

Research Obj.: ICT 29 – 2016: Photonics KET

What are we looking for?

Photonics: Major S&T and R&I progress to sustain competitiveness & leadership in market sectors where Europe is strong (**medical photonics, sensing, lighting, laser-based manufacturing**).

Research & Innovation (40 M€) (actions of 2-4M€)

Biophotonics: advancing imaging for in-depth disease diagnosis (after a positive screening, allowing for more effective treatment)

Breakthrough in miniaturisation of **SSL light** engines and systems (new form factor expanding application fields)

Pervasive high-specificity and high sensitivity **sensing** for a safer environment (e.g. monitoring of water or air quality at large scale)

- Strong industrial commitment, driven by user needs and concrete business cases with strong exploitation strategies
- Cover the value/supply chain as appropriate
- Actions to address manufacturability and validation of results for the target application.

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Innovation actions (23 M€)

Photonic devices integrated in systems: Microdisplay-based immersive, augmented and virtual reality *visualisation systems* (actions of 2-4M€)

- Validation and demonstration (key applications), standardisation
- Strong industrial commitment, driven by user needs and concrete business cases with strong exploitation strategies
- The whole value/supply chain and the end-user

Pilot Line for Assembly and Packaging (actions of 6-14M€) (synergies and co-financing from other sources possible)

- Should offer generic solutions;
- should cover all stages of manufacturing up to testing
- Low entry barrier access
- Validation of the pilot line offer with involvement of external users
- Expected impact: providing cost-effective solutions for SMEs in Europe

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What are we looking for?

Coordination & Supp (3 M€)

1. Coordination of regional photonics strategies

2. Photonics enhanced MakerLabs (synergies and co-financing from other sources possible)

- (1) Exploit the innovation leverage potential of innovation clusters and national platforms
- (1) Extend Go-To-Market services for SMEs
- (1) Coordinate regional, national and European strategies and financial resources to the benefit of the local ecosystem and the regional smart specialisation strategies
- (1) actions should build on ongoing actions in this field
- (2) Increase awareness and improve skills in photonics by providing access to photonic components, photonics-based equipment and related support services in MakerLabs

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2. Is this new or has it been called before?

The different areas have been called before, but the specific actions that are called now have not yet been called before.

- *biophotonics previously was more for screening devices, while now it is for improved diagnosis after screening.*
- *Sensing devices have been called for before, but now it is specifically for large area applications for a safer environment.*
- *For the CSA action on coordination of regional strategies, similar endeavors are already part of ongoing actions, but not as specific as is called for here.*
- *Other topics are completely new.*

3. Current project portfolio *(if relevant)*

FP7 projects and first H2020 projects are running in some of the above areas (in particular, biophotonics, sensing and some CSAs) – see

Cordis factsheets

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4. What do we NOT want?

We do not want academic driven projects in the application driven R&I actions and innovation actions.

We do not want proposals in which strong industrial commitment and credible exploitation strategies and business cases are missing.

For the CSA actions we do not want actions with local effects only, but one action in each area should create the expected impact.

ICT 29 – 2016: Photonics KET - Key actors

5. Who are the leading players?

6. Is there a key group of actors or ETP driving this?

The technology platform Photonics21 and the Photonics Public Private Partnership which has been created in 2013 are driving this, and all stakeholders and leading players are represented in it. See:

<http://www.photonics21.org/membership.php>

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7. Are there any additional / background documents?

Strategic research agenda of Photonics21:

http://www.photonics21.org/download/Brochures/Photonics_Roadmap_final_lowres.pdf