be able to communicate together and to test the efficacy and functionality of the sensor. And then, the sensor will be ready to be tested on a lab scale as well as on-site. This project is funded by one of the calls under the Photonics Public-Private Partnership (PPP) and has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101016706

PHOTONICS

PROJECT DETAILS

PROJECT TITLE: photonic system for Adaptable muLtiple-analyte Monitoring of fOod quality
START DATE: 01/01/2021
END DATE: 31/12/2023
DURATION: 36 Months
TOPIC: ICT-37-2020 | Advancing photonics technologies and application driven photonics components and the innovation ecosystem
EU CONTRIBUTION: 4,239,432 Euro

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Project partners

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- Warrant Hub S.p.A.
- Plasmore S.r.l.
- Istituto Zooprofilattico Sperimentale delle Venezie
- Stichting Wageningen Research
- Innosieve Diagnostic BV.
- RISE Research Institutes of Sweden AB
- Fraunhofer-ENAS,
- 7Bulls.COM Spolka z ograniczona odpowiedzialnoscia
- Confagricoltura - Confederazione Generale dell'Agricoltura Italiana
- The Circle S.a.r.l.

PROJECT WEBSITE:

https://h-alo.eu

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