



Brussels, 13 December 2013

Horizon 2020 and Photonics

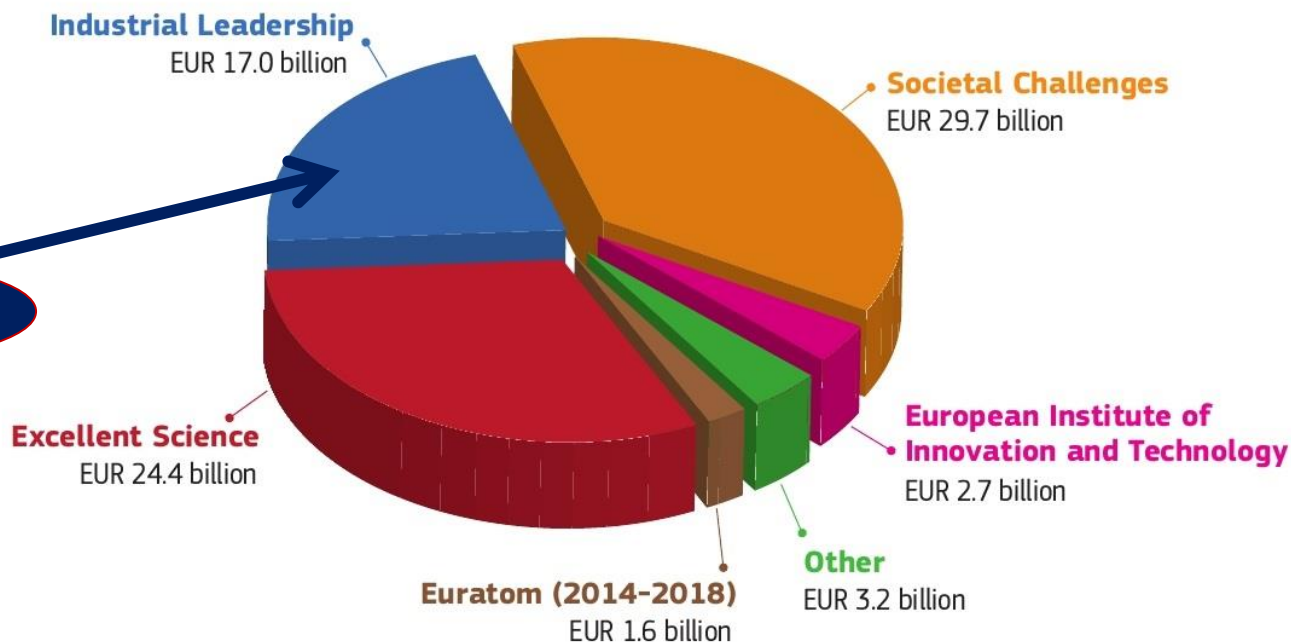
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Horizon 2020 Budget: 78.6 B€
(in current prices)

HORIZON 2020 BUDGET (in current prices)



**Implement Photonics in Horizon 2020
through a Public Private Partnership (PPP)**

Photonics PPP!



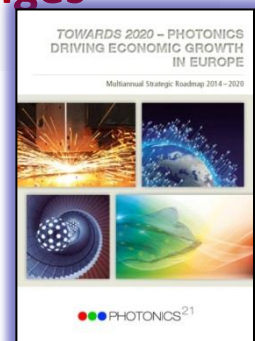
Secure EU's industrial leadership in application areas where photonics is driving innovation and Europe is strong or where there is potential for creating new markets

- 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€)	<i>Biophotonics</i> for screening of diseases <i>Sensing</i> for safety and civil security <i>Disruptive</i> approaches in <i>sensing</i>
Innovation (8 M€)	<i>Open system architectures for Solid State Lighting</i> (SSL)
ERANETS (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 29: Cross-Cutting KETs 2014: 18 M€

R&I	Development of <i>novel materials and systems for OLED lighting or displays</i>
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Call deadline: 23 April 2014

