Horizon 2020 and Photonics

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Horizon 2020 Budget: 78.6 B€ (in current prices)

Implement Photonics in Horizon 2020 through a Public Private Partnership (PPP)
Foster photonics manufacturing, job and wealth creation in Europe

Accelerate Europe’s innovation process and time to market by addressing the full innovation and value chain in a number of market sectors where European photonics industry is strong.

Provide successful solutions for some of the major societal challenges.

The PPP is based on Photonics21

Industry-driven, multi-annual strategic research and innovation agenda
Photonics PPP in Horizon 2020: What does it mean for you?

Basic principles of the PPP
- Open to All, Representative of the Stakeholders, transparent in decision making
- Private sector partners advise the Commission on priorities of H2020 work programmes
- Implementation using H2020 Rules for Participation + comitology (ICT Committee)

What will the PPP change?
- **Commitments**: From Commission to support the field in all Horizon 2020 → From industry, to invest on R&I, with greater focus on impact on growth and job creation
- Close interactions to reach agreement on content of calls
- Evidence based monitoring of the PPP performance → through agreed KPIs!
- Large potential to leverage financing from other sources (such as structural funds, EIB)

What will the PPP not change?
- The financial rules are those of Horizon 2020 and calls for proposals open to everybody
- Final responsibility for Work Programme stays with the Commission
- Implementation remains with the Commission: selection and negotiation of proposals, monitoring of projects' progress and payments
# Photonics PPP in LEIT: Overview of Calls 2014-15

## ICT 26: Photonics KET 2014: 47 M€

**R&I (28 M€)**
- **Biophotonics** for screening of diseases
- **Sensing** for safety and civil security
- **Disruptive** approaches in sensing

**Innovation (8 M€)**
- **Open system architectures for Solid State Lighting** (SSL)

**ERNETs (6 M€)**
- Actions with the Member States

**Coordination and support actions (5 M€)**
- Strategic coordination and networking
- The wide uptake of SSL technologies
- EU-wide outreach

## ICT 27: Photonics KET 2015: 44 M€

**R&I (30 M€)**
- **Optical communication** for data centres
- High-throughput **laser-based manufacturing**
- Device, circuit and fabrication technology for **Photonic Integrated Circuits** (PICs)

**Innovation (PPI) (5 M€)**
- Pilot deployment of **software-defined optics in backbone networks**

**ERNETs (6 M€)**
- Actions with the Member States

**Coordination & support actions (3 M€)**
- Open access of Researchers and SMEs to advanced facilities; Networking of clusters and national platforms for increasing SME innovation potential

## ICT 29: Cross-Cutting KETs 2014: 18 M€

**R&I**
- Development of **novel materials and systems for OLED lighting or displays**

**Call deadline: 23 April 2014**

## ICT 28: Cross-Cutting ICT KETs 2015: 56 M€

**Innovation (14 M€)**
- ICT-KET integrated **platforms for the healthcare and food sectors** (13 M€)
- Coordination of stakeholders in the health sector (bio-photonics and micro-nano-bio solutions): CSA (1 M€)

**Pilot Lines (3x14 M€)**
- Pilot line for **OLEDs on flexible substrates**
- Pilot line for **analytical mid-infrared (MIR) micro-sensors**
- Pilot line for **PIC fabrication on III-V and/or dielectric based platforms**

**Call deadline: 20 March 2014**

## PPP Factory of the Future 2014: 10-15 M€

**R&I**
- Towards **zero-failure laser-based manufacturing** concept and roadmap building in relation to smart and safe workspaces for laser-based manufacturing

**Support Action**
- **Call deadline: 20 March 2014**

**Call deadline: 21 April 2015**
ICT 26 – 2014: Photonics KET

PPP Photonics

ICT 26: **47 M€**

Call deadline: 23 April 2014

**a. Research and Innovation actions**

- Application driven core photonic technology developments – focus on:
  - **Biophotonics** for screening of diseases
  - **Sensing for safety and civil security:** optoelectronic devices for NIR & MIR sensing applications (0.7 to 50 µm) for high volume markets
- **Disruptive approaches in sensing**
  Photonic sensing devices offering breakthrough advances in sensitivity or specificity

**b. Innovation actions**

Open system architectures for Solid State Lighting

- **28 M€, 100% funding**
  Small projects (2-4 M€)
- **8 M€, 70% funding**
  1 Large project

**c. Coordination and Support Actions**

- **5 M€**
  100% funding
  Strategic coordination and networking; Wide uptake of SSL technologies; EU-wide outreach

**c. ERANETs**

- **6 M€ - ERANET Cofund**
  A joint call for proposals between national & regional grant programmes

DG CNECT Contact Point: Unit A1
CNECT-PHOTONICS@ec.europa.eu
ICT 29 – 2014: Development of novel materials and systems for OLED lighting

**PPP Photonics**

**ICT 29: 18 M€**
A Joint Call between ICT and NMP

**a. Research and Innovation actions**

- Materials, process & device technology for OLED lighting – focus is on:
  - Materials: competitive lifetime for all colours and white light
  - Devices: OLEDs over larger surfaces, with higher brightness, larger uniformity and longer lifetimes
  - Energy efficacy above 100 lm/W, with improved out-coupling efficiency

