



MOLOKO

**Multiplex phOtonic sensor
for pLasmonic-based Online detection
of contaminants
in milk**



PROJECT DETAILS

PROJECT REFERENCE: 780839

START/END: Jan 2018 – Jun 2021

EU CONTRIBUTION: EUR 5,479,159

TOPIC: ICT-30-2017 Photonics KET 2017

PROJECT COORDINATOR: CNR (Italy)

WEBSITE: www.moloko-project.eu



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 780839



PHOTONICS²¹
PHOTONICS PUBLIC PRIVATE PARTNERSHIP

Europe invests funds on MOLOKO, the H2020 project on online detection of contaminant in milk

MOLOKO (Multiplex photonix sensor for pLasonic-based Online detection of contaminants in milk) is an ambitious project - started in **January 2018** and spanning a **three years and a half period** – funded by the European Union under the Horizon 2020 Programme with about **5,5 million Euro**. **The National Research Council of Italy (CNR)** coordinates the project consortium composed by **12 partners** from **8 different countries**. The consortium includes European R&D centres (CSEM, RIKILT, Fraunhofer and VTT), SME's (Plasmore and QCL), large multinational industries involved in milk production and processing (Milklina and Parmalat), European food safety regulatory bodies (ISS and NEBIH) and consulting services (Warrant Hub).

The main objective of the project is the **manufacturing, implementation and validation of a self-managing and automatic miniaturized integrated photonic sensor** to be used as process analytical instrumentation for fastresponse on-site monitoring of interest analytes for security and quality within **milk supply chain**. In particular, the project aims at realizing multiplexing quantitative detection of up to 10 analytes among which food safety parameters, e.g. antibiotics (i.e. penicillin, ampicillin, cephalonium) and toxins (i.e. mycotoxins and bacterial toxins) and food quality parameters e.g. lactoferrin and caseins by implementing a highly-integrated optoplasmonic-microfluidic sensor in the strategic checkpoints along the entire supply and value chain of milk.

The MOLOKO miniaturized integrated photonic sensor is specifically designed according to **milk primary production, processing and distribution end-users** in order to enable and guarantee self-monitoring safety and quality standards by the use of a reliable, highly sensitive and specific, low-cost innovative self-screening photonic technology. The effectiveness and market-placement of the engineered functional prototype is quantitatively evaluated by direct comparison with respect to standard analytical methods and commercially available optical biosensors.

This project is funded by one of the ICT Programme Calls under the **Photonics Public Private Partnership (PPP)**.

FOR FURTHER INFORMATION:

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