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QCL
MILKLINE

PROJECT DETAILS

START/END: Jan 2018 – Jun 2021
EU CONTRIBUTION: 5,479,159 €
TOPIC: ICT-30-2017 Photonics KET 2017
PROJECT COORDINATOR: CNR (Italy)

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www.moloko-project.eu

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MOLOKO

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

PHOTONICS21
PHOTONICS PUBLIC PRIVATE PARTNERSHIP

THE PROJECT

The main objective of MOLOKO 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.

OBJECTIVES

- Manufacturing, implementation and validation of a self-managing and automatic miniaturized integrated photonic sensor
- Fast-response on-site monitoring for security and quality within milk supply chain
- Multiplexing quantitative detection of up to 10 analytes
- Market-placement
- User-friendly, reusable and highly-integrated opto-microfluidic chip
- Self-monitoring the safety and quality standards in the value-chain
- Implementing the device as in on-line analyser for the monitoring of the whole milk chain
- Cloud-based traceability

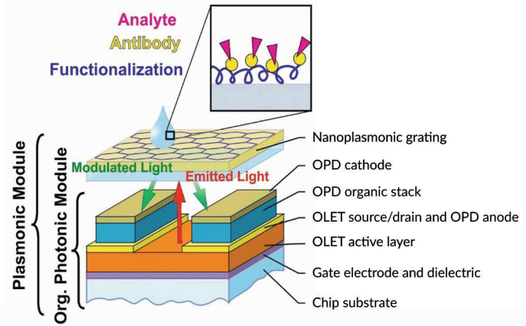
ONLINE CONTROL IN MILK SUPPLY CHAIN

RAW MATERIAL · STANDARISATION · PROCESS CONTROL · END PRODUCT

MOLOKO MOLOKO MOLOKO

CONCEPT

Optoplasmonic module



Technology