Advanced multi-sensing systems (Photonics Partnership) (RIA)
TOPIC ID: HORIZON-CL4-2022-DIGITAL-EMERGING-01-03

Deadline date: **05 April 2022 17:00:00 Brussels time**
Expected EU contribution per project**: 3-5 M EUR**
Number of projects expected to be funded: **10**

**Scope:**
The proposals will enable breakthroughs in sensor systems by combining component development, system integration, packaging and cost-effective manufacturing processes. They should propose innovative approaches capable of acquiring, processing and interpreting vast amounts of sensory input data, where relevant, while reducing significantly overall energy consumption.
Whenever justified, a modular approach with interchangeable components operating in a platform environment should be favoured. The sensing functionality should build on technologies related to light and include integration with microelectronics or micro-nano-mechanical, micro-fluidic, magnetic, radio frequency or bio-chemical technologies where appropriate.
In this topic the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement.

**Specific Topic Conditions**
Activities are expected to start at TRL 2 and achieve TRL 5 by the end of the project – see General Annex B.

**Cross-cutting Priorities**:

Co-programmed European Partnerships
International Cooperation

**ExpectedOutcome:**
Proposals results are expected to contribute to the following expected outcomes:

- Next generation multi-sensing photonic and electronic systems with increased integration of new functionalities, decreased size and cost-effective manufacturing.
- Supporting a European open strategic autonomy in key integration and packaging technologies and related manufacturing value chains.
- Sensing devices and components allowing for reaching the new green deal objectives through enabling high levels of reuse/repair/repurpose, recovery and recycling of waste and materials or helping to reduce overall power consumption of a system by at least a factor of 2.
- Reinforcing European industrial leadership in high performance multi-sensing systems and components for sectors such as healthcare and well-being, environmental monitoring and protection, transport and automated driving, manufacturing, aerospace and security.