EU 2020 Strategy & Photonics

Policy actions

Key Enabling Technologies

Research & Innovation actions

Green Paper on SSL

Photonics Clusters

Digital Agenda for Europe

EU Photonics

Photonics in Horizon 2020

HORIZON 2020

SEVENTH FRAMEWORK PROGRAMME

competition and innovation framework programme 2007-2013

OPTOKLASTE

PHOTONICSGR

Fotonika21

PhotoniCS FinlanD

CNOP France

Photonics Clusters
## Photonics R&I projects 2007-2012: 96 projects, ~353 M€

<table>
<thead>
<tr>
<th>Areas</th>
<th>Number of Projects</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical data Communications</td>
<td>24</td>
<td>2 IP, 20 STREPs, 1 NoE, 1 ERANET+</td>
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<tr>
<td></td>
<td>84 M€</td>
<td></td>
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<tr>
<td>Lasers and Manufacturing</td>
<td>5</td>
<td>5 STREPs of which 4 from FoF PPP</td>
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<td></td>
<td>16 M€</td>
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<tr>
<td>Biophotonics</td>
<td>17</td>
<td>4 IPs, 11 STREPs, 1 NoE, 1 ERANET+</td>
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<tr>
<td></td>
<td>75 M€</td>
<td></td>
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<tr>
<td>SSL Lighting, Displays, &amp; OPVs</td>
<td>14</td>
<td>6 IPs, 6 STREPs, 2 CIP SSL pilots</td>
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<tr>
<td></td>
<td>77 M€</td>
<td></td>
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<tr>
<td>Sensors for safety &amp; security</td>
<td>16</td>
<td>1 IP, 15 STREPs</td>
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<td></td>
<td>44 M€</td>
<td></td>
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<tr>
<td>Technology Integration Platforms &amp; Nanophotonics</td>
<td>12</td>
<td>3 IPs, 6 STREPs, 2 CSA, 1 NoE</td>
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<tr>
<td></td>
<td>49 M€</td>
<td></td>
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<td>Cross-cutting Support Actions</td>
<td>8</td>
<td>Education and training, Roadmapping, Coordination between regional/national clusters, Coordination of the Photonics research constituency, Access to advanced technologies, Support to SMEs</td>
</tr>
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<td></td>
<td>8 M€</td>
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Photonics in ICT FP7

WP 2007-08
- 27 projects for ~90M€

WP 2009-10
- 30 projects for ~93M€

WP 2011-12
- 39 projects for ~170 M€

WP 2013
- ~105 M€

- Photonics budget in ICT FP7: ~460 M€
- The increasing importance of Optical Interconnects; Biophotonics; High-power lasers
- Increasing maturity for larger-scale integration
- Solid State Lighting: when research meets policy
- The value chain and the role of end-users
- Disruptive Research: the door to future technology generations
- ERANET+: bridge to national Programmes and to pooling of resources
Horizon 2020
R&I in the EU: 2014-2020

EC proposal: 80 B€

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

- **Industrial Leadership**
  - Leadership in Enabling Technologies (ICT, Nanotechnology materials, Biotechnology, Production Technologies, …)

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

http://ec.europa.eu/research/horizon2020
Creating Industrial Leadership & Competitive Frameworks

Leadership in enabling and industrial technologies

- **ICT**
  - A new generation of components and systems
  - Next generation computing
  - Future Internet
  - Content technologies and information management
  - Advanced interfaces and robots
  - Micro- and nano-electronics and photonics

- **Nanotechnologies**
- **Advanced Materials**
- **Advanced Manufacturing and Processing**
- **Biotechnology**
- **Space**

**KETS**

- 1.6 B€
- 3.8 B€
- 0.5 B€
- 13.8 B€

~30% to cross-cutting KETS

[Diagram showing the allocation of funds and technologies associated with different fields.]
Implement Photonics in Horizon 2020 through a PPP

- The proposed Horizon 2020 legal text foresees a potential PPP for Photonics
- ~1.6 B€ foreseen for both photonics and micro- and nano-electronics
Photonics PPP
What will it mean for you?

WHAT DOES CHANGE

- Long-term commitment from the EC
  (overall indicative budget for the PPP)
- Long-term commitment by industry to invest + demonstrate it!
- The definition of the R&I priorities for the work-programmes of Horizon 2020
- KPIs and their monitoring

WHAT DOES NOT CHANGE

- The rules for participation ➔ those of Horizon 2020
- Final responsibility for Work Programme stays with EC and is subject to comitology
- Implementation remains with the EC
  (selection of proposals, negotiation, review of progress and payments)
Photonics PPP and Horizon 2020

Major Objectives
- Address the full Innovation and Value Chain
- Strategic Alliances across the value chain
- Bridge the Valley of Death

R&I Ecosystems
- Materials
- Equipment
- Component & Devices
- Integrated Systems
- Products & Solutions

TRL 1 2 3 4 5 6 7 8 9
Fundamental Research Technology Concept Development
Experimental proof of concept Technology validation in lab
Tech valid in relevant environment Demonstrations in specific environment
Demonstration in operational environment Systems complete and qualified
Successful market application

R&D Ecosystems
- Materials & Technology Suppliers
- Academia
- Research Institutes
- Professional Users
- System Integrators
- End-users

The valley of death
R&D: Roadmap-based and disruptive R&D

Innovation:
- TRLs 5-8: Pilot manufacturing lines; Large scale demonstration activities; ...
- Innovative SMEs: open schemes; access to technology and support services
- Support Actions: Inducement prizes; Procurement of Research and Innovation; Support to inter-cluster collaboration

Coordination & Networking
- Coordinated R&I Activities with national and regional programmes (e.g. ERANETs)
- Networking / Attracting / Educating people: Road-mapping and Networking, Education, Training and skills development; Outreach, ...
Photonics PPP
A Leverage Effect for European Growth!

Regional Specialisation Strategies

Photonics Clusters

Excellent Science
Industrial Leadership
Structural Funds
Societal Challenges
Skills
VC, EIB Loans, ...

PPP is at the core of an industrial strategy for Europe
Roadmap towards Horizon 2020 and the Photonics PPP

Nov 2012 – Feb. 2013
- Photonics Multiannual Strategic Research and Innovation Agenda (SRIA)
- Open consultation on PPP vision, objectives, strategic roadmap, ...

March – April – June 2013
- Final version of SRIA
- Establishment of the PPP legal entity
- Formal submission of the PPP proposal
- Drafting of H2020 WP

June – December 2013
- Evaluation of PPP proposal
- COM on PPPs
- Signature of the PPP Contractual Agreement
- Establishment of the PPP

Preparation of Horizon 2020 WP 2014-15

29-30 April
Annual Assembly of Photonics21

H2020 Regulation
First Calls
CIP Call in Biophotonics [Deadline: 14 May 2013]

Annual meeting of the photonics clusters
(22 May in Brussels)

ICT event 2013 in Vilnius (06-08 November)
→ Call for Exhibitions (deadline 7th June 2013)

Photonics in FP7-ICT - see:
http://cordis.europa.eu/fp7/ict/photonics/