

Application driven photonics components (ICT-05-2019c)

Website link: [ict-05-2019c "Application driven photonics components"](#)

3 categories: a. Research and Innovation action (RIA), b. Innovation action (IA) , c. Coordination and support action (CSA)

Deadline: 28 Mars 2019

Scope/Actions

a. Research and Innovation Actions (RIA / TRL 2 to 6)

- European industrial leadership in photonic systems integration and photonic interconnect technologies and applications, enabling the penetration of high-value markets.
 - Increased European competitiveness in the biophotonic areas and more effective medical interventions and treatments.
1. **Photonics System on Chip/ System in Package for optical interconnect applications:** Actions should address advanced techniques for the intimate combination of photonic integrated circuit technology with other enabling circuits, devices and mother boards to realize major advances in the capability, performance and complexity of photonic system-on-chip and system-in-package components targeting photonic interconnect applications in the network, datacenter and consumer communication space.
 2. **Photonics systems for advanced imaging to support diagnostics driven therapy:** Actions should research ground-breaking, reliable (high sensitivity, specificity and accuracy), safe to operate, cost-effective and fast photonics enabled imaging system to support diagnostics during intervention and treatments of major diseases like cancer (excluding skin cancer), infectious, degenerative and cardiovascular diseases. Physicians/clinicians/surgeons and a medical equipment manufacturer must be closely involved from requirement specifications to validation in clinical settings.

b. Innovation Actions (IA / TRL 5 to 7)

- Strengthened Europe industrial competitiveness in the biophotonics related market.
 - Increased competitiveness of the European production industry and significant contribution to the digitization of European industry.
1. **Photonics devices to support monitoring therapeutic progress:** Actions should develop reliable (high sensitivity, specificity and accuracy), safe to operate, cost-effective and fast photonics enabled devices to support assessing the effects of treatments of major diseases like cancer (excluding skin cancer), infectious, degenerative and cardiovascular diseases, including determining individual dispositions (ex. methods to assess drug resistance)

and monitoring of therapy progress. The feasibility and validity of the proposed approach should already have been validated in clinical settings.

2. **Sensor-Based Optimization of Production Processes:** Sensor-Based Optimization of Production Processes: Actions should address prototyping, demonstration, optimization and validation in real industry settings of highly advanced smart broadband multimodal photonic sensing solutions operating in the spectral range from the ultraviolet to the far infrared, and intended for improving production process through the monitoring of relevant process and product parameters (e.g. physical, chemical, imaging, geometrical and environmental).

c. Coordination and Support Actions (CSA)

- More and better prepared professionals in the photonics sector
Actions should reach out to STEM graduates/PhD students and young postdocs in order to encourage more of them to pursue a career in photonics. Actions should help make students more industry ready and should provide the appropriate training, encourage innovation and entrepreneurship.

Gender dimension:

The gender dimension should be taken taken into account in the content of actions as a factor of excellence.

- For the 2 health applications related topics: call text requires gender specificities to be taken into account for *VALIDATION*
- For the CSA topic: gender dimension must be addressed in the context of fostering careers in photonics

http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/gender_en.htm

Indicative budget/each proposal: 3-6 M€ (70 to 100% funding) for **a total budget:** 30 M€ (IA) + 45 M€ (RIA)

and 1.5 M€ (CSA)

Partner search list:

25 Organisations are looking for collaborating partners for this topic

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/interested-org-list/31088373/>

Get support:

ALPHA-RLH will help you to prepare your application.

Contact: i.tovena@alpha-rlh.com