Call deadline: 23 April 2014

**DG CNECT Contact Point: Unit A1**
CNECT-PHOTONICS@ec.europa.eu

18 M€, 100% funding  
Small projects (2-4 M€)
FoF 1 – 2014: Process optimisation of manufacturing assets

**PPP Photonics**

**FoF 1: 34 M€**

**LEIT CALL FOR FoF**
Call deadline: 20 March 2014

**a. Research and Innovation actions**
- Cyber-Physical Systems (CPS)-based process optimisation
- Collaborative and mobile manufacturing
- Towards zero-failure laser-based manufacturing
  Development of (in-line) process monitoring sensors, measurement and non-destructive testing tools including the related high speed data processing and reduction

**b. Coordination and Support Actions**
- ...  
- Concept and roadmap building in relation to smart and safe workspaces for laser-based manufacturing

**c. Coordination and Support Actions**
- DG CNECT Contact Point: Unit A3
  [CNECT-A3@ec.europa.eu](mailto:CNECT-A3@ec.europa.eu)
- DG CNECT Contact Point: Unit A1 (for the lasers part)
  [CNECT-PHOTONICS@ec.europa.eu](mailto:CNECT-PHOTONICS@ec.europa.eu)

- 32 M€, 100% funding
  Small projects (2-4 M€)

- 2 M€ 100% funding
Support to innovation and to SME business development

- **Open Disruptive Innovation Scheme in Horizon 2020**
  - Financing innovative SMEs through a dedicated SME instrument with continuously open calls (15% of the ICT budget)

- **Access to risk finance (via the EIB/EIF)**
  - *Equity facility* and *Debt facility*
  
  ![Link](http://access2eufinance.ec.europa.eu)

- **Specific activities for innovative photonics SMEs**
  - **ACTPHAST**: An EU-wide service infrastructure for SMEs to have access to SoA photonics technologies
  - **Innovation Clusters** and SMEs
  - **Open Access to production facilities**
  
  ![Link](http://www.actphast.eu)
Financing innovative SMEs through the dedicated SME instrument

- For early stage, high-risk innovative SMEs
- **Objective:** nurture promising innovative and disruptive ideas; support prototyping and demo in real world environments; help deployment

**Phase 1:** Concept and feasibility assessment
→ lump sum of 50 K€ per project for ~6 months project durations

**Phase 2:** R&D, demonstration, market replication (70% funding)
→ 0.5 to 2.5 M€ per project for 1 to 2 years; Must include a first commercialisation plan

**Phase 3:** via the Debt Facility (EIB(EIF)

→ Apply for Phase 1 or directly for Phase 2

Budget of the action: 90 M€ for 2014-15: (10% Phase 1, 88% Phase 2, 2% Phase 3)
- Continuously Open Calls – Opens 1st March 2014
- **3 Cut-off dates in 2014:**
- **Time to Grant:** 3 months for Phase 1 and 6 months for Phase 2
Photonics in other areas of Horizon 2020

**Industrial Leadership**
*Leadership in Enabling Technologies (ICT, Nanotechnology materials, Biotechnology, Production Technologies, ...), Access to risk finance, Innovation in SMEs*

**Excellent Science**
*ERC, Marie Curie actions, FETs, Research infrastructures*

**Societal challenges**
*Health & Ageing, Energy, Transport, Resource Efficiency, Climate Challenge, ...*

**ECSEL JTI** (silicon photonics, SSL lighting, sensing, etc.)
**ICT 6 – 2014** (Smart optical and wireless network technologies)
**ICT 11 – 2014: FIRE+** (includes creation, reconfiguration and/or extension of experimental infrastructures in Photonics)
**Prize – 2015**: breaking the optical transmission barriers in the core network
**Advanced Materials (NMP)**

**Energy Challenge** [Smart Cities and Lighting; Low Carbon Energy and (O)PVs; Energy Efficient Buildings PPP]
**Other opportunities** in SC1 [Health], SC5 [Climate Change] or SC7 [Security]

**ERC – FET Open**
**Graphene FET Flagship initiative**
**High Performance Computing PPP** (optical interconnects)
1 reimbursement rate by action
- For all beneficiaries and all activities in the grant
- The applicable rate is defined in the WP: Up to 100% for RTD actions; Up to 70% for innovation and programme co-fund actions (non-profit entities up to 100%)

1 method for calculation of indirect costs:
- Flat rate of 25% of total direct costs, excluding subcontracting, costs of third parties and financial support to third parties

Simpler accounting principles, shorter time-to-grant, fewer and better targeted controls and audits, etc.

Audit Certificates on financial statements:
- Only for final payments when total EU contribution claimed on the basis of actual costs +average personnel costs ≥ 325,000 EUR

Certificates on the methodology
- Optional certificates on average personnel costs

Ex-post audits
- Audits limited to 2 years after payment of the balance
Photonics Unit web site:  http://cordis.europa.eu/fp7/ict/photonics/
Contact point:  CNECT-PHOTONICS@ec.europa.eu
 Brokerage and Info Day in Brussels: 16 January 2014
Contact:  Eddy.Corthals AT ec.europa.eu

**Horizon 2020 and ICT WP 2014-15:**

-  A guide to ICT-related activities in WP2014-15:
-  The ICT LEIT WP 2014-15 can be found at:
-  The Participant Portal to be revamped soon:
  [https://ec.europa.eu/research/participants/portal](https://ec.europa.eu/research/participants/portal)