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

R&I	Towards <i>zero-failure laser-based manufacturing</i> concept and roadmap building in relation to smart and safe workspaces for laser-based manufacturing
Support Action	

Call deadline: 20 March 2014

ICT 27: Photonics KET 2015: 44 M€

R&I (30 M€)	<i>Optical communication</i> for data centres High-throughput <i>laser-based manufacturing</i> Device, circuit and fabrication technology for <i>Photonic Integrated Circuits</i> (PICs)
Innovation (PPI) (5 M€)	Pilot deployment of <i>software-defined optics in backbone networks</i>
ERANETS (6 M€)	Actions with the Member States
Coordination & support actions (3M€)	Open access of Researchers and SMEs to advanced facilities; Networking of clusters and national platforms for increasing SME innovation potential

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

Innovation (14 M€)	ICT-KET integrated <i>platforms for the healthcare and food sectors</i> : (13 M€) Coordination of stakeholders in the health sector (bio-photonics and micro-nano-bio solutions): CSA (1M€)
Pilot Lines (3x14 M€)	Pilot line for <i>OLEDs on flexible substrates</i> Pilot line for <i>analytical mid-infrared (MIR) micro-sensors</i> Pilot line for <i>PIC fabrication on III-V and/or dielectric based platforms</i>

Call deadline: 21 April 2015

Up to 180 M€

ICT 26: 47 M€

Call deadline: 23 April 2014

PPP Photonics

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

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

**8 M€, 70% funding
1 Large project**

b. Innovation actions

Open system architectures for Solid State Lighting

**5 M€
100% funding**

c. Coordination and Support Actions

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

PPP Photonics

Call deadline: 23 April 2014

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

a. Research and Innovation actions

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

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

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

PPP Photonics

FoF 1: 34 M€

LEIT CALL FOR FOF
Call deadline: 20 March 2014

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

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

2 M€
100% funding

c. Coordination and Support Actions

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

- **DG CNECT Contact Point: Unit A3**
CNECT-A3@ec.europa.eu
- **DG CNECT Contact Point: Unit A1**
(for the lasers part)
CNECT-PHOTONICS@ec.europa.eu

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*

<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*



Access to
Micro-Optics
Expertise,
Services &
Technologies

<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:***
 - *For Phase 1: 18 June 2014, 24 Sep. 2014 and 17 Dec. 2014*
 - *For Phase 2: 09 Oct. 2014 and 17 Dec. 2014*
- ***Time to Grant: 3 months for Phase 1 and 6 months for Phase 2***

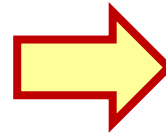
DG CNECT Contact Point: Unit F2
CNECT-F2@ec.europa.eu

Photonics in other areas of Horizon 2020



▪ Excellent Science

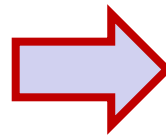
ERC, Marie Curie actions, FETs, Research infrastructures



- **ERC – FET Open**
- **Graphene** FET Flagship initiative
- **High Performance Computing PPP** (optical interconnects)

▪ Industrial Leadership

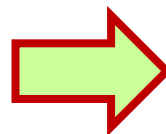
*Leadership in Enabling Technologies (ICT, Nanotechnology materials, Biotechnology, Production Technologies, ...),
Access to risk finance, Innovation in SMEs*



- **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)**

▪ Societal challenges

Health & Ageing, Energy, Transport, Resource Efficiency, Climate Challenge, ...



- **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]

■ 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 \geq 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

To find out more



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:

- http://ec.europa.eu/research/horizon2020/index_en.cfm
- **A guide to ICT-related activities in WP2014-15:**
http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=3511
- **The ICT LEIT WP 2014-15 can be found at:**
<https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/H2020%20LEIT-ICT%20WP%202014-15%20-%2031%2010%202013.pdf>
- **The Participant Portal to be revamped soon:**
<https://ec.europa.eu/research/participants/portal>

